



## Shockwatch Bulletin

The triple transition of a slowing China, lower oil prices and a higher US dollar

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Key  
messages

- Developing countries will need to manage a stronger US dollar, economic slowdown in China and a significantly weaker oil price.
- The joint impact of this triple dynamic is important now given some developing economies' inability to counter these shocks.
- Most Sub-Saharan African economies will benefit from a lower oil price; yet oil exporters' declining reserves, is a key vulnerability.
- US dollar strength risks fuelling further Sub-Saharan African inflationary depreciations and macroeconomic instability.
- Nigeria and Democratic Republic of Congo have seen deteriorating external accounts whereas Ghana's debt looks unsustainable.
- On the policy front, domestic monetary stabilisation needs to be accompanied by improved global economic governance.

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# List of abbreviations

AIIB	Asian Infrastructure Investment Bank
BBC	Basket, Band and Crawl peg
BCC	Banque Centrale du Congo
BIS	Bank for International Settlements
BOJ	Bank of Japan
BP	British Petroleum
CBN	Central Bank of Nigeria
CM	Chiang Mai
CRA	Contingency Reserve Arrangement
DOTS	Direction of Trade Statistics
DRC	Democratic Republic of Congo
ECB	European Central Bank
EIA	Energy Information Administration
EU	European Union
FOCAC	Forum on China–Africa Cooperation
FOMC	US Federal Open Market Committee
FX	Foreign Exchange
GDP	Gross Domestic Product
HFT	High-Frequency Trading
IDS	Institute for Development Studies
ILO	International Labour Organization
IMF	International Monetary Fund
LCU	Local Currency Unit
M&A	Mergers and Acquisitions
MOFCOM	Ministry of Commerce
NBIM	Norges Bank Investment Management
NDRC	National Development and Reform Commission
NEER	Nominal Effective Exchange Rate
NFC	Non-Financial Corporation
NSE	Nigerian Stock Exchange
OBOR	One Belt One Road
ODI	Overseas Development Institute
OECD	Organisation for Economic Co-operation and Development
OFDI	Outward Foreign Direct Investment
OPEC	Organization of the Petroleum Exporting Countries
PBoC	People’s Bank of China
PF	Portfolio Flow
PPG	Public and Publically Guaranteed
PPP	Purchasing Power Parity
REER	Real Effective Exchange Rate
RMB	Renminbi
SARB	South African Reserve Bank
SDR	Special Drawing Rights
SOB	State-Owned Bank
SOE	State-Owned Enterprise

SSA	Sub-Saharan African
SWF	Sovereign Wealth Fund
T20	Think-20
TFP	Total Factor Productivity
TOT	Terms-of-Trade
UK	United Kingdom
US	United States
VIX	Chicago Board Options Exchange Volatility Index
WTI	West Texas Intermediate

# Executive summary

Developing countries face a triple challenge of managing a stronger US dollar, China's economic slowdown and a significantly weaker oil price. China's economic transition brings uncertainty. And yet its financial liberalisation is likely to result in continued outward foreign direct investment (FDI) and trade with its trading partners from 2014 levels. Meanwhile, lower oil prices and an appreciating US dollar will be harmful to some Sub-Saharan African (SSA) economies in the form of further inflationary depreciations, higher debt and deteriorating reserve positions.

## China's balancing act

China faces a difficult balancing act. This entails deleveraging, slower growth and capital account liberalisation. Alongside the country's deleveraging, it is expected by the Organisation for Economic Co-operation and Development to grow at 6.5% in 2016, less than half of its 14% growth before the 2008 global financial crisis. All the while, it is liberalising its financial system. The impact of this balancing – of deleveraging, slower growth and financial liberalisation – will be mixed.

**China's deleveraging** of its financial imbalances is a risk. Its 'finance-neutral' gap – a measure of its financial cycle – is large and positive, reflecting imbalances accumulated in the economy since the global financial crisis. At 149% and 168% of gross domestic product (GDP), respectively, the credit shares of non-financial corporations and banks are high. The over-allocation of credit is distorting economic activity away from the productive sectors. It is also fuelling default risk for state-owned enterprises (SOEs), which control as much as \$17 trillion in assets. These contingent liabilities could 'crystallise' in government accounts.

China's deleveraging is risky. And yet it is unlikely to impact its outward FDI, for the following reasons: China's loan growth remains strong. It rose to a monthly record (\$384 billion) in January 2016, while corporate loan growth for long-term productive investments rose 205% month-on-month. China's One Belt One Road policy will underpin outward FDI, which is now almost at par with inward FDI. Finally, China's decentralised system, with provinces the size of whole countries, has independent outward FDI policies that have reduced investment barriers.



**China's growth slowdown.** China's growth slowdown stems from investment overcapacity and a slowdown in trade. A key question is whether consumption, and import demand, will pick up and offset this. Domestic wage growth and the renminbi (RMB) real effective exchange rate will be important in influencing any pickup in import and consumer demand. On the investment side, SSA's average real wage growth of -1% (between 2011 and 2013) (compared with an average 5.8% in neighbouring South-East Asia in 2013) could motivate a move in China's production to SSA.

**China's capital account liberalisation,** of which RMB liberalisation is a key part, could add to global financial volatility, given the risk of further RMB devaluations and bank lending shocks. Further devaluation may be particularly problematic for smaller, low-income economies that would also need to devalue to remain competitive. Notwithstanding these risks, the scope for expansion in China's international trade and investment is high. The RMB's trade share and China's outbound investments are still small, the latter at less than 2% of GDP in 2014, according to the World Bank. RMB institutionalisation through sovereign wealth fund accumulation will also underpin further outbound investment.

### **Oil prices: a new (and lower) normal**

Following a 50% decline between mid-2014 and mid-2015, the West Texas Intermediate measure of oil prices currently hovers around \$40 a barrel. Lower energy demand in the US and, in the short term, in China is a structural driver of the decline. SSA oil exporters' terms-of-trade (TOT) will be a particular source of vulnerability for economies with declining reserves.<sup>1</sup> Our matrix of impacts suggests that, although most SSA economies see benefit from lower oil prices – including some oil producers, such as Ghana – others, such as Democratic Republic of China (DRC) and Nigeria, look vulnerable.

This oil price shock is important to consider: it has triggered corporate profitability concerns, it has been largely unresponsive to Organization of the Petroleum Exporting Countries production freezes and it has been driven by a structural demand shock. The outlook for oil prices is subdued particularly given that the US is now largely energy self-sufficient as domestic shale production drives down US energy imports. China's energy demand is a source of debate, although its long-term demand to 2035 is expected to be robust given its infrastructure spending plans.

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<sup>1</sup> A country's TOT is broadly defined as the ratio of export prices to import prices.

## The US dollar's momentum

The US dollar has appreciated by 28% from its July 2011 trough. This has been in part because of expectations of the Federal Open Market Committee (FOMC) tightening policy, a process which it indicated in May 2013 that it would start to contemplate. This will boost the US dollar given easing measures in Japan and the Eurozone. Although expectations have been scaled back, further dollar strength is also expected in 2016 given investor demand for US safe haven assets<sup>2</sup> amid global financial volatility.

Widespread SSA currency depreciation, particularly against the US dollar, has led to tighter monetary policy, or engineered currency strength in SSA, to counter inflationary pressure. In Nigeria's case, the naira-managed peg has been used to contain inflation risk. DRC uses dollarisation. This is necessary: currency depreciations that surpass 10–20% could trigger exchange rate pass-through inflation effects as large as 18–25% percent.

SSA investment outflows are most likely from economies with 'twin' deficits in their current and fiscal accounts. FDI inflows have been positive, although DRC, Nigeria and Uganda have been outliers. Portfolio flows have remained solid in Kenya, Nigeria and Zambia, although bond inflows have dropped dramatically in Ghana, Nigeria and Zambia. Global financial volatility could limit capital flows to SSA and restrict access to finance, particularly for economies with rising debt levels.

### Vulnerable SSA economies

A number of SSA economies have been subject to multiple shocks. In Nigeria, the impact of lower oil prices has been felt, in part, through a decline in inward FDI. Further capital outflows will exacerbate its deteriorating debt and reserve positions. Nigeria's sharply weaker external position, and falling reserves, suggest the naira peg will continue to come under pressure, with further devaluation likely.

Developments in Ghana's economy suggest it has not yet borne the full brunt of lower oil prices. The impact of a strong dollar and higher US interest rates has been felt. At 26%, its policy interest rate is at a record high and aimed largely at countering the inflationary impact of cedi depreciation. Ghana's high level of dollar-denominated debt and low level of reserves make the macroeconomic outlook vulnerable, with debt distress likely.

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<sup>2</sup> A currency or asset benefits from safe haven status when it is insulated from a global storm when a storm hits and is issued by a country that is itself safe and low risk with a healthy net foreign asset position (Habib and Stracca, 2011).

In DRC, despite expectations of resilient GDP growth, the economy faces multiple sources of instability from its TOT deterioration and the low level of reserves. The weakening in its current account is likely to exacerbate its net foreign asset position significantly. A slowdown in commodity prices and in China's demand is a key source of vulnerability too, given that 94% of fuel exports go to China. This makes DRC's overall GDP growth particularly sensitive to China's economic growth.

### **SSA governments should upgrade their currency policies**

There are three policy areas that could enhance SSA central banks' ability to counter financial shocks. Greater alignment of market rates with the policy rate would increase the effectiveness of each rate move, which for SSA central banks would mitigate further rate rises from already prohibitively high levels. Second, helping SSA countries control capital flows that fuel boom-bust cycles matters. Finally, more robust liquidity forecasting would help SSA central banks protect their reserve positions, particularly those with weak exchange rates and a loss of oil revenues.

Exchange rate policy can be an effective tool for monetary stabilisation. Although almost all SSA central banks have been engaged in stabilisation to control inflation, better management of exchange rates would help. In Nigeria, to avoid further speculation regarding naira devaluation, the central bank could announce a more explicit rules-based FX intervention programme, such as a basket, band and crawl (BBC) approach. This latter could help the currency absorb more of the TOT shock and allow the bank to contain currency volatility through its interventions. It could help build Nigeria's FX reserves too.

In Ghana, continued stabilisation of the cedi is a key prerequisite to stabilising the macro-economy, given Ghana's 'twin deficits' in its current and fiscal accounts. Verbal or actual FX intervention would help too, as it did in 2015. As with Nigeria, a more proactive and explicit rules-based FX intervention would be effective, at least in the short term. In DRC, the central bank should become fully independent and adopt an explicit inflation target to provide some foundation for de-dollarisation, which should occur, albeit at a slow pace. This would enhance the effectiveness of the bank's monetary policy.

### **Improving global economic governance**

Although everyone has paid lip service to better governance as an effective means of protecting against shocks, it is an undersupplied public good. New types of global institutional

collaboration, information exchange and liquidity arrangements are needed. Inclusion of private financial institutional investors, through formation of an Investor (I) 20, in addition to the other G20 groups, would facilitate improved institutional collaboration and information exchange. It would enhance the monitoring and transparency of high-frequency trading in financial markets. This is important given that financial crises are rarely like their predecessors. Finally, enhanced regional contingency reserve arrangements targeted to SSA would bolster liquidity and provide some counterbalance to the US Federal Reserve.

# 1. Introduction

In this Shockwatch Bulletin, we consider how China's economic developments, lower oil prices and a higher US dollar stand to impact 12 SSA economies.<sup>3</sup> Admittedly, this 'triple dynamic' has been a part of the global landscape for several years. Yet assessing the joint impact is crucial now given slower global growth and economies' growing inability to counter shocks. Both China's transition and the lower oil price stand to have appreciable impacts on Sub-Saharan Africa's (SSA's) economic resilience. And although expectations of the US dollar have been scaled back, its continued strength, whether as a safe haven asset or a reflection of Federal Open Market Committee (FOMC) tightening, could come at the expense of SSA investment flows.

Section 2 analyses the impact of China's balancing act. In particular, we assess the nature of its financial deleveraging (Section 2.1) alongside its growth deceleration and its capital account liberalisation (Sections 2.2 and 2.3). We consider how the deceleration in growth, driven by a collapse in trade, has had impacts on oil and non-oil exports, particularly for SSA economies. Nigeria and Democratic Republic of Congo (DRC) have witnessed the largest impacts in the set of 12 SSA economies we consider. Within the analysis, we also examine the likelihood of a pickup in China's consumption growth and further outbound investment notwithstanding the likelihood of further financial volatility.

Section 3 looks at why the lower oil price is significant (Section 3.1) and the role of demand from China and an increasingly energy-independent US (Sections 3.2 and 3.3). We then assess the impact of lower oil prices on the SSA economies (Section 3.4). We highlight in our matrix of impacts that lower oil prices have mostly benefited the SSA economies' terms-of-trade (TOT) through lower fuel import costs. We then examine how some SSA oil exporters, such as DRC, Ghana and Nigeria, look increasingly vulnerable, owing in part to their economic exposure to lower oil prices and their inability to respond given their declining reserves.

Section 4 turns to the impact of US dollar strength on SSA economies' external positions. We first look at the prospects of US dollar strength in light of tighter FOMC monetary policy. We then assess the impact on SSA currency depreciation, capital flow dynamics and debt dynamics

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<sup>3</sup> Owing largely to data limitations, the countries included in our matrix of impacts include Democratic Republic of Congo (DRC), Ethiopia, Ghana, Kenya, Mozambique, Malawi, Nigeria, Rwanda, Tanzania, Uganda, South Africa and Zambia.

in our set of 12 SSA economies (Sections 4.1–4.3). Throughout the analysis, we consider SSA monetary policy and which economies with high debt and declining reserves could experience further capital outflows and currency depreciations. This gives an important metric as to a country’s ability to manage continued oil price and exchange rate shocks.

Section 5 takes stock of the country-specific impacts of China’s growth transition, lower oil prices and a higher US dollar on the set of 12 SSA economies in our matrix. We take stock of each shock (Sections 5.1–5.3). Then section 5.4 attempts to assess the joint impact of China’s economic developments, lower oil prices and a higher US dollar. We take a closer look at the subset of SSA economies that look constrained in their ability to counter the shocks given falling fiscal revenues, inflationary depreciations and indebtedness and that are therefore likely to continue to experience economic vulnerability.

Section 6 presents our country case studies. On the basis of the impacts we analyse, the country profile section includes analysis on Nigeria, DRC and Ghana. Section 6.1 looks at the key elements of Nigeria’s economic vulnerability, stemming from its exposure to lower oil prices and the associated impact on its FDI inflows, its currency peg and FX reserves. Section 6.2 considers Ghana, given the potential vulnerability of its oil rents to lower oil prices and the impact of its currency depreciation on its debt. Section 6.3 examines DRC in light of its vulnerability stemming from lower demand from China, its deteriorating TOT and its perilously low reserves.

Section 7 presents policy options in light of our analysis. Section 7.1 considers three policy areas that can augment the effectiveness of monetary stabilisation. These cover alignment of domestic market rates with the policy rate, capital flow management and improved liquidity forecasting and management. We then discuss specific exchange rate reforms for Nigeria, Ghana and DRC (Section 7.2). Finally, in Section 7.3, we take a top-down approach and discuss policies for improved global economic governance, which draw, in part, from participation in the Think-20 (T20) meetings in Antalya, Turkey, and the T20 in Shenzhen, China. In particular, we focus on new types of institutional collaboration, heightened information exchange and enhanced global liquidity buffers. Section 8 concludes.

## 2. China's balancing act

China faces a difficult balancing act. Its corporate and banking sectors have seen a credit build-up. As it deleverages, the Organisation for Economic Co-operation and Development (OECD) expects the country to grow at 6.5% in 2016, less than half of its 14% growth before the 2008 global financial crisis. All the while, it is liberalising its financial system. The impact of this balancing – of deleveraging, slower growth and financial liberalisation – will be mixed. Deleveraging and liberalisation could spur further financial market volatility, although they will also spur continued outward FDI too.

### 2.1 China's deleveraging

China's financial imbalances are substantial. Its 'finance-neutral' gap – a measure of its financial cycle<sup>4</sup> – is large and positive, reflecting imbalances accumulated in the economy since the global financial crisis. At 149% and 168% of gross domestic product (GDP), respectively, the credit shares of non-financial corporations (NFCs) and banks are high and sustained by a cycle of rising asset prices and low interest rates (Maliszewski and Zhang, 2015).

A drop in credit-financed development and project reassessments is a key risk, particularly given the dominance of state-owned banks (SOBs), state-owned enterprises (SOEs) and China's shadow banking sector.<sup>5</sup> The risks of unwinding are particularly pronounced because of the following factors:

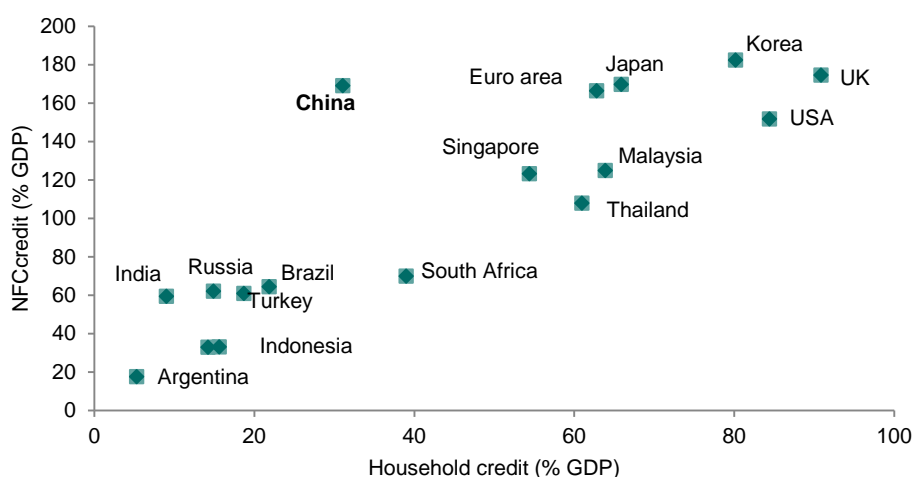
- **A misallocation of credit** is distorting economic activity away from productivity-increasing sectors. China's gains in terms of total factor productivity (TFP) growth have been driven by technological progress. And yet they have been offset since 2008 by a misallocation of capital (Zhan et al., 2014). Bank and NFC credit shares are disproportionately high compared with that of households (Figure 1), suggesting a reallocation is necessary.

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<sup>4</sup> Maliszewski and Zhang (2015) derive the notion of a 'finance-neutral' gap by incorporating the credit cycle into measures of the output gap, defined as the difference between actual and potential output, or the level of goods and services an economy can produce without generating inflationary pressure.

<sup>5</sup> Shadow banking is broadly defined as credit intermediation outside of conventional banking (IMF, 2014).

**Figure 1: China household and non-financial private sector credit (% GDP)**



Source: Bank for International Settlements.

- **Shadow banking** is estimated at 46% of China’s banking system (Elliot et al., 2015). Typically, this is beneficial in promoting financial inclusion (IMF, 2014a). However, in China’s case it is exceptionally risky because of the debt it has generated, particularly through the SOEs, which control as much as \$17 trillion in assets (Wildau, 2015). The risk of contingent liabilities ‘crystallising’ on the government has prompted Moody’s to downgrade China’s government bond rating to negative (Moody’s, 2016).
- **SOE default risk** is high, particularly for resource companies. It is also harder to assess compared with that for privately owned firms, given that standard measures of risk, such as borrowing costs, are distorted by implicit state guarantees rather than credit quality (Law and Roach, 2015). Intermittent default, or risk of default, as in the case of Sinosteel and Baoding Tianwei, will reflect the risks associated with growing debt.

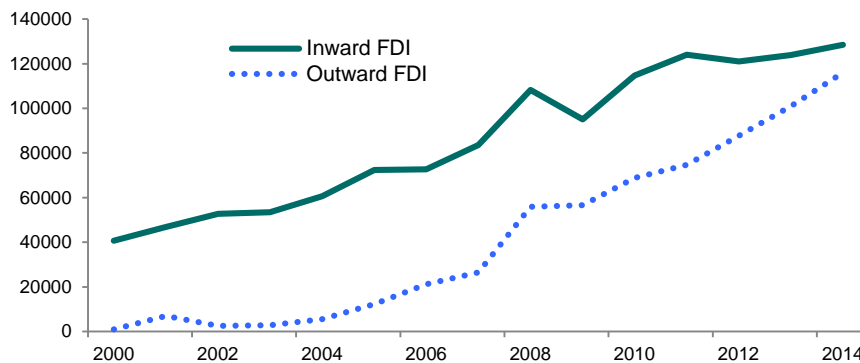
Deleveraging is risky. And yet it is unlikely to impact its outward FDI, for the following reasons:

- **China’s loan growth** remains strong. It rose to a monthly record (\$384 billion) in January 2016, while corporate loan growth for long-term productive investments rose 205% month-on-month. With SOEs accounting for the lion’s share (82%) of outward FDI (MOFCOM, 2014), there are indications that policy-makers are continuing to loosen credit conditions for investment (Kynge, 2016; Wildau, 2016).



- **China's One Belt One Road (OBOR)<sup>6</sup> policy** will underpin outward FDI, which is now almost at par with inward FDI (Figure 2).<sup>7</sup> The OBOR economic corridors will include 65 countries and 40% of global GDP and bolster China's geopolitical relationships (Hofman, 2015; Khan, 2015). In light of this, investment in strategic sectors to foster 'unimpeded trade', particularly in minerals and infrastructure, remains a priority (NDRC, 2015).

**Figure 2: China outward and inward FDI (\$, millions)**



Source: UNCTAD.

- **China's decentralised system** has provinces the size of whole countries, with independent outward FDI policies that have reduced investment barriers (Davies, 2013; Lin and Liu, 2000). Historically, this has owed to competition and lax local budget constraints, rather than to decentralisation (Cai and Treisman, 2007). However, provincial firms are proving important in China's 'policy experiments' and their share in China's outward FDI has been increasing, with mergers and acquisitions (M&A) deals broader-based (Chen, 2013; MOFCOM, 2014).

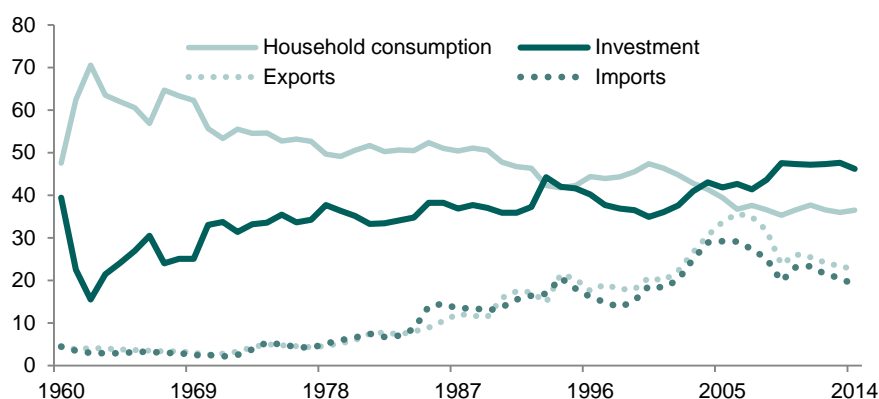
## 2.2 China's slower growth

China's growth slowdown has been driven by a deceleration in trade (Figure 3). Expectations regarding a further slowdown stem from investment overcapacity (IMF, 2015h). A key question is whether consumption, and import demand, pick up.

<sup>6</sup> Under its OBOR initiative launched in 2013, the Chinese leadership has indicated that it plans to connect major Eurasian economies through infrastructure, trade and investment, investing in up to 65 countries, with the government launching a \$40 billion Silk Road Fund and enlisting Asian Infrastructure Investment Bank (AIIB) support (Hofman, 2015; NDRC, 2015)

<sup>7</sup> The promotion of outward FDI has been a cornerstone in China's 'going global' strategy – gradually relaxing cross-border investment restrictions, cutting red tape, allocating credit for major outward investments and providing information about host countries (Davies, 2013).

**Figure 3: China's components of GDP (% GDP)**

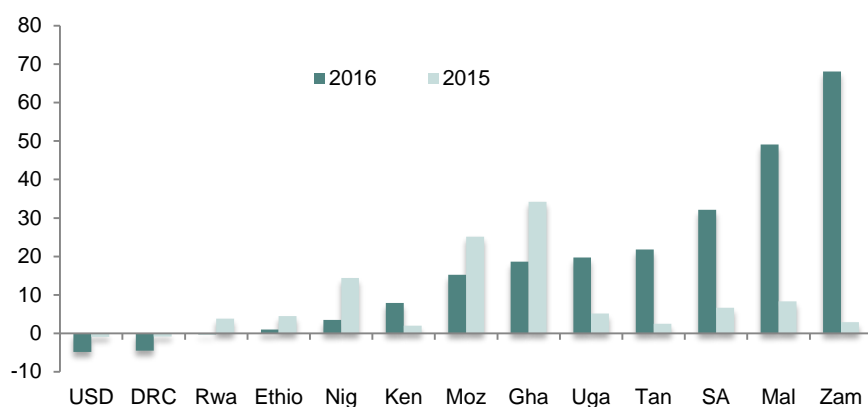


Source: World Bank World Development Indicator database.

Wage growth and the renminbi (RMB) real effective exchange rate (REER)<sup>8</sup> will be important in influencing a pickup in imports. Although a weaker RMB is likely to hurt import demand, this is not clear-cut for SSA imports. Wage growth will be supportive of this and of outward FDI and will benefit SSA.

The RMB has depreciated against the US dollar by around 5% in 2016. Its undervaluation has been eliminated (IMF, 2014a). And yet the RMB has appreciated against most SSA currencies, with Zambia seeing the sharpest fall (Figure 4). DRC and Nigeria have seen limited impact, given their managed and dollarised currency systems.

**Figure 4: The RMB vis-à-vis the US dollar and SSA currencies**



Note: A positive reading denotes a depreciation in the local currency against the RMB.

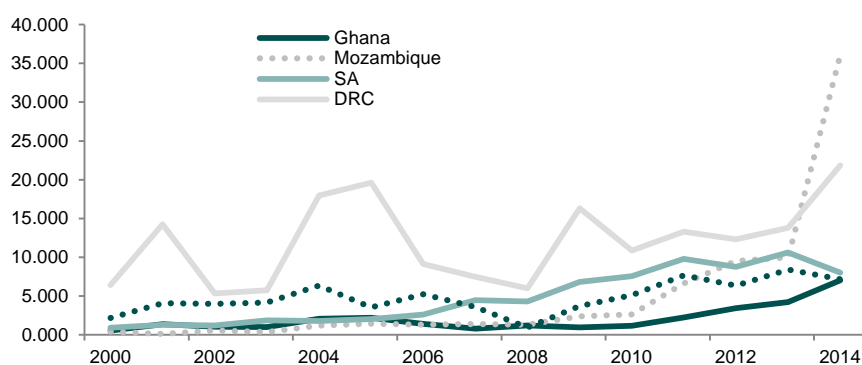
Source: World Bank World Development Indicator database.

<sup>8</sup> The REER is calculated as the nominal effective exchange rate (NEER) multiplied by the ratio of domestic to foreign prices.

Notwithstanding the nominal exchange rate depreciations in SSA, real (inflation-adjusted) SSA exchange rates are still elevated by high consumer prices *vis-à-vis* Chinese prices. A rise in this ratio indicates deterioration in SSA competitiveness, particularly for the six SSA economies for which China is the number one export destination, according to the International Monetary Fund (IMF) Direction of Trade Statistics (DOTS) (Figures 5 and 6).

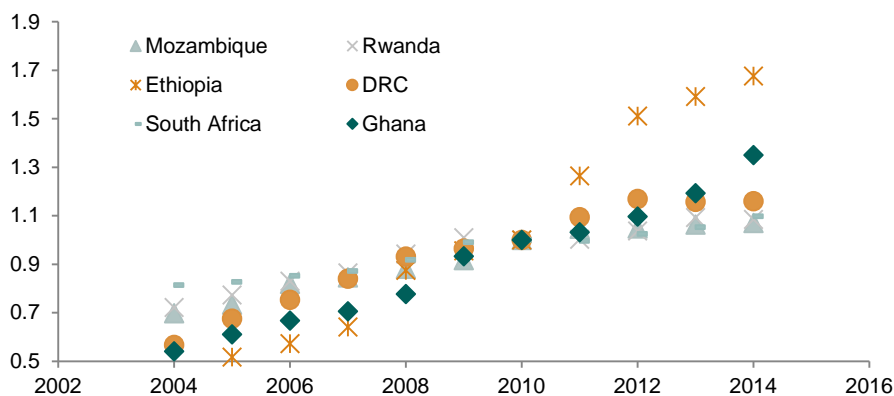
Imports from advanced economies could falter. Long term, the outlook for the consumer market in China is strong, and China is expected to be a key global profit driver (Gao, 2016). However, recent evidence is mixed. Although imports from the US and Germany have shown resilience, this has not been widespread, and the latest readings in China’s trade data show a 13% year-on-year drop in overall imports (alongside a 25%-odd year-on-year drop in exports) in January 2016.

**Figure 5: SSA economies % share of exports to China**



Source: IMF DOTS.

**Figure 6: SSA consumer prices vs. China consumer prices**



Source: World Bank World Development Indicator database.

China's import demand for SSA goods has also declined. This has followed a decade whereby SSA's trade with China has grown significantly faster than world trade, with SSA exports rising from about 2.4% to 6.5% of SSA GDP, according to IMF DOTS. This is driven in part by China's demand for natural resources. A large proportion of the export growth is explained by oil, and non-oil exports, which grew significantly, by on average 30% annually.

More recently, SSA has seen falls in China's import demand from DRC, Rwanda and Tanzania. Ghana, Tanzania and Zambia are likely to benefit from higher import demand on the basis of the significant depreciation in their exchange rates. Even though imports from DRC and Nigeria have also dropped, the ability those exchange rates to depreciate and boost exports is limited given Nigeria's managed currency system and DRC's dollarisation.

If China is successful in initiating the types of structural reforms that help it rebalance or shift part of its production to SSA, it will be beneficial to its exports and its real GDP growth. An increase in China's trend TFP represents a relocation of about 2% of manufacturing exports from China to SSA and a 3% boost to GDP baseline estimates after 15 years (Anderson et al., 2015).

SSA's comparatively average real wage growth of -1% (between 2011 and 2013) when compared with an average 5.8% in neighbouring South-East Asia in 2013 (ILO, 2015) would motivate a move in production. This would be more employment-creating than extractive (Kaplinsky et al., 2008), although experience in DRC and Rwanda raises doubts regarding the knowledge and skills transfer of Chinese FDI (IDS, 2015).

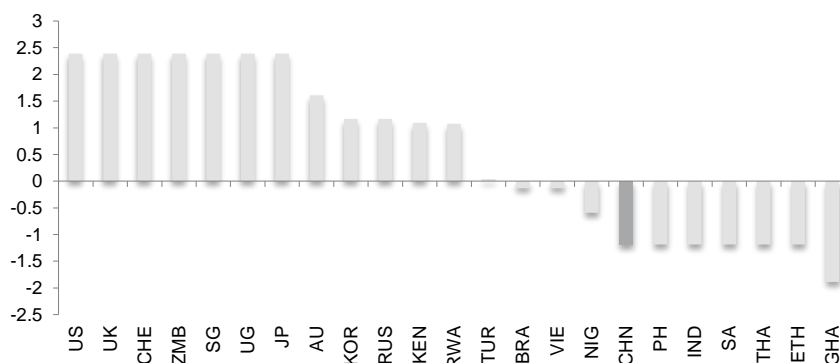
#### **Box 1: Factors to watch for a turnaround in China's household spending**

As China's economy slows, a key question is whether consumption will take over as a growth driver. A number of factors will be important to watch for a turnaround, including (1) **reallocation of credit to the household sector**, whose credit share is small compared with that of banks (130%) and NFCs (160%); (2) **digital finance** in the form of new banking licences to e-commerce platforms (Papadavid, 2016a); (3) a **deeper financial market** reducing pent-up savings and aiding consumption smoothing. Without deepening, financial liberalisation can increase inequality and reduce the labour income share (Furceri and Loungani, 2015); and (4) **wage acceleration**. Disposable income growth has been resilient at 9% over 2015 and risen 240% since 2004, according to the National Bureau of Statistics, with eastern manufacturing regions particularly strong (Davies, 2013).

## 2.3 China's financial liberalisation

Although China's financial system is already the fourth largest globally, after the US, the Eurozone, Japan and the UK, by a number of accounts, including the Chinn and Ito (2006) index of financial openness, its capital account is one of the least liberalised (Figure 7). China's financial liberalisation could spur further volatility and yet it will also underpin outward FDI.

Figure 7: Chinn and Ito index of financial openness



Note: Higher readings denote greater openness.

Source: Chinn and Ito (2006).

The internationalisation of China's financial system will support outbound investment and trade but is likely to trigger bouts of financial volatility too. Ghana, Nigeria, Zambia and Zimbabwe have increased their usage of RMB in trade invoicing and in their reserves. We look at some of the risks associated with China's liberalisation and its pathways.

### 2.3.1 Sources of volatility from China's liberalisation

Increased financial volatility has coincided with China's liberalisation. This explains, in part, why the government is far from allowing the extent of free flow of capital that is typical of reserve currencies. Bank shocks and the risk of RMB devaluation would be two key channels of volatility for SSA.

- **Shocks to the banking system** are a source of financial volatility. China's financial system is dominated by bank lending, making it particularly vulnerable to financial shocks. Amiti and Weinstein (2013) show that supply-side financial shocks to lending, to which China is particularly vulnerable given its highly leveraged banking system, affects investment.
- **RMB volatility.** The 'impossible trinity' of having an open capital account, a fixed exchange rate and independent domestic monetary policy is inherently unsustainable

(Obstfeld et al., 2004; World Bank, 2005), underscoring the likelihood of a freely floating RMB. People's Bank of China (PBoC) policy is still hampered by issues of effective communication, which can exacerbate volatility (Mitchell, 2016).

- **Further RMB devaluation** may be particularly problematic for smaller, low-income economies that also need to devalue to remain competitive. The loss of purchasing power from a competitive devaluation is not typically offset by investment, or exports, right away (Acevedo et al., 2015). A lower RMB would hurt SSA export competitiveness and spur regional devaluations, although these are likely to be in South-East Asia.

### 2.3.2 Channels of impact from China's liberalisation

Notwithstanding the volatility stemming from the RMB, it is likely that a pickup in trade and outward FDI and portfolio investments will ensue from China's RMB liberalisation through the following channels:

- **RMB's trade share is still small.** The value of RMB trade settlement surged 30-fold between 2010 and 2013.<sup>9</sup> There are numerous reasons for this, including market power, rising capital account liquidity and share of commodities. However, as PBoC Governor Zhou Xiaochuan noted,<sup>10</sup> the RMB's share is still small. As of 2013, at 16.9%, the RMB's share as a percentage of China's trade compares to the yen's 40% share and over 50% for the euro's share in Eurozone trade (Eichengreen and Kawai, 2015).
- **China's outbound investments** are still small, less than 2% of GDP in 2014, according to the World Bank. FDI into SSA remains comparatively small in relation that into other regions (Figure 8). On this basis, there is scope for a significant increase in China's outbound FDI as it liberalises its economy. Policy-makers have been creating a number of channels for outward portfolio investments by retail investors, mutual funds and various institutional investors, including its sovereign wealth funds (SWFs) (Karolyi et al., 2015).<sup>11</sup>
- **China's trade promotion policies.** The promotion of global RMB usage in trade settlement and invoicing has been an explicit policy strategy, and its inclusion in the

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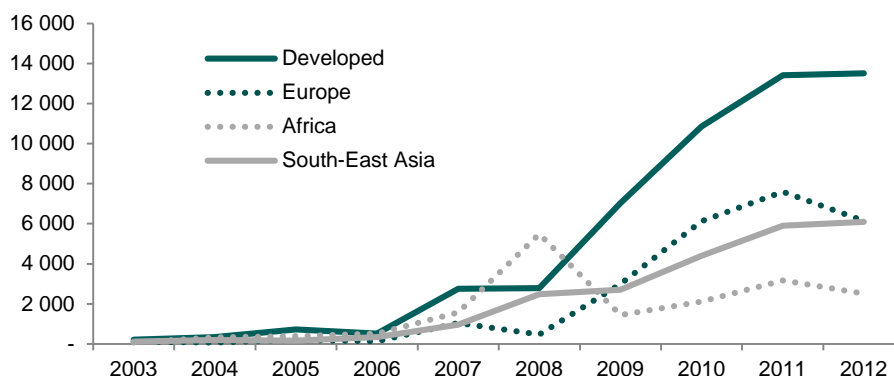
<sup>9</sup> From CNY10 billion to CNY318 billion (Eichengreen and Kawai, 2015).

<sup>10</sup> See <http://www.centralbanking.com/central-banking/interview/2411663/pbocs-zhou-xiaochuan-on-interest-rate-reform-and-renminbi-internationalisation>

<sup>11</sup> Karolyi et al. (2015) find that emerging market investors' portfolio allocations on average exhibit significantly greater overall foreign allocation biases than those of developed market economies.

IMF's Special Drawing Rights (SDR) basket reflects its primacy in China's liberalisation.<sup>12</sup> China's policymakers have employed strategies, including offering corporations price concessions, to settle and invoice in RMB, with some success. Zimbabwe now uses the RMB as legal tender, and Ghana, Nigeria and Zambia have announced more RMB accumulation as bilateral trade has risen.

**Figure 8: Geographical breakdown of China's outward FDI (US\$ millions)**



Source: UNCTAD FDI/TNC database, based on data from MOFCOM.

- **RMB institutionalisation** is occurring through several channels. The South African Reserve Bank (SARB) has agreed to invest in the RMB bond market, Kenya plans an RMB clearing house and the PBoC has expanded local currency bilateral swap lines to facilitate usage of RMB financial instruments in 25 swap facilities (Eichengreen and Kawai, 2015). The RMB bond market has grown in volume, liquidity, and breadth (Shu et al. 2013). SWFs are accumulating RMB for strategic purposes<sup>13</sup> and maximising their investment portfolios.

## 2.4 China's rebalancing: Conclusions

China's deleveraging, its growth slowdown and its financial liberalisation will be difficult given the uncertainty and volatility arising from reforms. Its deleveraging is risky, given the likelihood of SOE default risk amid high levels of banking and corporate debt. However, its strong loan growth, in the context of its OBOR policy, will underpin outward OFDI. China's growth slowdown also carries risks given the collapse in its trade and a depreciating RMB.

<sup>12</sup> The IMF SDR basket constitutes the Fund's supplementary reserve assets and is denominated in five currencies. As of 1 October 2016, the RMB will be included: <http://www.imf.org/external/np/sec/pr/2015/pr15540.htm>

<sup>13</sup> Although developing central banks' RMB reserves are growing as a result of growing trade with China, developed central banks are accumulating RMB-denominated assets, even before full capital account liberalisation, for strategic reasons such as yield advantage and portfolio diversification (Eichengreen and Kawai, 2015; Papadavid, 2014).

And yet the level of the RMB against the SSA currencies suggests SSA exports have a competitive advantage. A scenario of higher wage growth and structural rebalancing suggests FDI may increase into SSA. Finally, notwithstanding the risks of RMB devaluation and bank lending shocks, China's financial liberalisation and promotion of the RMB in trade invoicing, central bank accumulation and institutional usage could spur greater outward investment and trade.



# 3. The impact of lower oil prices

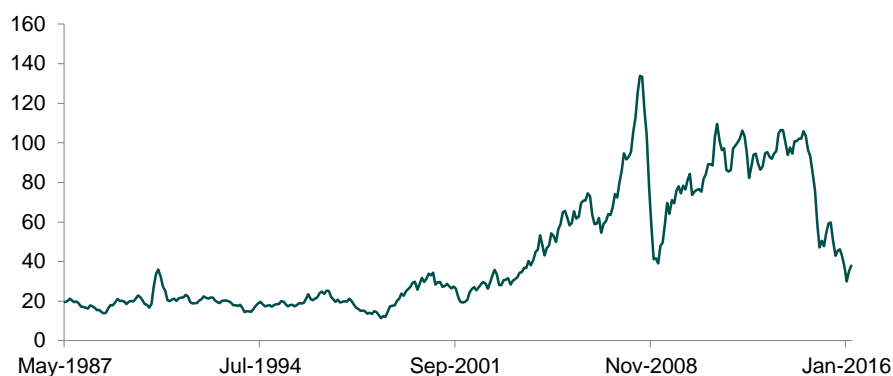
Global oil prices remain weak. Following a 50% decline between mid-2014 and mid-2015, the West Texas Intermediate (WTI) measure of oil prices hovers around \$40 a barrel, down from its 2014 peak of \$107 (Figure 9). In this section, we look at why the decline in the oil price is significant, the role of demand from China and the US and the impact on SSA economies.

Although most SSA economies see benefit from lower oil prices – including some oil producers, such as Ghana, which have had continued investment in their oil sector – others, such as DRC and Nigeria, do not. They see a negative TOT impact and vulnerability is heightened by limited capacity to respond given managed exchange rates and low reserves.

## 3.1 The significance of a lower oil price

The decline in oil prices is significant but not unprecedented. Commodity price shocks are common in developing countries: from 1997 to 2013 there were 693 downturns (Kinda et al., 2016). Oil is distinguished by among other things, the fact that it is not mainly a developing country commodity, heightening the transmission mechanism. The particular elements that are important to consider in this particular oil price shock are the following:

Figure 9: WTI oil price (\$ per barrel)



Source: IEA.

- There have been **widespread corporate profitability concerns**, stretching from the North Sea British oil producers, where losses have risen above £6 billion (Stacey,

2016), to US Shale producers' delisting and to solvency concerns at Petrobras (The Economist, 2015).

- The decline has been largely **unresponsive to Organization of the Petroleum Exporting Countries (OPEC) production freezes**, despite OPEC production still comprising a significant share of traded oil (Kramer and Reed, 2016).
- **A structural demand shock** is a key driver. Among the multiple drivers of price, including crude oil supply shocks and global demand shocks for industrial commodities, structural demand shocks drive sustained price changes (Kilian, 2009).

### 3.2 US energy demand

The US is now largely energy self-sufficient. Imports of petroleum products have declined as production of natural gas, largely from domestic resources of shale and shale oil, has picked up. US energy shares have shifted, and will continue to shift, as a result of domestic demand for cleaner energy and greater production of natural gas (EIA, 2016; Maugeri, 2013).

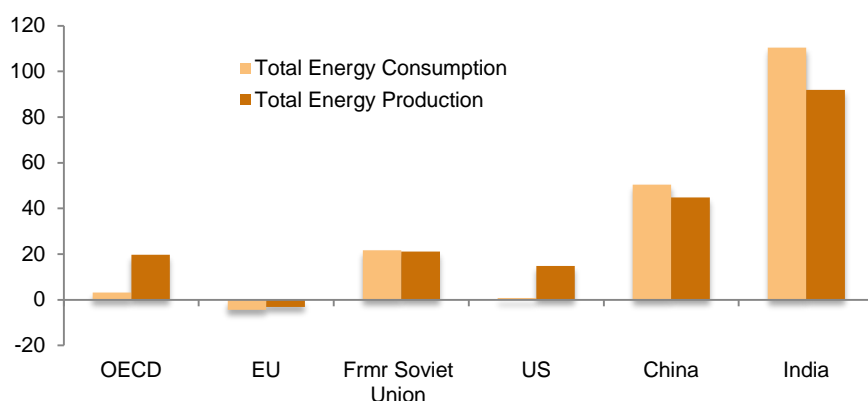
A continued fall in US import demand is also expected to continue (EIA, 2015). A long history of legislative, political and financial incentives by successive administrations will continue to drive domestic production of unconventional energy (Papadavid, 2013), with President Obama continuing to reaffirm the US' 'all of the above' energy strategy in his final State of the Union address (The White House, 2016). This self-sufficiency will continue to drive US oil demand lower in the longer term.

Already, we have seen a multiyear decline in US imports affect its key SSA trading partner: Nigeria stopped exporting crude oil and petroleum products to the US completely in 2014, with US shale deemed to be the key cause (Blas, 2014). There have been subsequent commitments to deepen and broaden the US–Africa trade relationship into new sectors (The White House, 2015).

### 3.3 China's energy demand

China's energy demand is a source of debate. Some market participants deem it to have peaked (Coulter, 2015), given its less energy-intensive growth (IMF, 2015h). Others foresee this as temporary (Figure 10). China's continued energy demand is in part a reflection of infrastructure spending (Papadavid, 2016a). Its oil dependence is expected to rise from 59% in 2015 to 76% in 2035 (BP, 2015).

**Figure 10: Projected energy consumption and production growth (2015–2035)**



Source: BP (2015).

SSA’s energy resources are strategically important to China. China now obtains almost a third of its imported oil from Africa; this compares with a quarter as recently as 2004. About two thirds of all African exports to China consist of oil (Shinn, 2016). That said, its FDI investments are not concentrated in the natural resources sector (Chen et al., 2015).

Recently announced investments at the Forum on China–Africa Cooperation (FOCAC) indicated broader investment beyond resources and commodities (Sun, 2015). Although there has been FDI in the auto, tourism, leisure and consumer sectors in parts of South-East Asia, African non-energy investments have been limited to South Africa (MOFCOM, 2014).

### **3.4 Oil price impact on SSA**

SSA oil production is concentrated in eight SSA countries, comprising about half the region’s GDP. Within this group, between 2009 and 2012 Angola and Nigeria supply nearly three quarters of SSA’s oil output, and their gross oil exports alone account for nearly a quarter of oil exporters’ GDP and more than 50% of their fiscal revenues (IMF, 2015e).

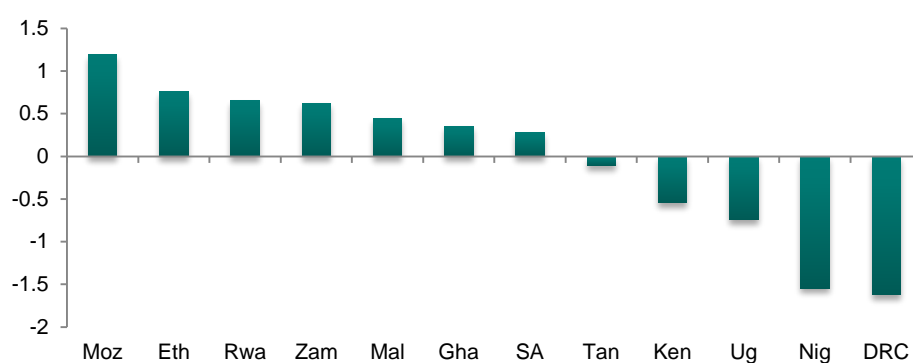
For the 37 SSA countries that are net oil importers, oil imports were 20% of total imports and 7% of their GDP in 2014. Notwithstanding this, the consumption boost has been weaker than in past oil price declines. This has owed to more limited pass-through, changes in tax regimes and structural changes (IMF, 2015f).

#### **3.4.1 Terms-of-trade impacts in SSA**

In the first instance, when it comes to oil (and commodity) price shocks, it is important to consider TOT impacts. The decade low in oil prices has generated a significant downside TOT

shock for oil exporters and a positive TOT adjustment for oil-importing countries. In looking at the range of impacts, major oil producers (DRC and Nigeria) experienced sharp TOT declines in 2014, according to our standardised metric (Figure 11), whereas commodity producers, such as Zambia, had not.

**Figure 11: Terms-of-trade adjustment across SSA in 2014**



Notes. The data present the TOT adjustment as the capacity to import relative to exports of goods and services in constant prices. Data are in constant local currency. The country readings for 2014 are calculated relative to their 10-year mean and standardised in relation to the other countries in the sample.

Source: World Bank World Development Indicator database.

The constellation of TOT shocks will bring particular currency adjustments. The REER depreciates as a result of the TOT shock. That depreciation may improve oil exporters' ability to restore external financial sustainability, and it may help improve the economy's non-oil trade balance. A negative TOT shock can drive down domestic non-traded goods prices, and thereby the REER. As prices of non-traded goods may be sticky, the REER adjustment can be driven by NEER, as witnessed in Nigeria. This assumes no compensating funds, such as higher aid.

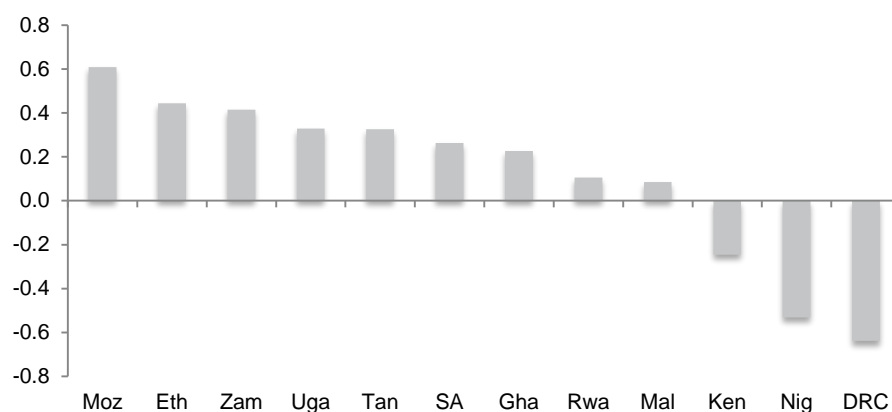
Some economies that have experienced TOT deterioration in 2015 and 2016 will see their currencies continue to weaken; others will not. Monetary authorities in oil-exporting economies may choose to intervene, using reserves, and those with pegs and floating currencies typically do so in equal measure; those with a large pool of foreign currency reserves see a positive valuation effect as their currency depreciates (Bützer et al., 2012, 2015). This policy impact suggests effective monetary policy with adequate reserves can mitigate or counter the TOT deterioration.

### 3.4.2 Matrix of oil impacts

In this section, we examine a matrix of impacts to take stock of SSA economies' exposure to the oil price drop. The six standardised metrics we examine from the World Bank World

Development Indicator data are fuel exports, fuel imports, oil rents, oil imports from China, TOT and energy efficiency as measured by GDP per unit of energy use. We find that, for the 2014–2015 period, most SSA economies derive a positive impact from the oil price decline (Figure 12). However, there are clear vulnerabilities in the decline in fuel exports and oil rents and TOT in DRC, Kenya, Nigeria and Uganda.

**Figure 12: Standardised metric for SSA oil price impact for 2015**



Note: For details of construction of indicator see Appendix 1.

Source: ODI calculations based on World Bank World Development Indicator database, UN Comtrade database and IMF DOTS.

- **Positive SSA impacts.** Ghana is benefiting from a relatively high level of oil rents and (cheaper) fuel imports, as are South Africa, Tanzania and Uganda. Ghana and Rwanda have fared well as a result of their respective fuel re-export strategy (Tumwebase, 2015) and Jubilee field development.<sup>14</sup> Mozambique’s discovery of natural gas reserves has doubled its exports (Nyamuda, 2015). Its fuel exports and its positive TOT impacts yield a positive total impact of lower oil prices.
- **Nigeria’s negative impacts** look widespread. All the subcomponents of the standardised measure for Nigeria (fuel exports, oil rents, TOT, China’s oil imports and Nigeria’s energy efficiency) declined in 2014, with particularly negative impacts from lower oil rents and fuel exports. Although Nigeria could benefit from lower import costs, there is likely to be a decline in its oil import share given payback after 2013, limiting the TOT benefit.

<sup>14</sup> <http://www.tulloil.com/operations/west-africa/ghana/jubilee-field>

- **DRC looks most vulnerable** in terms of its negative exposure to lower oil prices in 2014. It has suffered a particularly sharp deterioration in its TOT, which has been exacerbated by declining demand from China and a decline in its oil rents in 2014. Unlike Nigeria, its standardised measure for energy efficiency is high relative to its historical average, indicating some ability to counter the fall in oil revenues.

### 3.5 Impacts of oil price: Conclusions

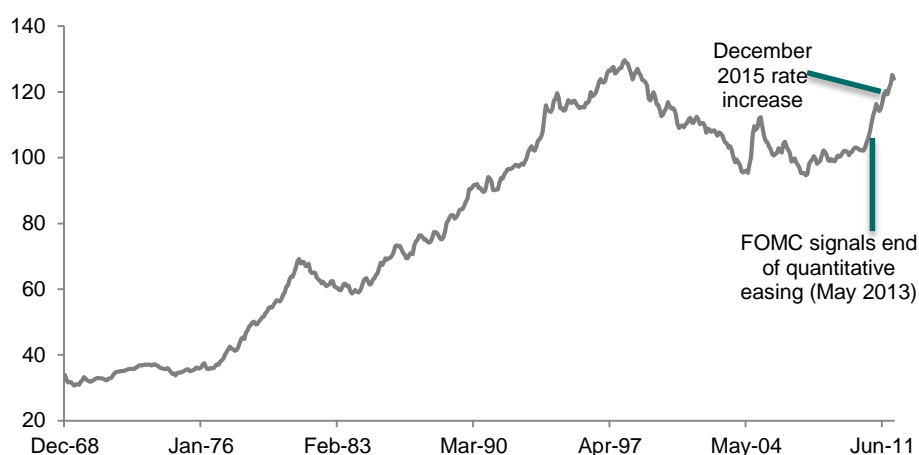
The fall in the oil price since mid-2014 is significant in that it reflects, in part, a structural demand shock. Declining demand in the US, owing to energy self-sufficiency, has been an important factor behind oil rents falling in Nigeria. Although China's lower oil imports have dropped, this dip in demand is expected to be temporary. Unlike the pathways of impacts from China, the decline in the oil price will affect SSA economies in a divergent manner. Our standardised metric for 2014 shows nine of the 12 SSA we consider derive a positive impact from the lower oil price, particularly Mozambique. DRC and Nigeria stand out in terms of being the most vulnerable economies to the lower oil price. Lower oil prices have triggered adverse TOT adjustments, exacerbated by China's lower demand, with falls in oil rents and fuel exports.

## 4. Rising US interest rates

The US dollar has appreciated by 28% from its July 2011 trough (Figure 13).<sup>15</sup> This has been in part because of expectations of the FOMC tightening policy since it indicated it would start to reverse its monetary easing in May 2013. Further dollar strength is expected in 2016 with US economic outperformance and investor demand for US safe haven assets<sup>16</sup> amid global financial volatility (Gadanecz et al., 2013; Takáts and Vela, 2014), although expectations have been scaled back (Black and Nguyen, 2016).

In Section 4.1, we look at the impact of a rising US dollar on SSA currencies and consider the knock-on effect on SSA monetary policies. In Section 4.2, we examine the degree of investment outflows in SSA, particularly in SSA countries with ‘twin’ deficits in their current accounts and fiscal accounts. The impact of a rising dollar is likely to be most felt in SSA economies that have had large currency depreciations, capital outflows owing to global risk aversion and high levels of dollar-denominated debt. Our standardised metric suggests Nigeria, Rwanda and Tanzania look most vulnerable on this basis (Figure 14).

**Figure 13: US Federal Reserve nominal broad dollar index**



Source: US Federal Reserve.

<sup>15</sup> Author's calculation using the Federal Reserve's broad trade weighted index.

<sup>16</sup> A currency or asset benefits from safe haven status when it is insulated from a global storm when a storm hits and is issued by a country that is itself safe and low risk with a healthy net foreign asset position (Habib and Stracca, 2011).

## 4.1 SSA exchange rate impacts from a strong US dollar

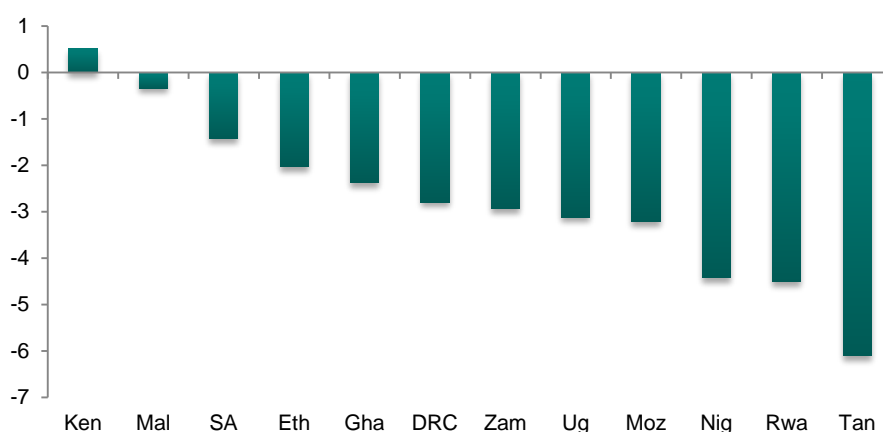
Our standardised metric assesses the financial vulnerability of SSA economies in the light of US dollar strength. It includes local currency changes (vs. the US dollar), portfolio flows, FDI inflows, dollar-denominated public debt and the reserves to import ratio. For details of the calculation of the matrix, see Appendix 1. In this section, we look at SSA exchange rates.

US rate rises are likely to be moderate. The US FOMC started to normalise its monetary policy on December 2015, raising the target range for the federal funds rate (to 0.25–0.5%). It indicated that US policy rate rises are likely to be ‘gradual’ and that the federal funds rate is likely to remain, for some time, below levels that are expected to prevail in the longer run (Board of Governors of the Federal Reserve System, 2015).

FOMC policy will boost the US dollar, particularly given easing in Japan and the Eurozone (Sinha, 2015). The Bank of Japan (BOJ) recently introduced a negative interest rate (-0.1%), which it will lower further if needed (BOJ, 2016), and the European Central Bank (ECB) has expanded its unconventional easing in March (Draghi, 2016).

There has been significant and sustained depreciation in SSA currencies against the US dollar, particularly since dollar appreciation picked up as the FOMC indicated in May 2013 that it would start to reverse its programme of quantitative easing. The SSA currency depreciations have also been more pronounced than previous FOMC rate increases (Figure 15).

**Figure 14: Standardised metric for SSA US dollar impact for 2014**

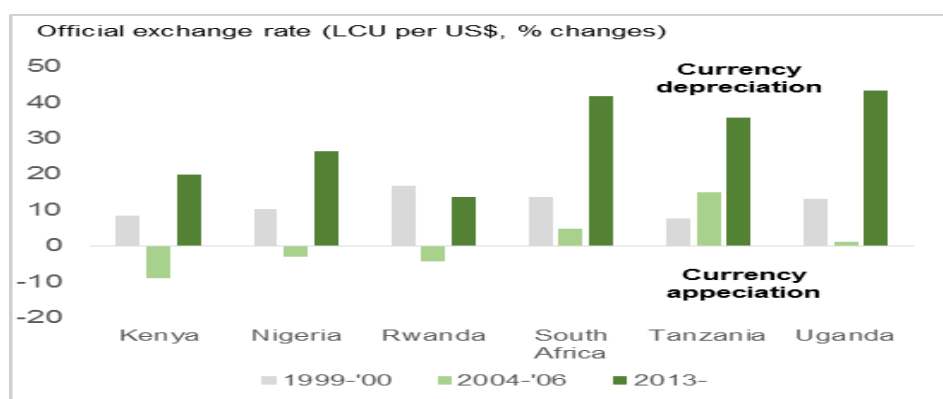


Notes: For details of construction of indicator see Appendix 1.

Source: ODI calculations based on World Bank World Development Indicator database



**Figure 15: SSA currencies during FOMC rate rises**



Source: Bloomberg, World Bank, ODI.

Widespread SSA currency depreciation has led to tighter monetary policy. The Bank of Uganda raised its policy rate five consecutive times to October 2015, to counter inflationary pressure from a depreciating exchange rate. The central banks of Ghana, Kenya, Mozambique and Zambia have also engaged in multiple rate rises since 2013, with all of them citing inflation concerns (Vollgraaff et al., 2015). Looking ahead, SSA central banks face an adverse growth–inflation mix. Some, such as the SARB, foresee further rate rises. Other central banks, such as those in Ghana and Kenya, may be at the end of their tightening cycles. A third subset has eased policy (Nigeria) given the significant slowdown in domestic growth.

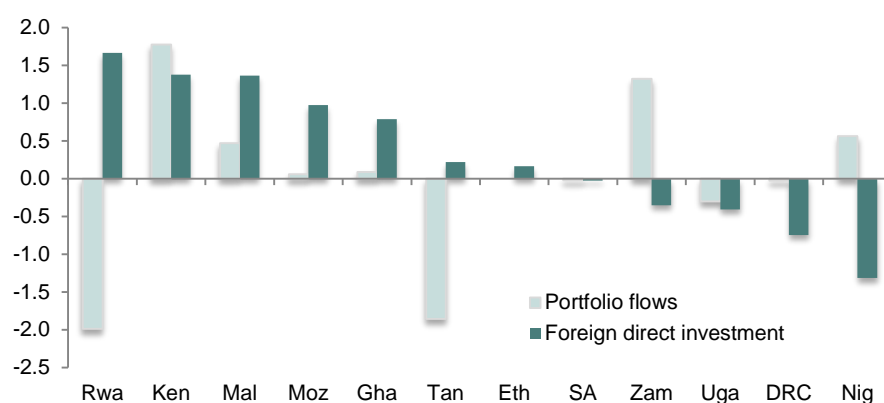
Maintaining tighter monetary policy in SSA economies, either through higher interest rates or through engineered strength in the exchange rate, is important in SSA for containing inflation or countering speculative attack (see Box 2 below). In Nigeria’s case, the naira-managed peg has been used to contain inflation risk; DRC (among other SSA economies), meanwhile, uses dollarisation. This is necessary: currency depreciations that surpass 10–20% could trigger exchange rate pass-through inflation effects as large as 18–25% percent (Caselli and Roitman, 2016), particularly when there is no credible inflation targeting regime in place.

## 4.2 SSA capital flow impacts

Gauging capital flow effects, and particularly capital flight from an economy, is important given that the scope for domestic macroeconomic instability is heightened by financial integration. Capital and investment flows could, in some instances, be more meaningful than a country’s current account. This is because financing patterns can lead to financial instability and macroeconomic dislocations (Borio and Disyatat, 2015). SSA outflows are most likely to be seen in economies with ‘twin’ deficits in their current and fiscal accounts.

FDI inflows have been positive, with DRC, Nigeria and Uganda the key outliers (Figure 16). Portfolio flows have remained robust in Kenya, Nigeria and Zambia, though bond inflows have dropped dramatically in Ghana, Nigeria and Zambia. This has been mirrored in equities: as of January 2016, Nigeria has seen a 56% decrease in total transactions in its stock exchange (Nigerian Stock Exchange, 2016). Low liquidity is an aggravating factor<sup>17</sup> for price volatility amid few domestic market participants.

**Figure 16: Standardised metric for portfolio and FDI flows for 2014**



Note: For details of construction of indicator see Appendix 1.

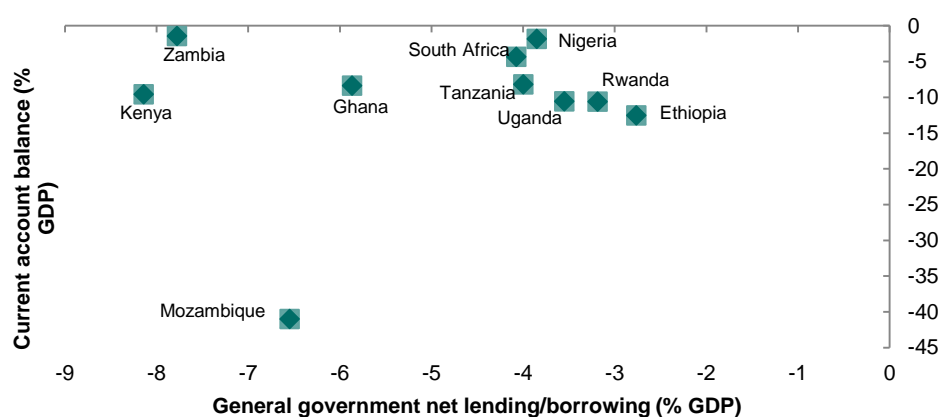
Source: World Bank World Development Indicator database.

Capital outflows could continue in light of the following:

- **SSA economies with ‘twin deficits’ look vulnerable** and outflows could be exacerbated by loose fiscal policy (Borio and Disyatat, 2015). Ghana, Kenya and Zambia look to be particularly vulnerable to outflows given their twin deficits in 2015 (Figure 17).
- **Home bias will persist as global growth deteriorates**, and investors are likely to reduce foreign investments, notwithstanding higher returns (Persaud, 2016).

<sup>17</sup> As Alleyne and Mecagni (2014) note, SSA frontier markets represent a fraction of the overall portfolio of dedicated emerging market investors and are particularly illiquid.

Figure 17: SSA twin deficits in 2015



Source: IMF, ODI.

- Global financial volatility will limit the search for yield.** Investors' search for yield is a predictable factor behind inflows. The Chicago Board Options Exchange Volatility Index (VIX), a measure of market expectations of near-term volatility in the S&P 500 stock index options prices, is highly significant in determining SSA inflows, more than domestic macroeconomic factors (Alleyne and Mecagni, 2014).<sup>18</sup>

#### 4.3 Assessing the dollar impact on SSA debt and reserves

The level of US dollar-denominated debt, measured as public and publicly guaranteed (PPG) debt contracted in US dollars, is a subcomponent in our standardised metric of vulnerability, and shows negative exposure to a higher US dollar. This could heighten capital flight too. Most SSA economies' debt metrics are above their long-term averages – notably in DRC, Kenya, Mozambique, Nigeria, Rwanda, Tanzania and Zambia.

Since 2009, external borrowing by Ghana, Mozambique and Nigeria has utilised the low level of interest rates to issue US dollar- (and euro-)denominated debt (Tyson, 2015). External commercial borrowing by the central government in the form of sovereign bonds and commercial loans has amounted to about \$41 billion since 2007, with the majority borrowed during 2010–2014.

The likely continued reassessment of emerging market risk (BIS, 2016) will elevate financing costs and could restrict access to finance, with SSA debt sustainability particularly sensitive to domestic interest rate increases (IMF, 2015c; Tyson, 2015). More so than US rate increases: a

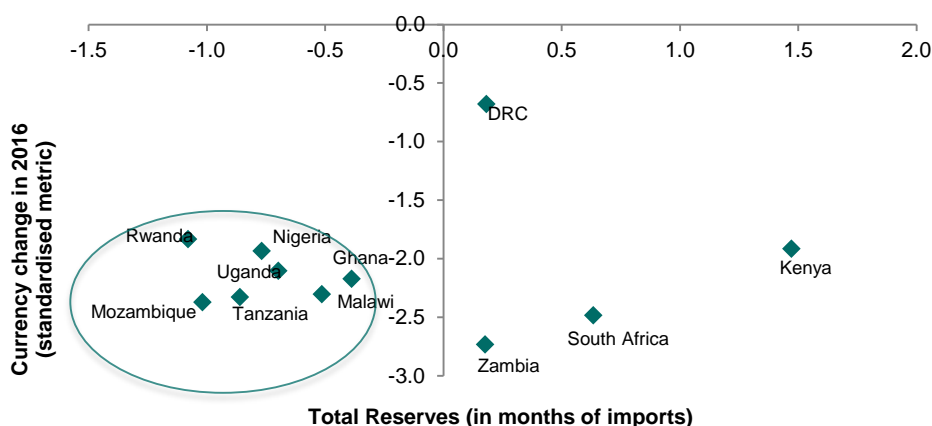
<sup>18</sup> Alleyne and Mecagni add that this could owe to poor domestic data quality.

1 percentage point rise in US interest rates would, on average, decrease the probability of issuance by only around 2 percent (IMF, 2015c).

An economy’s total reserves measured against imports, or against external debt, is an important metric of vulnerability in our dollar matrix of impacts. It is a measure of how able a country is to withstand and to counter the shocks of the lower oil price and their domestic exchange rate depreciations. It is a key policy buffer for central banks to counter exchange rate shocks on economic growth.

When looking at our standardised measure, total reserves to imports are below their long-term averages in almost all SSA economies, with the sharpest drops seen in Mozambique, Nigeria, Rwanda and Tanzania. Seven of the 12 SSA economies’ reserve levels look vulnerable in light of the currency depreciation (Figure 18).

**Figure 18: SSA reserve positions vis-à-vis currency changes**



Note: Data have been standardised in relation to long-term averages and the standard deviation of each series. The reserve position denotes total reserves in months of imports. Currency changes are change in local currency against US dollar between December 2015 and March 2016. Source: World Bank World Development Indicator database, ODI.

#### 4.4 US dollar impact: Conclusions

Further dollar strength is expected in 2016 with US economic outperformance and investor demand for US safe haven assets. The impact of a rising dollar has been felt, in part, in SSA economies, which have seen large currency depreciations and high levels of dollar-denominated debt. These latter are above average in almost all SSA economies, notably in DRC, Kenya and Zambia. Looking ahead, SSA outflows are most likely to be seen in economies with ‘twin’ deficits in their current and fiscal accounts. A key liquidity buffer, total reserves to imports, is below average in almost all SSA economies, with the sharpest drops

seen in Mozambique, Nigeria, Rwanda and Tanzania. This is mirrored in our standardised metric, which places Nigeria, Rwanda and Tanzania as most vulnerable.

### **Box 2: The stability of currency regimes and ‘speculative attack’**

Up until now, SSA policy-makers have been, in part, aiming to prevent a speculative attack, or a situation whereby a sharp depreciation forces the central bank to sell foreign exchange reserves and raise domestic interest rates to defend the currency (Glick and Hutchinson, 2011). Ultimately, reserve positions are important in gauging how well a country can counter a speculative attack (IMF, 2011).

The choice of exchange rate regime is useful in fending off speculative attack. For many countries, regimes between pure floating and rigid fixity are appropriate. In the past, fixed exchange rate regimes, or ‘exchange rate targets’, have been useful in monetary stabilisation programmes in ending high inflation (Krugman, 1999; Meissner and Oomes, 2008). At other times, countries exit from pegs that are overvalued before a crisis develops (Frankel, 1999).

Managed exchange rate regimes (such as adjustable pegs, crawling pegs, basket pegs and target zones) are more complex and inhabit the middle ground between fixed and floating exchange rate regimes. They are insufficiently verifiable (IMF, 2015b). They are also expensive to maintain. Even China, with \$4 trillion in foreign exchange reserves in 2014, is estimated to have spent anywhere between \$500 billion and \$1 trillion of its reserves to support the RMB in 2015.

In SSA, the management of Nigeria’s naira against the US dollar is likely to come under pressure owing to slower economic growth and lower reserves. The risk of speculative attack on the naira is small, at least in the short term, given the currency controls in place and the central bank’s stated intention to counter an attack. The risk of devaluation remains, following the one in 2015, in light of Nigeria’s climbing debt and slower growth (Xie and Pohjanpalo, 2016).

# 5. Assessing the ‘triple transition’ for SSA economies

In this section, we consider the joint impacts of China’s growth transition, lower oil prices and a higher US dollar on the 12 SSA economies in our matrix of impacts. We find that a subset of these SSA economies has been subject to multiple impacts, and therefore is likely to continue to experience economic stress and vulnerability to shocks. Our matrix does not capture all the impacts but aims to include key economic channels that are quantifiable.

## 5.1 China’s rebalancing impact

The impact of China’s deleveraging, its slowdown and its liberalisation is multifaceted in nature. In the trade data we look at, average export shares for 2012–2014 are highest in DRC (15%), Mozambique (19%) and Zambia (15%). Our metric, which standardises the 2014 value in relation to its 10-year average and standard deviation, suggests Zambia exports have dropped, yet exports shares for DRC and Mozambique remain high. The decline in China’s oil imports has been directly felt in DRC, Ghana and Nigeria (Panel 1, Figure 19).

## 5.2 Lower oil price impact on SSA

We look at a subset of indicators relating to the impact of the lower oil price. When it comes to the oil impact, Nigeria is the most vulnerable SSA economy. The same cannot be said for China’s impact, where China is Nigeria’s 13th largest export market, and does not register in Nigeria’s top five trading partners, according the IMF DOTS. Nigeria’s fuel exports, oil rents and TOT started to track significantly below their 10-year averages in 2014, as the oil price commenced its drop (Panel 2, Figure 19).

Another SSA economy that looks vulnerable in light of the oil price drop is DRC: its TOT metric is the lowest in the 12 SSA economies and it has seen a drop in oil rents and a decline in oil imports from China. The lack of diversification in its export base away from natural resources and oil makes its economic growth vulnerable to the persistently low level of oil prices into 2016.

The third economy that looks vulnerable, in light of oil price developments, is Ghana. Its oil rents remained high in 2014, with our metric tracking above its average and oil rents at 6% of

GDP in 2010–2013, compared with an average of below 1% below the Jubilee oil fields development. Its fuel exports have remained strong in light of this. Ghana's TOT have not deteriorated and its fuel imports are declining. It is worth assessing developments here as any negative turn in its energy/oil sector could exacerbate its adverse debt situation.

### **5.3 Higher US dollar impact on SSA**

The SSA economies that are most sensitive to a higher US dollar and the reallocation of capital associated with global risk aversion have seen capital outflows (in either or both portfolio flows and FDI) and significant currency depreciation, which has led to monetary tightening. Looking ahead to 2016, this will be pronounced for economies with 'twin deficits in their fiscal and current accounts and declining reserve levels.

All of the 12 SSA economies in our matrix look vulnerable when we consider their external financial positions. All 12 economies have seen their currencies drop against the US dollar, below the 10-year average (between 2003 and 2014), with Mozambique, South Africa and Zambia registering the sharpest falls in our standardised metric. DRC stands out in that it experienced both a decline in FDI and an increase in dollar-denominated debt, amid perilously low reserves (Panel 3, Figure 19).

Ghana has seen a significant currency depreciation, with the cedi losing 60% of its value against the US dollar in the past two years, which is putting pressure on government debt and reserves, placing Ghana with comparatively large 'twin deficits' (Figure 18 above), making the economy's position vulnerable in light of the currency depreciation. Mozambique's 41% current account deficit is large, but this is not a reflection of a particular sensitivity to US dollar strength.

### **5.4 Managing the triple transition: Country profiles**

On the basis of the impacts we look at, in the following country profile section we consider Nigeria, DRC and Ghana. Nigeria is subject to multiple shocks stemming from its exposure to lower oil prices and the associated impact on its FDI inflows and the pressure on its currency and reserve position. Second, we consider Ghana, given the vulnerability of its oil rents to lower oil prices and the impact of its currency depreciation on its debt. Finally, we consider DRC in light of its particular vulnerability stemming from lower demand from China, its deteriorating TOT and its declining reserves.

Figure 19: Combined matrix of impacts on select SSA economies

China exports % total exports		Other Manuf. exports		China imports % y/y		China oil imp. % y/y	
Zambia	-0.31	Zambia	-1.51	Moz	9.87	Ethiopia	-
Tanzania	0.00	DRC	-0.56	Kenya	0.58	Kenya	-
Malawi	0.54	Malawi	-0.53	Uganda	0.22	Moz	-
SA	0.75	Nigeria	0.47	Ghana	0.12	Malawi	-
Rwanda	1.01	SA	0.59	Nigeria	0.05	Rwanda	-
Ethiopia	2.04	Uganda	1.31	Ethiopia	-0.20	Tanzania	-
DRC	2.08	Rwanda	1.34	Malawi	-0.41	Uganda	-
Nigeria	2.89	Tanzania	2.19	Zambia	-0.76	SA	-
Kenya	2.98	Ethiopia	2.34	DRC	-0.83	Zambia	-
Uganda	4.40	Kenya	2.56	Tanzania	-0.92	Ghana	0.06
Ghana	4.65	Moz	5.29	SA	-1.06	Nigeria	-0.20
Moz	9.25	Ghana	6.32	Rwanda	-1.08	DRC	-0.81

Fuel exports % total exports		Fuel imports % total imports		Oil rents % GDP		Terms of trade	
DRC	-	DRC	-	Zambia	-	Moz	1.19
Moz	1.41	SA	1.20	Uganda	-	Ethiopia	0.76
Ethiopia	1.12	Uganda	1.00	Tanzania	-	Rwanda	0.66
Rwanda	1.09	Tanzania	0.98	Rwanda	-	Zambia	0.63
Ghana	0.83	Zambia	0.78	Malawi	-	Malawi	0.45
Uganda	0.73	Nigeria	0.72	Kenya	-	Ghana	0.35
Tanzania	0.58	Malawi	0.19	Ethiopia	-	SA	0.28
Zambia	0.38	Moz	0.11	Ghana	0.84	Tanzania	-0.11
SA	0.37	Ethiopia	-0.09	Moz	0.31	Kenya	-0.54
Malawi	-0.38	Kenya	-0.10	DRC	-0.46	Uganda	-0.74
Kenya	-0.49	Ghana	-0.82	SA	-0.75	Nigeria	-1.54
Nigeria	-0.71	Rwanda	-1.43	Nigeria	-0.95	DRC	-1.62

Currency depreciation <sup>2</sup>		Portfolio flows		FDI net inflows (%GDP)		USD debt % total debt <sup>3</sup>	
DRC	-0.68	Kenya	1.78	Rwanda	1.66	Malawi	-0.65
Ethiopia	-1.31	Zambia	1.32	Kenya	1.38	SA	-0.47
Rwanda	-1.83	Nigeria	0.56	Malawi	1.37	Uganda	-0.40
Kenya	-1.92	Malawi	0.47	Moz	0.97	Ghana	0.69
Nigeria	-1.93	Ghana	0.09	Ghana	0.79	Moz	0.86
Uganda	-2.10	Moz	0.06	Tanzania	0.22	Ethiopia	0.89
Ghana	-2.17	SA	-0.02	Ethiopia	0.17	Nigeria	0.96
Malawi	-2.30	DRC	-0.02	SA	-0.03	Rwanda	1.27
Tanzania	-2.33	Uganda	-0.30	Zambia	-0.35	Tanzania	1.27
Moz	-2.37	Tanzania	-1.86	Uganda	-0.41	Zambia	1.40
SA	-2.48	Rwanda	-1.99	DRC	-0.74	DRC	1.53
Zambia	-2.73			Nigeria	-1.31	Kenya	2.19

Note: Data are standardised relative to their 10-year average and standard deviation. For further details, please see Appendix 1  
Source: World Bank World Development Indicators, UN Comtrade, IMF DOTS.



# 6. Country profiles: Nigeria, Ghana and DRC

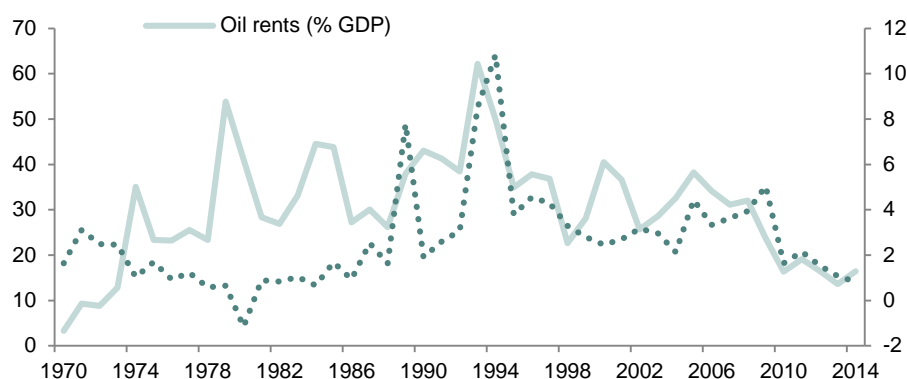
We consider the outlook for the countries that are particularly exposed to lower oil, a transitioning China and a higher US dollar: Nigeria, Ghana and DRC, respectively.

## 6.1 Nigeria's multiple shocks

Growth is estimated to have slowed to 2.8% in 2015 in Nigeria, less than half the 6.3% rate in 2014. Nigeria's economic headwinds are significant. The negative impact from lower oil prices has led to precipitous falls in the value of fuel exports and oil rents because of deteriorating TOT. Downward pressure on the naira currency peg continues, following declines in Nigeria's FDI and reserves. Moreover, low energy efficiency suggests little economic spill-over. Key aspects of Nigeria's current vulnerabilities are as follows:

- **Lower FDI.** The impact of lower oil prices has been felt through a decline in inward FDI. The oil sector accounts for 75% of government revenue and 95% of exports (IMF, 2016c). Oil rents as a percentage of GDP are at their lowest level since 1973, which does not augur well for the FDI outlook given the historical link between the two and diminished expectations pertaining expected returns and the lower oil price (Figure 20).

Figure 20: Downward trend in Nigeria FDI vis-à-vis oil rents

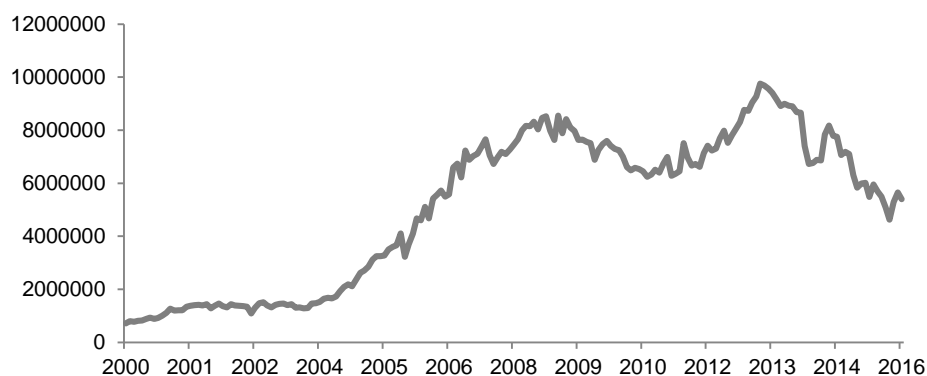


Source: World Bank World Development Indicator database.

- **Deteriorating net foreign asset position.** The naira peg (against the dollar) continues to remain under pressure as a result of Nigeria's sharply deteriorating external position,

both in its current account deficit and in its net foreign asset position. Nigeria's net foreign assets have declined by 45% since their peak in February 2013 (Figure 21), according to the Central Bank of Nigeria (CBN).

**Figure 21: Nigeria net foreign asset position**



Source: Central Bank of Nigeria.

- **Declining currency reserves.** Although its reserves are at a relatively resilient level, they are dropping, and 9% lower relative to March 2015, according to the central bank. The managed naira peg is likely to come under pressure given that it is unsustainable with falling reserves. Foreign exchange restrictions on the private sector are weighing on economic activity<sup>19</sup> and have been imposed owing to policy-makers' assessment that reserves are not adequate.
- **Financial market volatility.** Further capital outflows will exacerbate its debt and reserve positions. So has domestic financial market volatility: the Nigerian Stock Exchange (NSE) is down 60% from its March 2008 peak, and 40% lower from its July 2014 peak, according to NSE data. With financial uncertainty high, economic growth having slowed, the CBN has started to reverse previous rate rises and cut its policy rate (to 11% from 13%) in November 2015, for the first time in six years.

### 6.1.1 Nigeria: Looking ahead

Nigeria's macroeconomic stability is at risk, particularly when it comes to the naira. Since February 2015, the CBN has held the official interbank rate at N199, to stem inflation, with the unofficial rate at around N300/\$1. The dual currency system looks unsustainable given the

<sup>19</sup> Foreign exchange restrictions introduced by the central bank have adversely impacted the private sector. A lack of adequate supply of foreign currencies has weakened corporate balance sheets (IMF, 2016c).

official naira rate is not allowed to function as a shock absorber for lower oil prices (IMF, 2016c; Johnson, 2016). Moreover, the dual currency system is increasingly costly and unsustainable in light of Nigeria's declining reserves.

Longer term, Nigeria's dependence on oil is a risk to its balance of payments and government revenues. Institutionally, Nigeria's Sovereign Investment Authority has been successful in establishing its three fund mandates of the Future Generations Fund, the Nigeria Infrastructure Fund and the Stabilisation Fund, to allow for the partitioning of asset allocation. And yet decisions pertaining to the Stabilisation Fund are at the discretion of the finance minister. The establishment of further independence<sup>20</sup> is preferable, particularly in light of missing oil revenues and the fact that fund reserves were falling during the oil price rise (Nossiter, 2014).

### 6.1.2 Nigeria: Conclusions

The Nigerian economy has experienced significant economic fallout from the fall in oil prices. The decline in inward FDI flows has been one element of this. Its economic slowdown, and the decline in its net foreign asset position, has meant its currency reserves are under pressure. Weaker economic growth and financial market volatility have meant the CNB has cut its policy rate for the first time in six years, in November 2015. The managed naira peg is likely to come under pressure given that it is unsustainable with falling reserves.

## 6.2 Ghana's multiple shocks

Developments in Ghana's economy suggest it has not yet borne the full brunt of lower oil prices. The impact of a strong dollar and higher US interest rates has been felt. At 26%, its policy interest rate is at a record high and aimed largely at countering the 60% cedi depreciation over the past two years, given the central bank's inflation concerns (Reuters, 2015b). Encouragingly, fiscal dominance has ended, with the Bank of Ghana now having a zero limit on financing the deficit, which should limit inflation pressure. Key aspects of Ghana's current vulnerabilities are as follows:

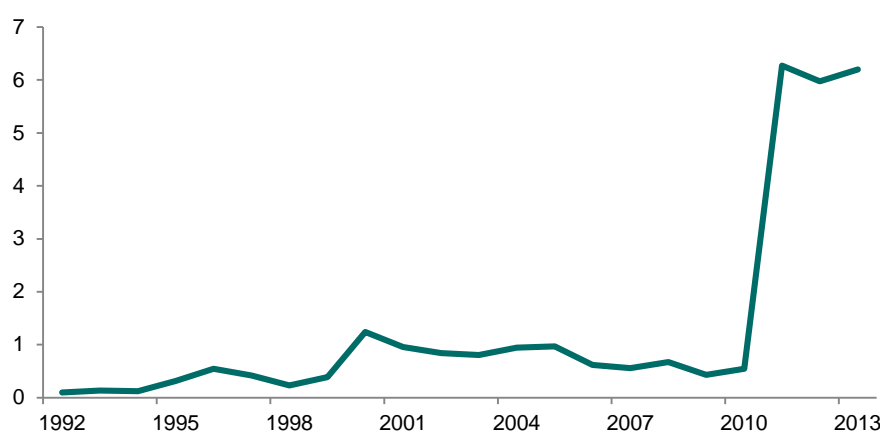
- **Ghana's oil rents** have been elevated by the Jubilee field development, which came on stream in December 2010 (Figure 22). However, developments in the oil price since the 2013 oil rents data have been published could suggest a downturn. Ghana's fuel exports

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<sup>20</sup> Norges Bank Investment Management (NBIM) has been successful in its transparent and diversified investment strategy. Its investments are split into long- and short-term strategies and are largely invested outside of Norway. Additionally, there is a domestic institutional capacity to do so. NBIM builds ownership (and voting rights) in the companies it invests in to safeguard the fund's assets and abides by ethical investment guidelines. <http://www.nbim.no/en/responsibility/ownership/>

declined to 33% of total exports in 2013, from 53% in 2012. Tullow Oil, the company running the development of the wells from the Tweneboa, Enyenra and Ntomme fields, has emphasised an increased focus on cost reduction in 2016 and beyond, though continued investment will likely support resilient oil production.<sup>21</sup>

**Figure 22: Ghana oil rents in 2013 (% GDP)**



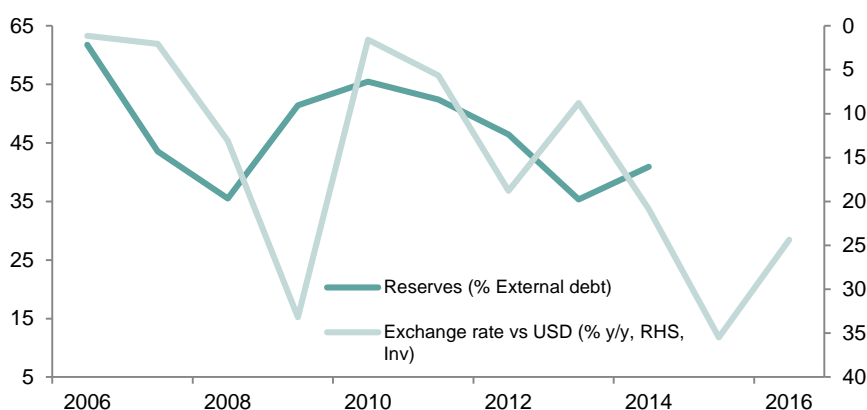
Source: World Bank World Development Indicator database.

- **Ghana’s high level of dollar-denominated debt** and low level of reserves makes the macroeconomic outlook vulnerable. This is exacerbated by US dollar strength and cedi depreciation. The depreciation in the cedi poses downside risk to Ghana’s reserve and debt position, despite the cedi’s relative stability since October 2015 (Figure 23).
- **Debt distress** is likely (IMF, 2015c). Although cedi stability is important for debt sustainability, it is important to recognise that domestic (rather than external) debt accounts for the lion’s share of debt service payments and it is the debt service to revenue ratio that is of particular concern.
- **Ghana’s indebtedness is heightened by falling oil and commodity prices.** Gold, cocoa and oil form 80% of Ghana’s exports. Between 2012 and 2015, Ghana’s gold-related revenue loss was over \$2 billion and cocoa price shocks led to over a \$1 billion loss in revenue (IMF, 2016a) – 5.2% and 2.6% of Ghana’s nominal GDP, respectively.
- **Fiscal revenue shortfalls** may be exacerbated by the ability of the government to issue debt. The 2016 budget assumes a new Eurobond issue of \$750, equivalent to around 35% of its financing needs (Government of Ghana, 2015). At 12%, Ghana’s existing

<sup>21</sup> <http://www.tulloil.com/operations/west-africa/ghana/jubilee-field>

Eurobonds are trading at a prohibitively high rate in the secondary market, making new bond issues difficult. A fiscal financing gap of Ghana’s magnitude is difficult to plug, notwithstanding its recent \$918 million IMF package, to be disbursed over the next three years (IMF, 2016a).

**Figure 23: Ghana’s currency depreciation and reserves-to-debt position**



Note: Foreign exchange data denote annual averages and so do not fully present intra-year currency volatility.  
Source: World Bank World Development Indicator database.

### 6.2.1 Ghana: Looking ahead

Ghana’s economic outlook, and its debt sustainability, is inherently reliant on stabilising the value of the cedi, which has lost 68% against the US dollar in the past two years and is at a record low (Figure 24). The expected acceleration in economic growth should help. The IMF expects Ghana to grow at 5.7% in 2016, following a 3.5% projection for 2015 (IMF, 2016a), and both the Bank of Ghana and the Budget statistical service project 5.4% growth (Monetary Policy Committee, 2016).

A shortfall in fiscal revenues could spur macroeconomic instability and throw the economic forecast off course. At the same time, large increases in utility tariffs and taxes and high interest rates are a serious impediment to growth prospects in the short to medium term. Bolstering value added from growing energy resources is important. Ghana’s energy efficiency, its GDP per unit of energy used, has been increasing, and is higher than that for most SSA economies in our matrix (see Appendix 1). The reorientation of its energy subsidies will also aid in bolstering value added from its energy sector (Whitley and van der Burg, 2015).

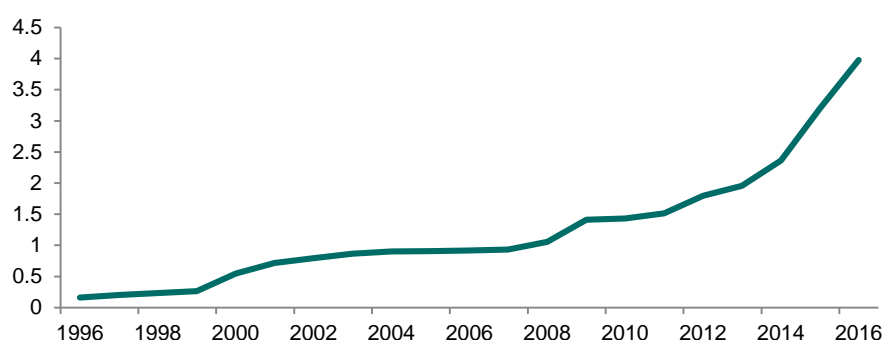
Longer-term diversification of Ghana’s export base will be key to its growth prospects. The prospect for non-resource growth is favourable given Ghana’s industrial sector is privately and domestically owned. Approximately 87.6% of Ghana’s industrial sector workers are employed

in privately owned enterprise. This employment split will aid in mobilising domestic resources to promote private sector growth, particularly in Ghana’s horticultural sector.<sup>22</sup>

### 6.2.2 Ghana: Conclusions

Ghana is one of the 12 economies in SSA that is subject to downside risks from the lower level of oil prices, given that it could see a downward adjustment in its still-elevated oil rents. This could exacerbate a deteriorating domestic fiscal situation whereby its dollar-denominated debt increases further. Further depreciation of the cedi is likely to mean the Bank of Ghana keeps its policy rate at a record high.

Figure 24: Ghanaian cedi at a record low against the US dollar



Notes: Graph denotes the Ghanaian cedi per US dollar.

Source: World Bank World Development Indicator database.

### 6.3 DRC’s multiple shocks

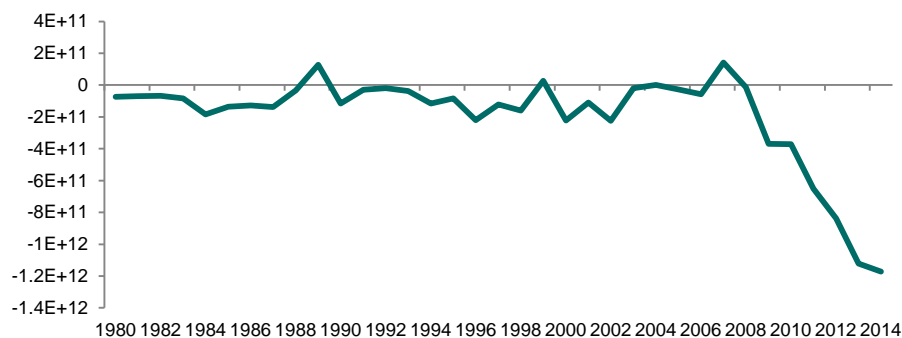
Real GDP growth of 7.3% is expected in 2016 in DRC, a moderate deceleration following 8.4% growth in 2015 and 9.2% growth in 2014 (IMF, 2015h). The economy faces sources of instability, particularly from the continued deterioration in its TOT and from the low level of reserves. This could see DRC growth projections revised down. The low level of liquidity and exchange rate flexibility limits the ability of the Banque Centrale du Congo (BCC) to respond to shocks. Key aspects of DRC’s current vulnerabilities are as follows:

- **A significant deterioration in DRC’s TOT** has been occurring since 2008 (Figure 25). This has made the economy’s export and fiscal revenues vulnerable to persistently low oil prices. Our standardised metric for the TOT indicates that the TOT value for DRC is the lowest in the 12 SSA economies we consider (see Appendix 1 for further details).

<sup>22</sup> <http://www.mofep.gov.gh/?q=news/110210>

This is likely to further exacerbate the economy's deteriorating fiscal deficit (IMF, 2015g).

**Figure 25: TOT deterioration in DRC**

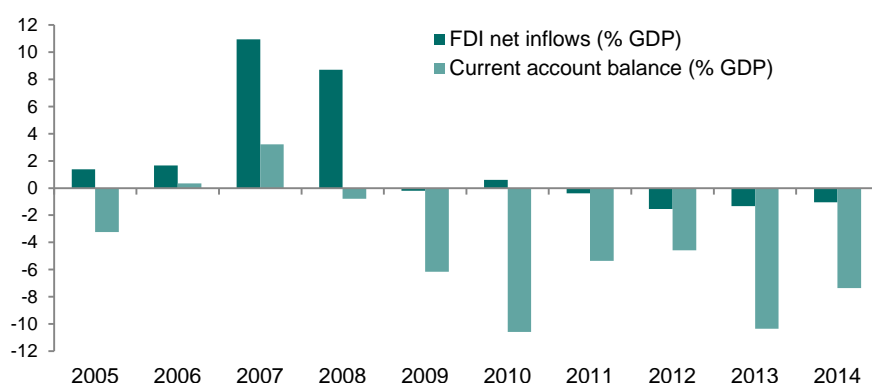


Note: The data denote the TOT adjustment as the capacity to import less exports of goods and services in constant prices. Data are in constant local currency.

Source: World Bank World Development Indicator database.

- Low currency reserves** suggest the financial position of the BCC is precarious. Admittedly, DRC's reserve-to-import ratios have been lower than in the 2014 data, indicating just over one month covered. More problematic is the deterioration in DRC's external accounts owing to the oil and commodity price shocks: it saw a deterioration in both FDI inflows and its current account balance in 2014 (Figure 26). The cumulative deterioration in its current accounts is likely to exacerbate its net foreign asset position significantly.

**Figure 26: DRC current account balance and net FDI (% GDP)**



Source: World Bank World Development Indicator database.

- **A slowdown in China's demand** is a key source of vulnerability. Among its commodity exposure, copper is a primary export for DRC. Lower oil now constitutes an additional vulnerability, given that 94% of fuel exports go to China (Hou et al., 2014a). DRC's GDP growth is also particularly sensitive to changes in China's GDP growth: a 1 percentage point decline in Chinese growth causes a 0.3 percentage point decline in DRC's GDP growth rate (IMF, 2015g).

### 6.3.1 DRC: Looking ahead

Dollarisation is likely to continue to be a key part of DRC's monetary and exchange rate policy<sup>23</sup> given its effectiveness in containing inflation. And yet some moderate de-dollarisation is likely, as dollarisation constrains monetary policy transmission to banks' lending decisions, hampers banks' liquidity management and only influences whether reserves are held in local or foreign currency. More broadly, it will be ineffective for the BCC to engage in wider de-dollarisation without broader institutional reform or re-capitalisation, given its short track record of macroeconomic discipline.

There is, admittedly, a multitude of reforms needed to stabilise DRC's economy and, in the longer term, to foster broader-based, non-resource GDP growth. Of primary importance, given the magnitude of the oil (and commodity price) shock (through lower imports from China and DRC's TOT) is the effort to broaden the sources of growth. This will, in turn, facilitate efforts to enhance domestic revenue mobilisation for greater policy buffers to withstand shocks (IMF, 2015d).

In diversifying its domestic production, and its exports, DRC could do so through continuing to pursue specialised, and labour-intensive, export processing zones similar to under policies implemented in China. Labour-intensive industries prioritising productivity and human capital development – a long-standing weak spot – is critical in light of the fact that DRC's mining sector has been largely capital-intensive and has generated minimal employment in the economy (Warner, 2015).

### 6.3.2 DRC: Conclusions

DRC has been one of the SSA economies that look particularly vulnerable, in light of the deterioration in its TOT and the decline in China's imports. It has had persistently low reserves,

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<sup>23</sup> US dollar deposits as a share of total deposits have hovered around 90%, which is high when compared with other highly dollarised economies (Fischer et al., 2013).



which has limited the capacity of the BCC to counter external shocks. Although the dollarisation of the economy has helped contain domestic inflation pressures, it has limited the effective transmission of monetary policy to the broader economy. Given this, the BCC should consider policies to slowly de-dollarise, but more importantly should strengthen its institutional functioning to promote domestic revenue mobilisation towards non-extractive enterprise.

# 7. Policy

We consider in Section 7.1 monetary stabilisation policies in the face of financial shocks. We then discuss specific exchange rate policy reform for Nigeria, Ghana and DRC that would aid in monetary stabilisation (Section 7.2). Section 7.3 takes a top-down approach and discusses policies for improved global economic governance, which draw, in part, from participation in the T20 meetings in Antalya, Turkey, and the T20 in Shenzhen, China.

## 7.1 Monetary policy stabilisation

There are particular challenges faced by SSA central banks trying to implement monetary policy amid financial shocks, declining reserves and heightened uncertainty. In this section, we discuss three policy areas that would enhance SSA central banks' ability to do so. This is through the alignment of interest rates, the management of capital flows and the ability to safeguard reserves. These policies will help manage the multiple monetary policy objectives whose sequencing, timing and balancing is already complex.

Monetary policy varies considerably between the CBN, the Bank of Ghana and the BCC. The CBN and the Bank of Ghana are independently functioning with explicit inflation-targeting frameworks that employ policy rates (and other liquidity management open market operations) as their main instruments. Since 1986 and 1983, respectively, both have operated policies within a context of a liberalised domestic financial system. By contrast, the effectiveness of the BCC is limited by its lack of independence (Fischer et al., 2013).

The three sets of policies that would enhance SSA central banks' effectiveness would comprise the following three areas:

- **Greater alignment of market rates with the policy rate** increases the effectiveness of each rate move. For SSA central banks currently tightening policy, this would mitigate further rate rises, from already prohibitively high levels for output. This is because good alignment impacts banks' pricing behaviour (in lending and deposit rates), as there is more confidence that changes in the structure of interest rates will be sustained (IMF, 2015b, 2015h). The active usage of interest rate corridors, or specified ranges of interest rates, can and should be used to (1) reduce interest rate volatility, (2)

promote reserve trading between banks for a more active interbank market and (3) facilitate the transition from a reserve money-targeting framework to policy rates.

- **Improved capital flow management.** The rise and size of capital flows complicates monetary policy in developing countries with open capital accounts. Monetary autonomy contends with the co-movement in capital flows, asset prices and interest rates across countries (Rey, 2013). Helping developing countries attract capital flows that *do not* fuel boom and bust cycles, and that impose controls on ones that do, matters. Bond inflows can be contractionary (they largely lead to currency appreciation and fuel boom bust cycles), whereas non-bond inflows are expansionary if they lower the rate of return and offset currency appreciation (Blanchard et al., 2015).<sup>24</sup>
- **More robust liquidity forecasting** would help SSA central banks manage and counter unexpected shocks to their reserve positions, particularly for those central banks facing depreciating exchange rates and a loss of oil revenues. Operational frameworks in SSA central banks are effective in smoothing short-term liquidity fluctuations. However, managing shocks pro-actively, and pre-emptively, requires financial resources targeted to internal capacity-building to forecast and manage liquidity shocks. Institutionally, knowledge-sharing and strategic collaboration with domestic SWFs and global financial institutions would enhance this capacity within SSA central banks.

## 7.2 Revamped exchange rate policy key in Nigeria, Ghana and DRC

Exchange rate policy can be an effective tool for monetary stabilisation. Almost all SSA central banks have been engaged in some form of stabilisation to control inflationary pressures, resulting from currency depreciation. The Bank of Ghana has countered currency weakness with multiple rate rises. Others have used their exchange rates explicitly: Nigeria's managed naira peg and DRC's dollarisation have been two examples of this. It is likely this will continue, with the Bank of Ghana pledging to 'stay aware' of inflation pressures at its last monetary policy meeting in March 2016. Meanwhile, Nigeria and DRC are likely to maintain their respective currency policies of a managed peg against the dollar and dollarisation.

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<sup>24</sup> Blanchard et al. (2015) define bonds as assets whose rate of return is directly controlled by monetary policy and assets that are close substitutes for it. They define non-bonds as all other assets, whose rate of return relative to bonds can be significantly affected by capital flows.

Now that we have identified some of the vulnerabilities of Nigeria, Ghana and DRC, exchange rate policies could include the following:

- **Nigeria.** The CBN is faced with deterioration in Nigeria's net foreign asset position, inflation pressures, a significant (oil-related) economic slowdown and limited ability to counter these shocks. To avoid further speculation regarding naira devaluation, the CBN could announce a more explicit rules-based FX intervention programme. Rules-based FX intervention or a flexible currency peg, such as a basket, band and crawl (BBC) approach,<sup>25</sup> could help the currency absorb more of the TOT shock in Nigeria and allow the bank to contain currency volatility through its interventions. This could help build FX reserves too (IMF, 2015b). Macro-prudential governance measures should be targeted to the Nigeria Sovereign Investment Authority in order to better manage liquidity and safeguard remaining oil revenues.
- **Ghana.** As mentioned in Section 6.2, continued stabilisation of the cedi is an important prerequisite to stabilising the macro-economy, given Ghana's 'twin deficits' in its current and fiscal accounts and its falling reserves relative to its external debt. Verbal or actual intervention may help, as it did in 2015,<sup>26</sup> but, as with Nigeria, a more proactive and explicit rules-based FX intervention by the Bank of Ghana could be effective, at least in the short term, to support the currency further. A further cedi turnaround would also help increase investor confidence, bolstering investment inflows and reducing Ghana's prohibitively high interest rates. This would facilitate successful Eurobond debt issuance, which could help ease Ghana's liquidity constraints (IMF, 2015b).
- **DRC.** In looking at an outlook of resilient growth, as mentioned in Section 6.3, and around 1% year-on-year inflation, the BCC should take the opportunity to implement institutional change: becoming fully independent and adopting an explicit inflation target to improve its functioning (Laurens et al., 2015). Although DRC's institutional challenge is multifaceted, this reform would provide some foundation for adequate reserve management and forecasting. From an exchange rate policy perspective, de-dollarisation should occur, albeit at a slow pace given the need for BCC institutional

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<sup>25</sup> A BBC approach, as proposed by Williamson (2003), is a crawling peg with target bands whereby a country's nominal exchange rate is first fixed against a currency, or basket of currencies. The real exchange rate is allowed to float within a narrow band against those anchor currencies and around its central fixed parity. In this context, larger than anticipated inflationary shocks are countered by authorities in proportion to the inflation differential with the main trading partners. The BBC approach could be considered desirable in that it provides a framework to both dampen currency crises and counter the types of shocks that could adversely impact the tradable goods sector.

<sup>26</sup> <http://www.reuters.com/article/ghana-cenbank-currency-idUSL8N0ZA1R020150624>

reform. The alternative, a managed BBC peg or a currency board, would better enhance effectiveness of the BCC's monetary policy and improve capital inflows into DRC.

Ultimately, the reframing of monetary policy needs to occur in order to make it possible to reorient the tools of monetary policy to be more pre-emptive and proactive in countering shocks and in terms of having ample policy and liquidity buffers in order to counter shocks. Flexible and transparent exchange rate policy is at the core of a well-defined and well-communicated monetary policy strategy aimed at the particular economy.

### 7.3 Global policies

Although everyone has paid lip service to better governance as an effective means to protect against shocks, the post-Bretton woods system of global governance is a non-system and an undersupplied public good (Hou et al., 2014b). The IMF has become more inclusive: more than 6% of quota shares will shift to emerging and developing countries.<sup>27</sup> And yet it is seen to lack the flexibility and resources to counter major global crises (Papadavid, 2016a). In this section, we take a top-down approach and discuss policies for improved global economic governance. New types of institutional collaboration, information exchange and liquidity buffers are needed.

- **Inclusion of private financial institutional investors**, through formation of an Investor (I) 20, in addition to the other G20 groups would facilitate improved information exchange<sup>28</sup> with all parties, including institutions that are often the source of market volatility and those that are so systemically risky that they are too big to fail. Top-down goals often fail because they override individual ones that make up the collective (Levy and Peart, 2015; Schuck, 2016).
- **Monitoring and transparency of high-frequency trading (HFT)** in currencies and stocks are important given its speed and growth. Daily global currency market turnover peaked at \$5.3 trillion in 2013, according to the Bank for International Settlements (BIS), with HFT rising from 9% in 2008 to 33% in 2012, according to Bloomberg, with equity trading at 50%. Given that crises are rarely like their predecessors, better HFT

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<sup>27</sup> Brazil, China, India and Russia will now be among the 10 largest members of the IMF (IMF, 2016b).

<sup>28</sup> Remarks to the T20 Qianhai International Financial Forum, Shenzhen, January 27-28, 2016.

monitoring would enable policy-makers to limit economic impact from market volatility and to react to ‘triggering events’ in a coherent fashion (Persaud, 2015).

- **Enhanced and regional contingency reserve arrangements (CRAs)** would counterbalance the dominance of the US Federal Reserve as a lender of last resort and expand regional alliances. A CRA beyond the Chiang Mai (CM) initiative is vast given the scope of China’s foreign exchange reserves and the fact that CM was not seen as successful.<sup>29</sup> For developing country and SSA central banks, the creation of regional CRAs could also target impaired, or fragmented, monetary policy transmission mechanisms (Dobler et al., 2016).

## 7.4 Policies: Conclusions

In terms of policy prescriptions, we have only scratched the surface when it comes to tackling the challenge of countering multiple financial shocks. Introducing specific monetary stabilisation policies that target the root causes of financial instability, and those that enhance the effectiveness of monetary policy to counter those shocks, was our aim.

There are particular challenges faced by central banks trying to implement policy and counter financial shocks, amid a high level of uncertainty. The alignment of market rates with the policy rate, improved capital flow management, enhanced forecasting and management of liquidity are three policy areas that would strengthen central banks’ ability to do so.

When it comes to policies for the CBN, the Bank of Ghana and the BCC, stabilising their currencies for the first two is key. To avoid further naira and cedi speculation, the CBN and the Bank of Ghana could announce rules-based FX intervention programmes. In DRC, where the growth–inflation mix is currently favourable, the BCC should finally become fully independent and adopt an explicit inflation target.

Most global stakeholders continue to call for better global governance. And yet little concrete action has been taken. On this basis, we discuss policies that boost institutional collaboration, heighten information exchange and liquidity provision. This could be facilitated by the

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<sup>29</sup> At the T20 Qianhai International Financial Forum (Shenzhen, 27–28 January 2016), there was discussion to establish an augmented fund similar to the CM initiative, which was not seen as a success in light of its complicated procedures, which precluded participation from Korea.

inclusion of private financial institutional investors in G20 fora, the monitoring and transparency of HFT and enhanced and regional CRAs.

## 8. Conclusion

Policy-makers will have to manage the continued, and multifaceted, challenge of low oil prices, China's economic developments and a strong US dollar. Some SSA economies will benefit from lower oil prices, although they will be hit by the collapse in China's import demand. Others' growth will be jeopardised by a higher US dollar, with inflationary depreciations triggering lower reserves and unsustainable debt dynamics. Our aim was to analyse the joint impact of this triple shock and to identify key SSA economic vulnerabilities, particularly given policy-makers' increasingly limited ability to counter the shocks.

In considering China's deleveraging, its growth slowdown and its financial liberalisation, further financial volatility is likely, perhaps from further devaluations, given China's growth slowdown. However, its strong loan growth, in the context of its OBOR policy, will underpin outward FDI. The level of the RMB against SSA currencies suggests SSA exports have a competitive advantage. China's higher wage growth and structural rebalancing also suggests FDI into SSA may increase. Finally, notwithstanding the risks of RMB devaluation and bank lending shocks, China's promotion of the RMB in trade invoicing, central bank RMB accumulation and institutional usage, could spur greater Chinese outward investment.

In examining the dynamics of the lower oil price, this is largely a reflection of a structural demand shock. Declining demand in the US, owing to energy self-sufficiency, has been an important factor behind falling oil rents in Nigeria. Although China's oil imports have dropped, this dip in demand is expected to be temporary given China's infrastructural investments. More broadly, the TOT impact is positive for 9 out of the 12 SSA countries in our matrix. And yet, DRC and Nigeria stand out in terms of being the most vulnerable to the lower oil price, with sharp deterioration in TOT, oil rents and fuel exports, exacerbated by China's lower imports.

We find US dollar strength has heightened SSA external vulnerability. The impact of a rising dollar has been felt, in part, in record SSA currency depreciations and rising levels of dollar-denominated debt. A key liquidity buffer, total reserves-to-imports, is below average in almost all of our 12 SSA economies, with the sharpest drops seen in Mozambique, Nigeria, Rwanda and Tanzania. Economic developments have triggered monetary policy tightening in SSA to temper inflation pressures and capital outflows. Looking ahead, economies with 'twin' deficits



in their current and fiscal accounts look vulnerable, with Mozambique, Ghana, Zambia and Kenya looking conspicuous according to this metric.

In analysing our matrix of impacts, we analyse how lower oil prices, China's economic developments and US dollar strength impact the 12 SSA economies in our sample. When it comes to an isolated oil impact, Nigeria is the most vulnerable in our sample. The SSA economies that are most sensitive to a higher US dollar, and the reallocation of capital associated with global risk aversion, have burgeoning twin deficits: Ghana, Zambia, Kenya and Mozambique. On the basis of the impacts, Nigeria, DRC and Ghana look most vulnerable.

The Nigerian economy has experienced significant economic fallout from the fall in oil prices. The decline in inward FDI, the sharp reduction in Nigeria's economic growth and the decline in its net foreign asset position suggest further economic vulnerability ahead. Weaker economic growth and financial market volatility have meant the CNB in November 2015 cut its policy rate for the first time in six years. The managed naira peg is likely to come under pressure given that it is unsustainable with Nigeria's falling reserves.

Ghana is one of the 12 economies in SSA that is subject to downside risks from the lower level of oil prices, given that it could see a downward adjustment in its still-elevated oil rents. Domestically, the scope for lower oil rents and fuel exports is likely to exacerbate a deteriorating domestic fiscal situation. This is likely to mean Ghana's dollar-denominated debt will increase further. Further depreciation of the cedi is likely to mean the Bank of Ghana will keep its policy rate at a prohibitively high rate to stimulate growth.

DRC has been one of the SSA economies that look particularly vulnerable, in light of the deterioration in its TOT and the decline in China's import demand. It has had persistently low reserves, which has limited the capacity of the BCC to counter external shocks. Although the dollarisation of the economy has helped contain domestic inflation pressures, de-dollarisation is necessary to enhance the transmission of monetary policy to the broader economy and should be accompanied by institutional reform at the BBC.

In terms of policy prescriptions, we only scratch the surface when it comes to tackling the challenge of facing China's economic transitions, stubbornly low oil prices and a strengthening US dollar. We emphasise the importance of monetary stabilisation as a starting point and discuss three particular policies that would enhance the effectiveness of monetary policy to

counter shocks: the alignment of market rates with the policy rate, improved and active capital flow management and enhanced forecasting and management of central bank liquidity.

Following on from our discussion of monetary stabilisation, we touch on the importance of upgrading and improving the management of exchange rates in Nigeria, Ghana and DRC. When it comes to policies for the CBN, the Bank of Ghana and the BCC, exchange rate stabilisation is crucial. In Nigeria, to avoid further speculation of naira devaluation, the CBN should announce a rules-based FX intervention programme. The Bank of Ghana should do the same in order to further stabilise the cedi. In DRC, where the growth–inflation mix is relatively favourable, the BCC should finally become fully independent and adopt an explicit inflation target as a prerequisite to further de-dollarisation.

Most global stakeholders continue to call for better global governance. And yet little concrete action has been taken. The IMF has become more inclusive: more than 6% of quota shares will shift to emerging and developing countries. And yet it is seen to lack the flexibility and resources to counter major global crises. Global governance remains an undersupplied public good. On that basis, in our policy section we urge progress in three areas of reform: heightening institutional collaboration with financial market participants within the G20 sphere, enhancing information exchange and establishing enhanced regional liquidity arrangements through improved regional CRAs for SSA countries.

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# Appendix 1: Matrix of impacts

This appendix explains the methodology used to calculate and score selected SSA economies' exposure to China's economic slowdown, lower oil prices and a higher US dollar. We use a simple methodology for standardisation: we take the latest data value for each variable and standardise it relative to its 10-year mean and its 10-year standard deviation.

## Assessing China's trade dynamics

The slowdown in China's trade has been reflected in both weaker exports and imports. Its bilateral trade splits reveal that China's (non-manufacturing) import demand for SSA non-manufactures had fallen by 51% y/y in August 2015, compared with Japan's (-30% y/y), the European Union's (EU) (-17% y/y) and the value of US imports for SSA (-17%). This compares with year-on-year increases in the import values of SSA goods from China (+10% y/y), Japan (+4% y/y), the EU (+21% y/y) and the US (-9% y/y).

In looking to assess the exposure on the SSA economies from the slowdown in China's exports and imports, we look at the following economic variables:

- **China export shares for SSA economies** are from the International Monetary Fund Direction of Trade Statistics. The data present the share of SSA exports to China as a share of total exports, for each SSA economy. The higher the share of exports to China, the higher the vulnerability of the respective economy to China's growth slowdown.
- **'Other manufactures' exports from SSA to China**, as a share of total exports, are from the UN Comtrade database. The data comprise all manufactured good except for garments. The higher the share of exports of manufactures from SSA to China, the higher the vulnerability of the respective economy to China's growth slowdown.
- **China import demand data** are from the International Monetary Fund Direction of Trade Statistics. We standardise the latest value for the year-on-year change in China imports from each SSA economy. The higher the value of China's oil imports from a particular country, the higher the vulnerability in that economy to a downturn in China's economy.

## Assessing the oil price impact

Our calculation of SSA economies' exposure to oil price developments seeks to gauge the impact of oil price changes on the real sector of each economy.

The Overseas Development Institute oil impact metric standardises the following indicators as key measures to gauge the impact of lower oil prices on the SSA economies:

- **Fuel exports** as a percentage of merchandise exports are from UN Comtrade. This is a broad category of goods that includes coal coke, petroleum oils, oils obtained from bituminous materials, liquefied propane and butane, liquefied and non-liquefied natural gas, petroleum gases and electric current. Crude and non-crude petroleum oils account for 53.9% and 27.6% of world exports of mineral fuels and lubricants. The higher the share of fuel exports, the higher the vulnerability to a lower oil price.
- **Fuel imports** as a percentage of merchandise imports are from UN Comtrade. This is a broad category of goods that includes coal coke, petroleum oils and oils obtained from bituminous materials, liquefied propane and butane, liquefied and non-liquefied natural gas, petroleum gases and electric current. The higher the share of fuel imports, the lower the vulnerability to a lower oil price.
- **Oil rents** as a percentage of GDP are from the World Bank World Development Indicator database. The value of oil rents is defined as the difference between the value of crude oil production in the respective country, at world prices, and the total costs of production. The higher the share of oil rents, the higher the vulnerability of the economy to a lower oil price.
- **The terms-of-trade (TOT)** data are from the World Bank World Development Indicator database. The data used measure the TOT as the capacity to import, relative to exports of goods and services in constant prices and in local currency. A negative reading, or a deterioration in the TOT indicator, indicates higher vulnerability to a lower oil price.
- **Value added from energy** is measured as the GDP per unit of energy use, in constant 2011 purchasing power parity (PPP). The data are from the World Bank World Development Indicator database. The higher the GDP per unit of energy use, the lower the vulnerability to a lower oil price.

- **China oil import data** are from UN Comtrade. We standardise the latest value for the year-on-year change in China oil imports from each SSA economy. The higher the value of China's oil imports from a particular country, the higher the vulnerability in that economy to a downturn in China's demand and to a lower oil price.

After standardising the latest value for each variable and for each SSA economy, we aggregate the standardised values across the six oil impact variables for each economy to obtain an overall standardised measure.

### Assessing the US dollar–SSA impact

Our calculation of SSA economies' exposure to US monetary policy tightening, and US dollar strength, seeks to assess three types of external vulnerability. First, our vulnerability matrix assesses exchange rate risk, SSA currency depreciation against the US dollar. We then look at capital outflows in both FDI and portfolio investment. Finally, we assess each SSA economy's debt and reserve position to examine external vulnerability.

The Overseas Development Institute US dollar/US economic impact metric standardises the following indicators as key measures

- **Exchange rates** are measured in local currency unit (LCU) per US dollar. The higher the data reading, the higher the depreciation in the local SSA currency against the US dollar, and the higher the associated inflationary risk. Exchange rate data from 2000 to 2014 are from the World Bank World Development Indicator database and data for 2015 and 2016 are taken from Bloomberg.
- **Capital flows** measured are both portfolio flows (PFs) and FDI net inflows as a percentage of GDP, yielding two indicators. The data are from the World Bank World Development Indicator database. Lower readings indicate a higher risk of capital flight and heightened vulnerability to US dollar strength.
- **US dollar-denominated debt** is measured by the percentage of external long-term public and publicly guaranteed (PPG) debt contracted in US dollars. The data are from the World Bank World Development Indicator database. A higher value indicates higher indebtedness and heightened vulnerability to US dollar strength.

- **Total reserves data**, in months of imports, are from the World Bank World Development Indicator database. The indicator is used as a gauge for a country's liquidity buffers. A lower standardised value in this variable indicates heightened vulnerability to an external financial shock, including dollar strength and local currency depreciation.

As with our oil impact indicator, after standardising the latest value for each variable and for each SSA economy, we aggregate the standardised values across the five US dollar impact variables for each economy to obtain an overall standardised measure.

### **Calculating exposure of SSA economies**

We assess each variable by looking at the latest data value for each series and standardising it relative to the 10-year mean and 10-year standard deviation of the series. We take the standard deviation and mean value over the 2003–2013 period for consistency. This enables us to look each reading in a more consistent manner across economies.

In agglomerating the standardised measures for each variable, and for each SSA economy, we rank the standardised country readings in relation to one another. In Figure A1, we rank the standardised measures from best to worst according to the aforementioned risk associated with increasing (or declining) levels of each variable.

Figure A1: Matrix of impacts

China exports % total exports		Other Manuf. exports		China imports % y/y		China oil imp. % y/y	
Zambia	-0.31	Zambia	-1.51	Moz	9.87	Ethiopia	-
Tanzania	0.00	DRC	-0.56	Kenya	0.58	Kenya	-
Malawi	0.54	Malawi	-0.53	Uganda	0.22	Moz	-
SA	0.75	Nigeria	0.47	Ghana	0.12	Malawi	-
Rwanda	1.01	SA	0.59	Nigeria	0.05	Rwanda	-
Ethiopia	2.04	Uganda	1.31	Ethiopia	-0.20	Tanzania	-
DRC	2.08	Rwanda	1.34	Malawi	-0.41	Uganda	-
Nigeria	2.89	Tanzania	2.19	Zambia	-0.76	SA	-
Kenya	2.98	Ethiopia	2.34	DRC	-0.83	Zambia	-
Uganda	4.40	Kenya	2.56	Tanzania	-0.92	Ghana	0.06
Ghana	4.65	Moz	5.29	SA	-1.06	Nigeria	-0.20
Moz	9.25	Ghana	6.32	Rwanda	-1.08	DRC	-0.81
Fuel exports % total exports		Fuel imports % total imports		Oil rents % GDP		Terms of trade	
DRC	-	DRC	-	Zambia	-	Moz	1.19
Moz	1.41	SA	1.20	Uganda	-	Ethiopia	0.76
Ethiopia	1.12	Uganda	1.00	Tanzania	-	Rwanda	0.66
Rwanda	1.09	Tanzania	0.98	Rwanda	-	Zambia	0.63
Ghana	0.83	Zambia	0.78	Malawi	-	Malawi	0.45
Uganda	0.73	Nigeria	0.72	Kenya	-	Ghana	0.35
Tanzania	0.58	Malawi	0.19	Ethiopia	-	SA	0.28
Zambia	0.38	Moz	0.11	Ghana	0.84	Tanzania	-0.11
SA	0.37	Ethiopia	-0.09	Moz	0.31	Kenya	-0.54
Malawi	-0.38	Kenya	-0.10	DRC	-0.46	Uganda	-0.74
Kenya	-0.49	Ghana	-0.82	SA	-0.75	Nigeria	-1.54
Nigeria	-0.71	Rwanda	-1.43	Nigeria	-0.95	DRC	-1.62
Currency depreciation <sup>2</sup>		Portfolio flows		FDI net inflows (%GDP)		USD debt % total debt <sup>3</sup>	
DRC	-0.68	Kenya	1.78	Rwanda	1.66	Malawi	-0.65
Ethiopia	-1.31	Zambia	1.32	Kenya	1.38	SA	-0.47
Rwanda	-1.83	Nigeria	0.56	Malawi	1.37	Uganda	-0.40
Kenya	-1.92	Malawi	0.47	Moz	0.97	Ghana	0.69
Nigeria	-1.93	Ghana	0.09	Ghana	0.79	Moz	0.86
Uganda	-2.10	Moz	0.06	Tanzania	0.22	Ethiopia	0.89
Ghana	-2.17	SA	-0.02	Ethiopia	0.17	Nigeria	0.96
Malawi	-2.30	DRC	-0.02	SA	-0.03	Rwanda	1.27
Tanzania	-2.33	Uganda	-0.30	Zambia	-0.35	Tanzania	1.27
Moz	-2.37	Tanzania	-1.86	Uganda	-0.41	Zambia	1.40
SA	-2.48	Rwanda	-1.99	DRC	-0.74	DRC	1.53
Zambia	-2.73			Nigeria	-1.31	Kenya	2.19
		Reserves (months of imports)		Energy Efficiency <sup>1</sup>			
		Ethiopia	-	Malawi	-		
		Kenya	1.47	Rwanda	-		
		SA	0.63	Uganda	-		
		DRC	0.18	DRC	0.33		
		Zambia	0.18	SA	0.23		
		Ghana	-0.39	Kenya	0.15		
		Malawi	-0.51	Ghana	0.08		
		Uganda	-0.70	Moz	0.02		
		Nigeria	-0.77	Ethiopia	-0.02		
		Tanzania	-0.86	Zambia	-0.13		
		Moz	-1.02	Tanzania	-0.14		
		Rwanda	-1.08	Nigeria	-0.50		

Source: World Bank World Development Indicators.



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