

# Boosting Investments: Nigeria's path to growth

July 2017

## Nigeria needs investment to restore growth

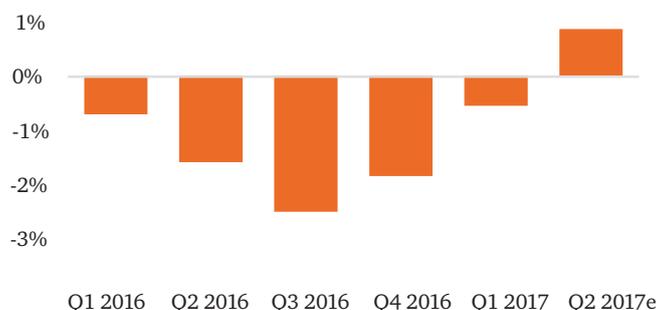
In 2016, Nigeria's economy slowed markedly, falling into a recession for the first time since 1991. Real GDP contracted 1.5%/y, a reflection of the two and a half year decline in export earnings, and fall in government revenues which impacted consumer spending and investments. Perhaps the most evident impact of the sharp decline in the oil price was in the currency market, with the NGN/USD depreciating 35.4% in the official market and 47.3% in the parallel market during the year. Besides the depreciation in the currency, the illiquidity in the foreign exchange market impacted the business and investment environment, with Foreign Direct Investment (FDI) declining to a 11-year low, and a collapse in investment as a share of GDP to 12.6% - the lowest level in the past two decades.

The recent string of economic releases suggest that the economy might have bottomed out, with fragile signs of recovery, driven largely by improved liquidity in the foreign exchange markets and policy measures to improve the business environment. Admittedly, the fiscal narrative is unchanged as lower for longer oil price means that traditional sources of financing for Nigeria's budgetary needs will remain stretched. Nigeria is projected to be the third largest populated country in the world by 2050 with 399 million people. PwC projects that Nigeria could emerge the 14th largest economy in the world by 2050, with GDP in Market Exchange Rate (MER) terms at US\$ 3.3 trillion. To deliver sustainable growth with per capita gains, Nigeria will need to aggressively boost domestic and foreign investments over the next decade.

## Nigeria's investment rate ranks below peers

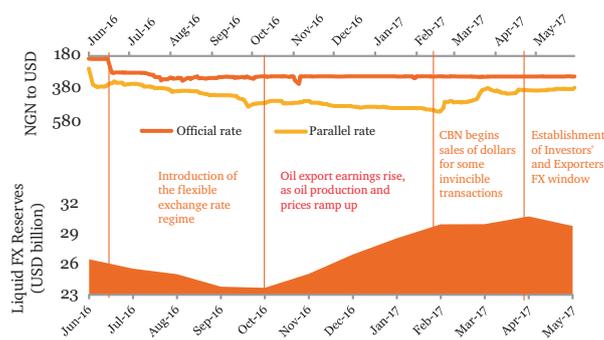
Between 2007 and 2016, Nigeria's investment share of GDP declined from 18.7% to 12.6%, reaching the lowest level in the past two decades. In comparison to peers, Nigeria's investment rate lags the average of 23.3% recorded for sub-Saharan African countries, and 28.9% for the BRICS (Brazil, Russia, India, China, and South Africa). Academic literature suggests a strong nexus exists between the level of investment and economic growth, and cite China<sup>1</sup> and India<sup>2</sup> as examples of economies that have successfully attained investment-led growth. Growth in Nigeria has been relatively strong at an average of 5.6% per annum over the past decade. However, this has been fueled by the oil boom and population expansion, rather than investments.

Figure 1: Real GDP growth



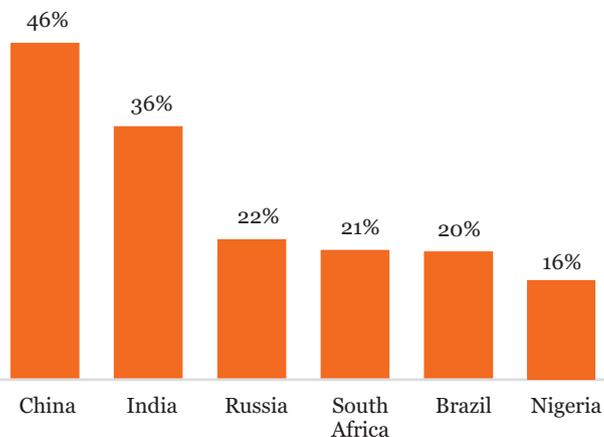
Source: NBS, PwC Analysis

Figure 2: CBN's response to currency pressures from June 2016 till date



Source: CBN, PwC Analysis

Figure 3: Average investment (%GDP) (2007 - 2016)



Source: PwC estimates, IMF World Economic Outlook 2017



### About PwC

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## Estimating the size of investment needed to drive growth

In the decade preceding the recession, Nigeria recorded growth at an average of 6.3% per annum. To estimate the size of investments required to drive growth back to the historical growth trend, we adopt the following approach:

### Economic Literature Review

An extensive review of 26 economic papers was conducted to identify the key determinants of economic growth, particularly in the emerging and developing economies. We find that investment is the most fundamental driver of growth, with positive and statistically significant coefficients.

### Quantitative Techniques

Using a panel data of 13 emerging economies between 1991 and 2016, we analyze the impact of investment on output growth. To achieve this, we utilize a panel regression of output growth on labour productivity growth and investment (% of GDP). Specifically, we incorporate one year investment lag to avoid a model specification error, since investment is unlikely to propel growth within the same year. After a series of analyses and robustness checks, we arrive at our estimates using:

$$\text{Real GDP growth} = a + b (\text{Labour productivity growth}) + c (\text{Investment share of GDP})$$

where  $a$ , the intercept of the regression, captures the effect of other variables that independently affect GDP growth but are not included in the model. The other parameters of the equation,  $b$  and  $c$ , represent the coefficients of the explanatory variables (labour productivity growth and investment share of GDP).

## Our findings

From the panel regression, the mathematical relationship between economic growth and the selected explanatory variables can be expressed as:

$$\text{Real GDP growth} = 0.03 + 0.69 (\text{Labour productivity growth}) + 0.11 (\text{Investment share of GDP})$$

Subsequently, we estimate the required investment to achieve an annual growth of 6.3%. To arrive at this estimate, we assume that labour productivity growth would not significantly deviate from its historical average of 1.6% per annum. Consequently, the relationship between investment and GDP is reduced to the equation:

$$\text{Real GDP growth} = 0.04 + 0.11 (\text{Investment share of GDP})$$

Based on our analysis of the dataset, we observe that the impact of country specific characteristics such as demography, economic size and political climate on growth is not statistically significant. As a result, the model is estimated without further adjustment. We find that Nigeria requires at least an investment of 20% of GDP per annum, far above the investment level of 12.6% of GDP in 2017 (see figure 5). Today, this translates to an investment of NGN20 trillion (USD 55 billion), reflecting that Nigeria would have to nearly double its current investment level. Assuming Nigeria maintains its most consistent run in investment growth, similar to the trend recorded between 1996 and 1999, investment to GDP could potentially increase by 2 percentage points a year. This suggests that Nigeria could attain an investment rate of 20% of GDP by 2021.

Figure 4: Investment vs. GDP growth in the sample countries

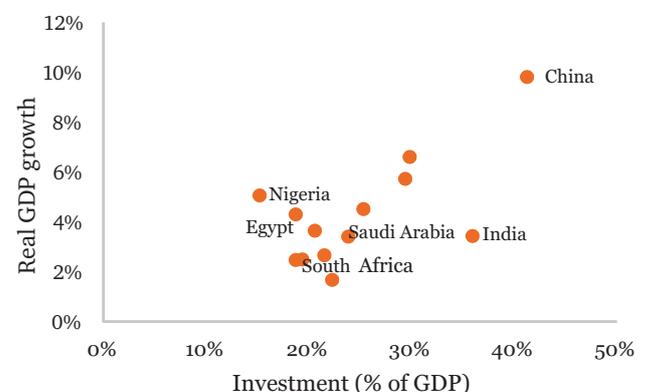
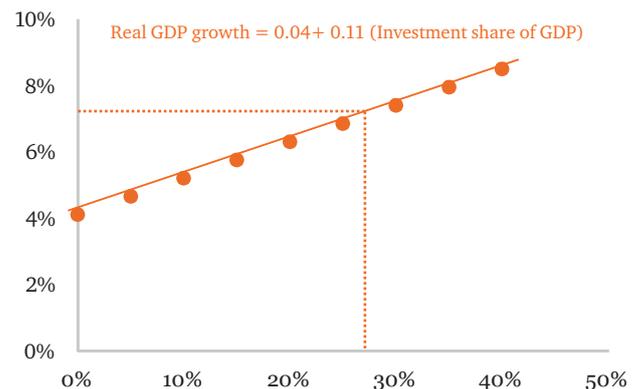


Figure 5: Real GDP growth versus Investment (% GDP)



Source: PwC estimates and analysis

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## **The foreign exchange regime remains key to stimulating investment**

Nigeria's capital budget for 2017 is NGN2.2 trillion. Assuming this is channeled towards investments, it would only meet 11% of the estimated funding to bring investment as a share of GDP to of 20%. In Nigeria's Economic Recovery and Growth Plan (ERGP) which aims to attain important infrastructure targets within the next 3 years, the government acknowledges its limits and emphasizes the need for private investment to drive infrastructure development. Our report<sup>3</sup> which examined the ERGP identifies two critical factors for unlocking private investment: (i) improving the business environment, and (ii) having a sustainable foreign exchange regime. We note that the country has made some progress towards improving the business environment through several reforms, including a 60-day action plan implemented over the past 6 months. However, more needs to be done, in particular, with respect to paying taxes, getting access to electricity and other infrastructure, which are critical to bolster investment.

While foreign exchange liquidity has improved in recent times as the Central Bank of Nigeria (CBN) allows for more flexibility in the foreign exchange market, the existence of multiple exchange rates with significant variances poses a risk to investment. In our view, a market-determined exchange rate, where all rates are harmonized, is fundamental to boosting domestic and foreign investments.

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## **Impact of exchange rate flexibility on investment and economic growth**

A number of academic literature have shown the positive impact of exchange rate flexibility on investment and economic growth. Broadly, it has been argued that a flexible exchange rate regime has a positive effect on investment and economic growth compared to a fixed or intermediate regime.

- Ichnatov and Capraru (2012) using data from 16 Central and Eastern European Countries find that flexible exchange rate regimes have a superior positive effect on growth in per-capita GDP relative to intermediate and fixed regimes<sup>4</sup>.
- Levy-Yeyati and Federico Sturzenegger (2003) studied the relationship between exchange rate regimes and economic growth using a sample of 183 countries, and finds that median annual real GDP per capita growth for floaters was 0.7 percentage points higher than pegs. For developing countries, less flexible exchange rate regimes were associated with slower growth, as well as with greater output fluctuations<sup>5</sup>.
- Eregha (2017) also studied the impact of exchange rate regime on FDI in the West African Monetary Zone using data for the period of 1980 to 2014 and finds that exchange rate uncertainty suppressed FDI inflows to the selected countries, and the magnitude of the impact was significantly high<sup>6</sup>.

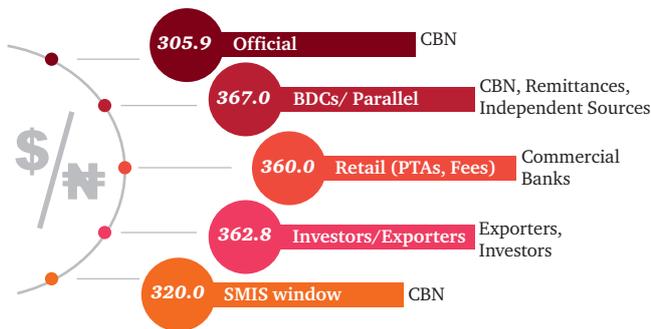
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## **References**

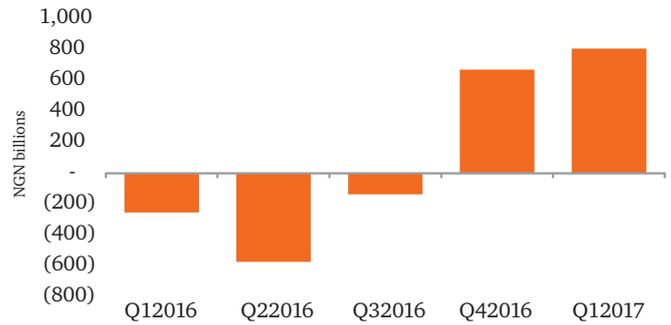
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2. Robertson P (2010) Investment led growth in India: Hindu Fact of Mythology?
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4. Ichnatov I and Capraru B. (2012) Exchange Rate Regimes and Economic Growth in Central and Eastern European Countries, Procedia Economics and Finance, volume 3, pg 18-23
5. Yeyati E. L and Sturzenegger F. (2003) The effect of monetary and exchange rate policies on development, Escuela De Negocios, March-2009
6. Eregha. B. P (2017) Exchange rate Policies and FDI Flow in WAMZ, African Development Bank Working Paper, Number 254, March 2017

## Chart book

**Figure 6: Exchange rates across different windows (as at 14th July, 2017)**

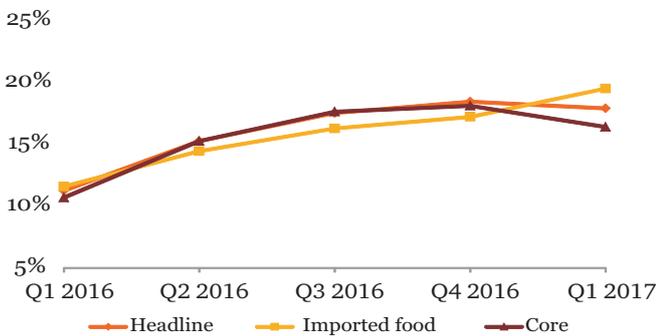


**Figure 9: Nigeria's Trade balance (Q1 2016- Q1 2017)**



Source: NBS, PwC Analysis

**Figure 7: Inflation rates**



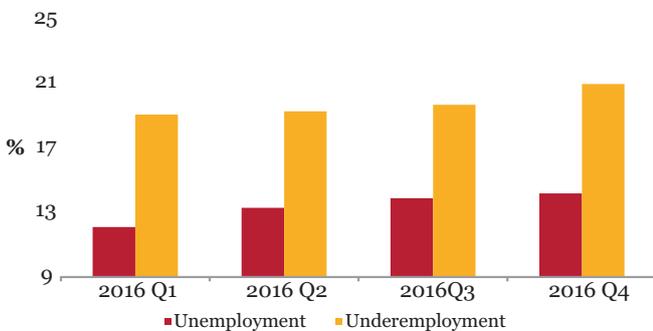
Source: NBS, PwC Analysis

**Figure 10: Investors and Exporters Exchange rate window (NAFEX rate)**



Source: FMDQ, Bloomberg, PwC Analysis

**Figure 8: Unemployment and Underemployment rates**



Source: NBS, PwC Analysis

**Figure 11: Foreign Direct Investment (USD millions)**



Source: NBS, PwC Analysis

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