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Determinants of Nigeria's External Sector Competitiveness

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Abstract

The study investigated the determinants of Nigeria's external competitiveness, with a view to providing sound policy prescriptions on ways to improve competitiveness. The study employed an Autoregressive Distributed Lag (ARDL) model, using monthly data spanning 2008 to 2016 to determine the short- and long-run relationships among some selected macroeconomic variables. These included real effective exchange rate, exports, productivity, crude oil price, capital flow and consumer price index. The results from the short-run analysis revealed that productivity, proxied by government expenditure, and crude oil price were found to be the major determinants of external sector competitiveness in Nigeria, while CPI was significant in the long-run. However, Nigeria's exports and capital flows were not significant determinants of external competitiveness. The policy implication is that since the country has no control over crude oil price, the need to ensure prudence in government spending becomes imperative to boost productivity and trade. Also, the need to restructure government expenditure profile from recurrent to capital to guarantee infrastructural development is undisputable. This is because increased capital expenditure would enhance foreign investor confidence.

Keywords: External Competitiveness, Trade Performance, Economic Growth, REER, Price Level

JEL Classification Numbers: F1, F43, F31, E31

I. Introduction

In recent times, countries have shifted their policy focus towards improving competitiveness. This is against the backdrop that differences in factor endowment and technology prompted countries to trade with the rest of the world, in order to take advantage of today's globalised world. Competitiveness is the ability to realise central economic goals of growth in income and employment, favourable prices, exchange rate stability, and sustained rise in standards of living, without running into balance of payment

** The authors are staff of the External Sector Division, Research Department, Central Bank of Nigeria. The usual disclaimer applies.*

difficulties (Fagerberg, 1988; Cheptea et al., 2013). A country is said to be competitive when it has favourable terms of trade, high market share, low level of import penetration (ratio of domestic demand satisfied by import) and robust current account position. Other factors such as global demand patterns, economic diversification, productivity growth and prices, level of unemployment and real effective exchange rate (REER) are also important determinants of external competitiveness.

External competitiveness is of particular concern to Nigeria's policy makers, owing to the country's reliance on crude oil export and high import of goods and services. In this regard, the country's external competitiveness is measured in terms of trade performance and movement in REER. From 2000 to 2014, Nigeria witnessed robust current account position and favourable terms of trade, as a result, of high crude oil prices and active trade policy, aimed at improving non-oil exports. The goods account recorded a trade surplus of US$10.42 billion, US$19.67 billion and US$46.22 billion in 2000, 2004 and 2008, respectively. However, the effect of the 2008-2009 global financial crisis, combined with the negative oil price shocks, led to the drop in trade surplus to US$25.67 billion in 2009. This, however, increased to US$42.52 billion in 2013 as a result of the improvement in crude oil price. In 2015 and 2016, weak global demand and slump in crude oil prices resulted in trade deficits of US$5.03 billion and US$3.20 billion, respectively. Also, the annual average REER index, which was 97.4 in 2009, deteriorated to 89.8 and 69.5 in 2011 and 2014, respectively. The adverse impact of commodity price shock led to significant depreciation of the naira exchange rate and pushed domestic inflation higher than that of the major trading partners. Consequently, the REER index increased to 70.8 and 78.7 in 2015 and 2016, respectively, showing an improvement in competitiveness.

The recent deterioration in Nigeria's export proceeds, due to persistent decline in crude oil prices and dismal performance of non-oil export, exposed Nigeria's economy to external shocks. In reaction to this, various policies were redirected towards improving external competitiveness. Policies aimed at diversifying the export base and moving the economy away from oil exports, were promoted. In addition, reforms in the foreign exchange market were carried out by the Central Bank of Nigeria (CBN) to douse demand pressure, thereby reducing high import bills. Despite all these measures, there has not been a significant improvement in the country's level of external competitiveness.

This study, therefore, investigated the major drivers of external sector competitiveness, with a view to providing sound policy prescriptions on ways to improve competitiveness. Specifically, the study determined the component of trade performance (disaggregated into oil and non-oil exports) that drove Nigeria's external sector competitiveness and identified challenges undermining the sector.

Furtherance to the studies by Adeleye et al., (2015), Omojimite et al., (2010) and Obinwata et al., (2016), this study contributed to literature by disaggregating exports into oil and non-oil to identify the drivers of external sector competiveness in Nigeria.

The rest of the paper is structured as follows. Section 2 focused on conceptual, theoretical and empirical literature, while Section 3 provided stylised facts on Nigeria's externalcompetitiveness. Section 4 presented the methodology. Section 5 discussed the results and findings while conclusion and policy recommendations were presented in Section 6.

II. Literature Review

II.1 Conceptual Literature

It is well recognised that competitiveness depends not only on the evolution of relative prices and costs but also on a series of structural factors, such as technological innovation, research & development, and investment in physical and human capital (Agenor, 1997). Some well recognised and acceptable qualitative measures of competitiveness are highlighted below.

II.1.1 Global Competitiveness Index

The Global Competitiveness Index (GCI), established in 2004, is a yearly index published by the World Economic Forum. The GCI integrates the microeconomic and macroeconomic aspects of competitiveness, including structural factors, into a single index. It assesses the ability of countries to provide elevated levels of prosperity to their citizens. The index is made up of over 110 variables and considers 12 main determinants of competitiveness called pillars. These are institutions (public and private), appropriate infrastructure, stable macroeconomic framework, good health and primary

education, higher education and training, goods market efficiency, labour market efficiency, developed financial markets, technological readiness, market size, business sophistication and innovation. The 12 pillars are classified under three major headings, namely: basic requirements, which envelopes pillars 1 to 4; efficiency enhancers (pillars 5 to 10); and innovation and sophistication factor (pillars 11 to 12).

Nigeria was ranked 124 out of a total of 140 countries with a total score of 3.5 out of 7 in the GCI 2015-2016. This position marked a marginal improvement in performance over the previous period (2014-2015), where Nigeria got a score of 3.4 out of a total of 7, thus highlighting a slight improvement in competitiveness from a year earlier. The report also showed that Nigeria performed better under the efficiency enhancers, as indicated by a positive market size and labour market efficiency. Two areas that required improvement to enhance competitiveness were good health and primary education and infrastructure.

II.1.2 World Competitiveness Ranking

The World Competitiveness Ranking (WCR) is a leading annual report on the competitiveness of countries, published since 1989 by the International Management Development (IMD) Business School, Switzerland. The publication centres on overall performance, challenges, strengths and weaknesses, and competitiveness landscape. The WCI uses 340 criteria for evaluating factors that enhance doing business and social welfare. The criteria measure macroeconomic performance, governmental and private sector efficiency and infrastructure levels of 63 countries. Although not explicitly stated in the 2015/2016 abridged report, Nigeria is not competitive, as it falls below the top 60 competitive countries.

II.1.3 Doing Business Index

The Doing Business Index (DBI) is an annual publication of the World Bank established in 2003. The publication analyses the business environment, measures cost of business regulations to firms, and considers regulations that enhance and constrain business activities in 190 countries. The report ranks countries according to the average score they achieve in respect of eleven

(11) areas in the life cycle of a business. These include starting a business, getting electricity, getting credit, dealing with construction permits, registering property, protecting minority investors, paying taxes, trading across borders, resolving insolvency, enforcing contracts and market labour regulation.

The data set covers 8 economies in South Asia, 20 in the Middle East and North Africa, 25 in Eastern Europe and Central Asia, 25 in East Asia and the Pacific, 32 in Latin America and the Caribbean, 32 OECD high-income economies and 48 in Sub-Saharan Africa. These indicators were used to evaluate the consequences of economic reforms that had worked, where and why. The 2016 DBI report ranked Nigeria 170 out of 190 countries. With respect to the ease of doing business ranking, overall regulation in Nigeria also ranked 170 out of 190 countries.

II.I.4 Competitiveness Industrial Performance Index

The United Nations Industrial Development Organisation (UNIDO) developed the Competitiveness Industrial Performance Index (CIP index) in 1990. It estimates or determines the ability of countries to produce and export manufactured goods, competitively. Industrial competitiveness is assessed and benchmarked through CIP index, building on a meso-concept of competitiveness, which assigns particular emphasis to countries' manufacturing development (UNIDO, 2014). The CIP index is constructed from four (4) indices. The first two indicators provide information about industrial capacity, while the other two reflect technological complexity and industrial upgrading of a country. These indicators are industrial capacity, manufactured export capacity, industrialisation intensity and export quality. The key structural variables consider the following drivers: skills, technological effort, royalty and technical payment abroad and modern technology. Using the 2014 CIP index, Nigeria improved in competitiveness, rising eleven (11) places above the position in 2013 to the 83rd position out of a total of 142 countries. Nigeria was thus classified among the lower-middle competitive countries with Lebanon, Algeria, Cote d'Ivoire, Jamaica, Cameroon, Kenya and Paraguay.

II.1.5 Logistics Performance Index

The Logistic Performance Index (LPI) measures the performance of 160 countries on the efficiency of international supply chains as published by the World Bank, once in two years. The first publication was released in 2007. It is an average of specific country scores in six key dimensions, namely: efficiency of customs clearance process, quality of trade and transport-related infrastructure, ease of arranging competitively-priced shipments, competence and quality of logistics services, ability to track and trace consignments, and timeliness of shipments in reaching destination. Thus, the LPI tracks how efficiently countries can ship their products to other countries. Based on the 2016 report, high-income countries dominated the top 10. Nigeria was ranked 90 out of 160 with an LPI of 3.6 out of a total score of 5.0, as against 75th position with an LPI score of 2.8 in 2014. This revealed that Nigeria's competitiveness declined compared to other African countries that improved significantly from their positions in 2014, such as Algeria, Burkina Faso, Democratic Republic of Congo, Egypt, Gabon, Ghana, Kenya, Mali, Namibia, South Africa, Togo and Zambia.

II.2 External Competitiveness

The notion of competitiveness amongst nations, not only lacks a universally acceptable definition but also, lacks a broad consensus on its appropriate measurements. Some definitions focused on external balances and assumed that exports and imports could not achieve long-run equilibrium, even in a flexible exchange rate regime. Other scholars combined the concept of external balance with domestic performance to arrive at definitions that emphasised the importance of a country's ability to produce goods and services that meet international standards. The European Commission (2001) defined competitiveness as the ability of an economy to provide its population with high standards of living and rates of employment on a sustainable basis. Porter (1990) viewed competitiveness in terms of national productivity. In the same vein, Krugman (1994) defined competitiveness as the ability of a country to improve its living standards through increased productivity.

External competitiveness is usually determined by price and non-price factors. Price factors are quantifiable measures, while the non-price factors are

structural in nature. Measures of non-price competitiveness include level of infrastructural development, tax system and administration, regulatory environment and other support services that enhance market enlargement (Leichter et. al. 2010). The most common price measure is changes in the REER, which take into account both cost/prices of goods and services, and movements in the nominal effective exchange rate of the domestic economy, relative to that of its trading partners.

The REER is nominal effective exchange rate (a measure of the value of a currency against a measured average of several foreign currencies) divided by a price deflator or index of costs (IMF, 2017). The prices of these baskets are expressed in the same currency, using the nominal exchange rate of each trading partner. The price of each trading partner's basket is weighted by its shares in imports, exports, or total trade. The REER is the nominal effective exchange rate (NEER) adjusted by relative consumer prices. The REER can be calculated in two ways – the direct and indirect methods. Using the direct method, it is symbolically represented as:

$$REER = NEER * \frac{\prod_i^n (P^*) w^i}{P} \quad (1)$$

where $NEER$= nominal effective exchange rate; P= is domestic price proxied by CPI

$\prod_i^n (P^*)\, w^i$= The weighted average CPI of major trading partners

From Equation 1, an increase in the REER index signifies an improvement in competitiveness while a decline indicates loss of trade competitiveness, relative to its trading partners[1]. The REER index serves as an important indicator of assessing a country's international competitiveness, and identifies the underlying factors that drive trade flows and incentives to allocate resources between tradable and non-tradable sectors.

Another price factor that determines external competitiveness is productivity growth and prices. Productivity growth, measured by gross domestic product (GDP), refers to the capacity of a country to produce goods and services in a period, relative to another. It can be expressed either in nominal or real terms.

[1] *A rise in the REER signifies improved competitiveness resulting from the depreciation of currency. This depreciation makes exports more attractive, and imports unattractive.*

Economic growth is driven by better economic resources, increased labour force, creation of superior technology and specialisation. The principal cause of a country's economic growth is reflected in the technological advancement, improvement in quality and level of literacy and increase in the capital stock. Prices, measured by consumer price index (CPI) are the general price level, based on the cost of a typical basket of consumer goods and services in an economy. It measures changes in the purchasing power of a currency and the rate of inflation.

External competitiveness can also be measured in terms of trade performance. This is measured mainly in terms of export growth and market share. Export growth is the increase in the export of goods and services, in one period, relative to another. Export growth is derived thus:

$$Export\ growth = \frac{X_t - X_{t-1}}{X_{t-1}} \quad (2)$$

Export share, also known as market share, refers to a country's export performance in relation to world total export, over a specified period of time (World Bank, 2010). It is expressed as follows:

$$Export\ share = \frac{country's\ export_t}{world\ total\ export_t} \quad (3)$$

Market share determines the relative competitiveness of a country's export of goods and services. An increase in market share indicates improvement in competitiveness.

II.3 Theoretical Literature

II.3.1 Classical Theories of International Trade and Competitiveness

Classical theories of international trade have their foundation from the works of Smith (1776) and Ricardo (1951). Smith based his argument of free trade on the concepts of specialisation and absolute advantage. According to him, each country can gain a competitive advantage by focusing on producing goods in which it holds absolute advantage. The country exports goods produced at the lowest costs and imports those produced at highest costs. Assumptions

underpinning this theory include factor immobility, no barriers to trade, equality of import and export, labour as the dominant factor of production, and constant returns to scale. With the advent of capitalism and its attendant complexities, new issues on exchange between nations emerged. Ricardo's concept of comparative advantage opposed that of the absolute advantage. According to his theory, the opportunity cost of productive capacities between countries should be the focal consideration for efficiency in trade. It is more beneficial for a country to specialise in the production and export of goods that can be produced at a lower opportunity cost. The theory built on the assumptions of the absolute advantage theory.

Another notable contribution to the classical theory of international trade and competitiveness was Hecksher-Ohlin's (1933) factor endowment theory. The basic assumption of the theory is that, two countries, which engage in trade, are identical except for the differences in factor endowments of labour or capital. According to the theory, a country specialises in producing and exporting commodities which require relatively intensive use of those factors of production that are locally abundant (Frăsineanu, 2008). Watson (2003) held that the classical trade theory is hinged on the notion that the cause for international trade could be relayed to the quantitative and qualitative differentials in the distribution of factors of production.

II.3.2 Neo-Classical Theories of International Trade and Competitiveness

Amongst the neo-classical theories of international trade, Porter's (1990) theory of competitive advantage relates more to the macroeconomy. The theory negates the classical theories proposition and opines that a nation's competitiveness is closely tied to the ability of its industries to innovate and grow. He makes the inferences that the nature and sources of competitive advantage differ amongst industries. The theory asserts that increased global competition prompts nations to improve their competitive advantage. Porter identified four determinants of competitive advantage, namely; factor conditions, domestic demand, firm structure, and related and supporting industries (Mohammed, 2014).

II.4 Empirical Literature

Studies on the determinants of external competitiveness had been carried out in different climes, using different methodologies that yielded different findings. Manfort (2008) used VAR methodology to assess trade performance and competitiveness of the Chilean economy, using quarterly data from 1990 to 2006. Trade performance (proxied by trade flows) was modeled as a function of real income and relative prices. Export was to depend on global demand, proxied by the trade shares of Chile's major trading partners, and external competitiveness, measured by REER. Import was captured as a function of domestic demand proxied by private consumption for imports of consumer goods and internal competitiveness. The findings showed high and significant elasticities of both export and import to external and domestic demands, while REER was insignificant. He concluded that trade liberalisation contributed immensely to increased trade performance and external sector competitiveness in Chile.

Agenor (1997) examined the competitiveness and external trade performance of the French manufacturing sector, using quarterly data, spanning 1982 to 1994. Vector error correction model (VECM) was employed to determine the short- and long-run determinants of external trade performance. The empirical analysis focused on the dynamics of relative prices, and domestic and foreign demand on trade flows. The manufacturing trade ratio, captured by ratio of export over import of manufactured goods, was modeled as a function of real GDP, unit labour cost, G-6 real GDP and index of non-price competitiveness. The findings revealed that the overall competitiveness of the French manufacturing sector improved in the 1980s through the early 1990s. This improvement, however, did not necessarily occur in sectors with the highest potential for expansion.

Orszaghova et al., (2013) evaluated developments in the external competitiveness of the EU candidate countries for the period 1999 to 2011. They assessed competitiveness, using both price and non-price measures and considered both short- and long-run indicators of export performance, domestic prices, production costs, institutions and structural issues. The paper

also utilised comparative advantage index developed by Balassa (1965), concentration index called Herfindahl-Hirschman Index (HHI)[2] and international specialisation index by Lafay (1992). In terms of price/cost measures, REER, inflation and labour costs were used for the analysis. The paper showed that REER indices, of the EU candidate countries, appreciated during pre-global financial crisis periods and depreciated, considerably at the on-set of the crisis, for the countries with flexible exchange rate regime. The countries reviewed also experienced increase in wages during the period. However, the overall growth rates of wages outperformed the growth of labour productivity, signifying loss of competiveness.

The non-price indicators used both trade and structural indices. For the trade related indicators, the paper assumed that specialisation affected growth and export performance of a country. Their findings indicated that most of the member countries had diversified their exports both in terms of trading partners and products, and were, thus, less vulnerable to external shocks. Using static and dynamic methods in analysing trade structure of the member countries, the findings revealed increase in trade flows over the period. The structural indicators used were production, educational and technological intensities. Intra-industry trade (IIT) was used as an important determinant of trade performance, measured by Grubel-Lloyd (1975) index, which revealed increased share in IIT within the EU countries. Measuring the long-run indicator of competitiveness, member countries recorded remarkable increase in FDI.

Gutierrez (2007) evaluated the export performance and external competitiveness of the Macedonian economy, using REER-based indicator. The macroeconomic balance, the purchasing power parity (PPP) and behavioural equilibrium exchange rate (BEER) approaches were estimated to determine the competitiveness of the country. Findings showed deterioration of REER, which signified improved competitiveness in Macedonia, relative to her major trading partners. Mahvash (2008) investigated the structural competitiveness of oil-exporting African countries, relative to other major oil-endowed developing nations, using annual data spanning 1970 to 2006. The paper utilised gravity model to determine the level at which institutional arrangements affected the performance of non-oil exports in oil-exporting

[2] *The HHI was developed independently by two economists A.O. Hirschman (in 1945) and O.C. Herfindahl (in 1950).*

economies. The results revealed that oil-rich African nations lagged behind other oil-endowed countries in relation to global market share, investment climate and diversification. The performance of non-oil export was weak, due to poor infrastructure and quality of institutions. Using Mozambique's data, Vitek (2009) examined the external price competitiveness, utilising indicators, such as REER and terms of trade. The author used macroeconomic balance, equilibrium real exchange rate and external sustainability approaches. The results showed an over-valuation of Mozambican metical, indicating loss of international price competitiveness, compared with the country's major trading partners.

Brixiova et al. (2013) examined competitiveness for Egypt, Morocco and Tunisia based on annual data spanning 1980 to 2009. The authors modelled REER, productivity, terms of trade, net foreign assets and openness, utilising dynamic ordinary least squares (DOLS) and autoregressive distributed lag (ARDL) approaches. The finding indicated real exchange rate misalignment in Egypt, while Morrocco and Tunisia were closer to the underlying fundamentals. The countries were confronted with severe structural factors, which hindered their external competitiveness.

A study by the Reserve Bank of Zimbabwe (2015) examined the impact of REER on Zimbabwe's external competitiveness, using macroeconomic balance approach. The result revealed an overvalued REER, signifying loss of the country's external competitiveness. Similarly, Cham (2016) examined the external competiveness of the Gambian economy, using macroeconomic balance, purchasing power parity (PPP), equilibrium real exchange rate, and external sustainability approaches. The author applied Generalised Method of Moments (GMM) and VECM for the estimation. The findings from all the approaches indicated real appreciation of the Gambian dalasi, reflecting loss in external competitiveness. The survey based indicators of doing business also indicated that the country was lagging behind its competitors.

Alege and Okodua (2014) empirically examined the external competitiveness of the Nigerian economy and economic growth, using annual data for the period 1980 to 2012. The variables used were real GDP growth, export performance, measured by the ratio of country's export to world export, and REER, as a proxy for international competitiveness. The authors employed structural VAR approach to model the relationship between external

competitiveness and output dynamics. The findings showed the existence of a positive relationship between real output and REER and a negative relationship between REER and export performance. Adeleye et al., (2015) examined the impact of international trade on economic growth in Nigeria. Using co-integration and error correction modelling techniques, they revealed that export contributed significantly to economic growth in Nigeria, both in the short- and long-run. They also indicated that the balance of trade constituted minimally to export growth. Using a descriptive approach, Obinwata et al., (2016) investigated trends in exchange rate and export performance in Nigeria between 1970 and 2015. The results emphasised the impact of exchange rate volatility on export demand in the country. It further revealed that exchange rate volatility greatly affected export performance in Nigeria, despite policy pronouncements issued at the time, especially, volume of export demand.

Eboreime and Umoru (2016) examined Nigeria's export competitiveness, utilising annual data for the period 1980 to 2012. The ARDL method was used to model total export, as a function of exchange rate, export price and foreign income. The result indicated strong competitiveness of Nigeria's export in Canada, Japan and United States, influenced by foreign income and exchange rate. However, the country's export is less-competitive in the United Kingdom. Using descriptive analysis, Owuru and Farayibi, (2016) assessed exchange rate trends and export performance in Nigeria, during 1970 to 2015. The authors noted exchange rate volatility effect on export performance with greater emphasis on the volume of export demand. Kemi (2014) empirically investigated the impact of REER on terms of trade and economic growth, using annual data spanning 1980 to 2012. Findings from vector error correction model revealed that real exchange rate positively and significantly affected terms of trade and output in Nigeria.

Though the above-mentioned studies contributed to knowledge, they failed to take into cognisance a disaggregated approach of the export variable, the peculiarity of economies whose GDP or productivity is driven largely by government expenditure and their consideration of annual data, which are unable to efficiently capture some trade dynamics within a specific year. This study, therefore, addresses these concerns.

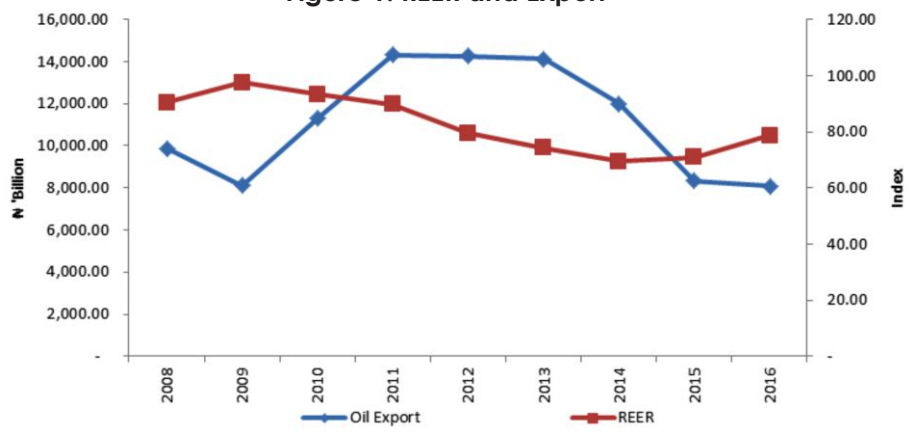
III. An Overview of Nigeria's External Competitiveness

Measuring the competitiveness of a country generally requires an assessment of the overall dynamism of the economy, including productivity and performance of exporting firms in the global market place Leichter, et al., (2010). Like other economies, Nigeria's external competitiveness is indicated by the REER. Also explained in relation to external competitiveness are export performance, productivity growth, prices and capital flows. This section highlighted the trends in these variables in relation to external sector competitiveness over the years.

III.1 Export Performance

From 1981 to 2016, Nigeria's export has been predominantly oil. Proceeds from exports fluctuated over time following significant events in the world and the Nigerian economy such as the Gulf war, oil price fluctuations, and export diversification drive of the Nigerian government as well as decline in receipts from agricultural and manufactured export products. By 2016, oil and non-oil export declined, significantly to 8,093.41 billion and 675.91 billion, respectively,, due to the collapse in oil prices and decline in receipts from agricultural and manufactured export products.

Figure 1: REER and Export



Source: Central Bank of Nigeria

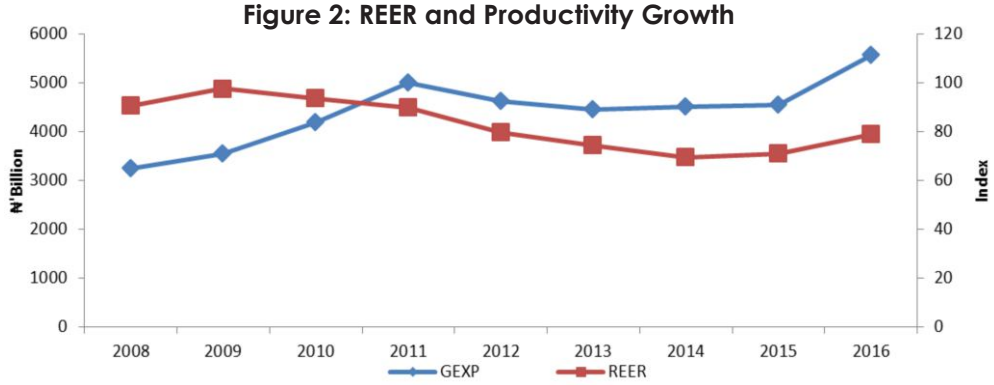
Nigeria's REER stood at 90.3 in 2008 and increased in 2009 to 97.4 signifying an improvement in competitiveness. In 2010, Nigeria became less competitive as

the REER declined to 93.4. This trend was sustained through 2014, recording 69.5 points. Nigeria's trade performance, however, improved in 2015 and 2016 to 70.8 and 78.7. In economic literature, based on the computation of the REER, an increase in the quantity of export is expected to increase revenue and the level of reserves. This could lead to an appreciation of the currency and to a loss in competitiveness as a result of increasing foreign exchange. This implies the existence of a negative relationship between exports and the REER. However, the data on the Nigerian economy as shown below revealed otherwise between 2008 and 2009, and 2014 and 2016, as a decrease in exports (oil and non-oil) led to a decrease in the REER, that is, a loss in trade competitiveness.

III.2 Productivity Growth (Government Expenditure)

In this study, productivity was proxied by government expenditure. Government expenditure in Nigeria increased from 3,240.82 billion in 2008 to 4,989.82 billion, 4,512.72 billion, and 5,562.96 billion in 2011, 2014, and 2016, respectively. This rise was as a result of the presidential elections and the decision of the fiscal authorities to drive the economy out of the recession that began in the first quarter of 2016.

Figure 2: REER and Productivity Growth



Source: Central Bank of Nigeria

The theoretical impact of government expenditure on REER is ambiguous Bakardzhieva et al., (2010). As shown below, a positive relationship was established between government expenditure and REER from 2011 to 2016, thus implying that an increase in government expenditure led to improved competitiveness.

III.3 Consumer Price Index (CPI)

An analysis of Nigeria's CPI between 2008 and 2016 showed a mixed trend. In 2008, it stood at 11.5, but increased to 12.6 and 13.8 in 2009 and 2010, respectively, owing to instability in the macroeconomic environment. In 2016, inflation rose to 15.63 due to the global commodity price shock. The REER tended to act independently of the CPI until 2012, where a positive relationship was highlighted. Hence, an increase in domestic prices led to improved trade competitiveness in Nigeria.

Figure 3: REER and Consumer Price Index (CPI)

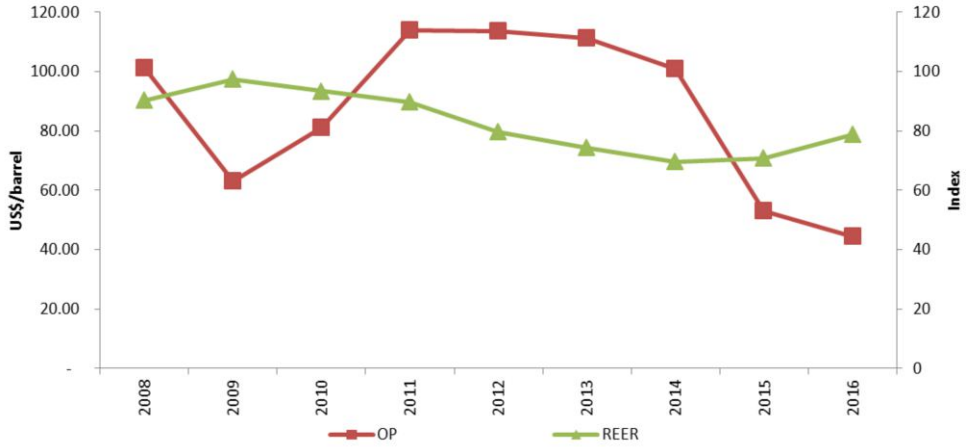
Source: Central Bank of Nigeria

III.4 Oil Price (OP)

The international price of crude oil, which was at about US$101.17 per barrel in 2008, experienced a huge decline of about 37.7 per cent to US$63.1 per barrel in 2009. This slump in crude oil price was attributed to the global financial crises that began in 2008. Crude oil price, however, rose in the following year to an average of US$81.0 and US$114.06 per barrel in 2010 and 2011, respectively. It then began a descent to US$113.52 and US$100.80 per barrel in 2012 and 2014. The most recent slump in prices was as a result of the glut in the market and the increase in supply of shale oil by the US government. Crude oil price further declined to an average of US$44.5 per barrel in 2016.

An increase in oil price, as Nigeria's major export product, is expected to lead to an increase in external competitiveness as exhibited in the figure below. The fall in oil prices between 2008/2009 and 2014/2016, led to a rise in competitiveness as occasioned by the increase in the REER. The rise in the international price of crude oil between 2009 and 2011, however, declined competitiveness slightly by 7.6 points.

Figure 4: REER and Oil Price



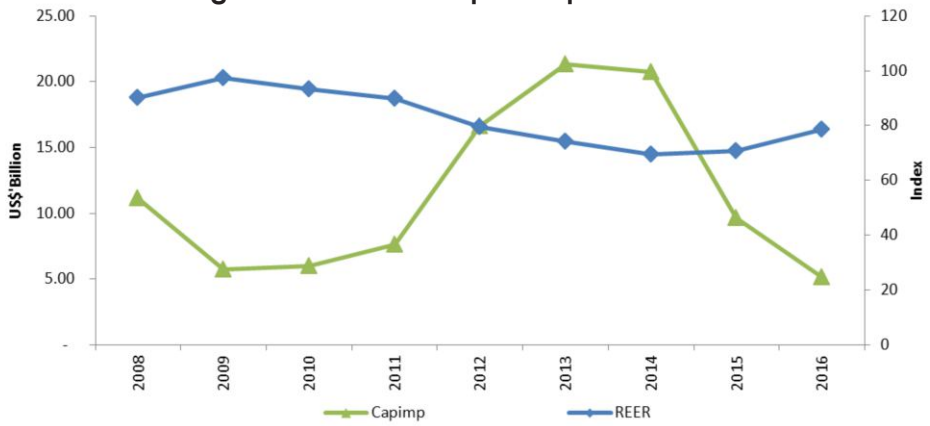
Source: Central Bank of Nigeria

III.5 Capital Flows (Capital Importation)

Nigeria recorded declining flows into the economy between 2008 and 2010. This could be attributed to the global financial crisis that engulfed world economies. This improved between 2011 and 2013 recording about US$21.34 billion in 2013. The Nigerian economy became slightly unattractive in 2014, as characterised by the decline in flows to about US$20.75 in 2014. This trend was sustained as a result of further pressures on the economy, such as the exchange rate crises and other macroeconomic challenges. Capital flows declined to US$9.64 and US$5.12 in 2015 and 2016, respectively.

Figure 5 reveals a negative relationship between capital importation and REER, which is as expected as increased foreign currency inflows cause currency appreciation and increased prices of exported goods. It shows that an inflow of foreign currency makes Nigeria less competitive.

Figure 5: REER and Capital Importation



Source: Central Bank of Nigeria

IV. Methodology

IV.1 Data and Variables

The study utilised monthly data from 2008 to 2016. The set of variables included real effective exchange rate (REER) (proxy for external sector competitiveness), export performance (proxy for trade performance) disaggregated into oil export (OE) and non-oil export (NOE), oil price (OP), capital importation (CIMP), which served as a proxy for capital flows, consumer price index (CPI) and government expenditure (GEXP), a proxy for domestic productivity. REER was used as a measure of competitiveness as it has been the most widely used in literature in recent years (Vitek, 2009 and Bakardzhieva, et al., 2010).

Government expenditure was used as a proxy for domestic productivity for two main reasons – the unavailability of monthly GDP data and the fact that government expenditure represents the largest component of Nigeria's GDP using the expenditure approach. Some studies included government expenditure as one of the control variables in the determination of capital flows and competitiveness (Bakardzhieva, et al.,2010; Tashu, 2015; Khomo and Aziakpono, 2015).

All data employed in the analysis, except the average price of crude oil (the Bonny light), were sourced from the Statistical Database of the Central Bank of Nigeria. Crude oil data was sourced from the Thomson Reuters platform. The

research works of Tashu (2015), Khomo and Aziakpono (2015) and Reserve Bank of Zimbabwe (2015) also considered these variables in the determination of external sector competitiveness. This study employed the auto-regressive distributed lag (ARDL) model.

IV.2 Model Specification

ARDL models are among the most popular classes of models for estimating short and long-run relationships among integrated economic variables. The ARDL is preferred to other methods, such as Engel and Granger (1987), Johansen (1988, 1991), Johansen-Juselius (1990) and Phillips and Hansen (1990), because it allows for a more flexible procedure that can be applied even when the variables are of different orders of integration (Pesaran and Pesaran 1997). Thus, the approach avoids problems resulting from analysis using non-stationary time series data and also enables sufficient number of lags to capture the data-generating process in a general-to-specific modelling framework (Laurenceson and Chai 2003). Also, both the short- and long-run coefficients of the model are estimated, simultaneously.

The models, representing the relationship between the dependent and independent variables, were presented in the Equations 4 and 5. Equation 4 captured the effect of oil export on competitiveness, while Equation 5 reflected the effect of non-oil export on competitiveness.

$$REER_t = \beta_0 + \sum \beta_1 OE_t + \sum \beta_2 GEXP_t + \sum \beta_3 OP_t + \sum \beta_4 CIMP_t + \sum \beta_5 CPI_t + \varepsilon_t \quad (4)$$

$$REER_t = \beta_0 + \sum \beta_1 NOE_t + \sum \beta_2 GEXP_t + \sum \beta_3 OP_t + \sum \beta_4 CIMP_t + \sum \beta_5 CPI_t + \varepsilon_t \quad (5)$$

The ARDL relates the dependent variable to its lagged values and the lag values of all the independent variables in the model. Accordingly, the ARDL representation of Equations 4 and 5, in a conditional or unrestricted error correction model (ECM), were presented in the following forms:

$$\Delta REER_t = \beta_0 + \beta_1 \mathrm{REER}_{t-1} + \beta_2 OE_{t-1} + \beta_3 \mathrm{GEXP}_{t-1} + \beta_4 OP_{t-1} + \beta_5 CIMP_{t-1} + \beta_6 CPI_{t-1} + \sum_{i=1}^{n} \psi_i \Delta\Gamma_{it-1} + \varepsilon_t \quad (6)$$

$$\Delta REER_t = \beta_0 + \beta_1 \mathrm{REER}_{t-1} + \beta_2 NOE_{t-1} + \beta_3 \mathrm{GEXP}_{t-1} + \beta_4 OP_{t-1} + \beta_5 CIMP_{t-1} + \beta_6 CPI_{t-1} + \sum_{i=1}^{n} \psi_i \Delta\Gamma_{it-1} + \varepsilon_t \quad (7)$$

Where $REER$ was the dependent variable and $OE, NOE, GEXP, OP, CIMP$ and CPI were the independent variables. Γ was a vector of the lag difference of all the variables in the model. The coefficients β_1 to β_5 were the long-run estimates and the ψ_i stood for short-run estimates. The error-term, ε_t , was expected to be serially independent. β_0 represented the constant term, while Δ stood for the difference operator.

The reliability of Equations 6 and 7 was judged by the strength of its estimates and diagnostics, which were conducted using tests for serial correlation, normality and heteroscedasticity. The long-run relationship among specified variables is established on the basis of an F-statistic (Wald test), relative to the two critical (lower and upper bounds) values introduced by Pesaran et al. (2001) for the co-integration test. Where the F-statistic lies above the upper bound, a long-run relationship is established and where the F-statistic lies below the lower bound, no long-run relationship exists. However, inference on the long-run relationship is inconclusive in the event that the F-statistic falls within the bounds (Pesaran et al., 2001).

Once long-run co-integration is established, an error correction specification of the models is required for the speed of adjustments to the long-run equilibrium. To this extent we estimated two models along with an error correction term, which was derived from the original long- run equation as follows:

$$\Delta REER_t = \beta_1 \mathrm{REER}_{t-1} + \beta_2 OE_{t-1} + \beta_3 GEXP_{t-1} + \beta_4 OP_{t-1} + \beta_5 CIMP_{t-1} + \beta_6 CPI_{t-1} + \sum_{i=1}^{n} \psi_i \Delta\Gamma_{t-1} + ect_{(-1)} + \varepsilon_t \quad (8)$$

$$\Delta REER_t = \beta_1 \mathrm{REER}_{t-1} + \beta_2 NOE_{t-1} + \beta_3 GEXP_{t-1} + \beta_4 OP_{t-1} + \beta_5 CIMP_{t-1} + \beta_6 CPI_{t-1} + \sum_{i=1}^{n} \psi_i \Delta\Gamma_{t-1} + ect_{(-1)} + \varepsilon_t \quad (9)$$

In Equations 8 and 9, ect must be negative and statistically significant for there to be short-run adjustment to long-run equilibria. The parsimonious model is then tested for fitness and normalised for short- and long-run elasticities. The expected sign of the variables are $\beta_2 > 0, \beta_3 > 0, \beta_4 < 0, \beta_5 < 0$ *and* $\beta_6 < 0$.

IV.3 Pre-Estimation Analysis

IV.3.1 Summary Statistics

Summary statistics presented in Table 1 showed that the REER index averaged 82.86 during the review period and spread between 60.89 and 100.23, suggesting volatility during the review period. Total oil and non-oil exports averaged 929,918.80 and 64,517.29, respectively. Further analysis revealed that REER, GEXP, CIMP and OP appeared to be normal as given by the Jarque-Bera statistic. Skewness revealed that all the variables, except REER, OE and OP were positively skewed. In terms of kurtosis, REER, OE, NOE, OP and CPI were platykurtic, while CIMP and GEXP were leptokurtic, that is, CIMP and GEXP tend to be characterised by a few outliers.

Table 1: Summary Statistics

Statistics	REER	OE	NOE	OP	CIMP	CPI	GEXP
Mean	82.8625	929918.8	64517.3	86.8035	962.1208	136.1341	367236.0
Maximum	100.2300	1575626.0	126011.7	138.7400	3029.848	213.5600	823673.6
Minimum	60.8900	376055.6	20053.91	30.6600	101.8309	79.0600	75646.5
St. deviation	11.1918	261691.4	19527.74	28.8816	667.8115	35.9788	142518.0
Kurtosis	1.6198	2.3895	2.9602	1.7135	3.5852	2.1793	3.8634
Skewness	-0.1004	-0.0823	0.1412	-0.2811	1.12589	0.2936	0.6225
Jarque Bera	8.7543[b]	1.8881	0.3661	8.8706[b]	24.3576[a]	4.5831	10.3300[a]

Note: a, and b denote 1% and 5% levels of statistical significance, respectively.

Source: Author's computation using e-views

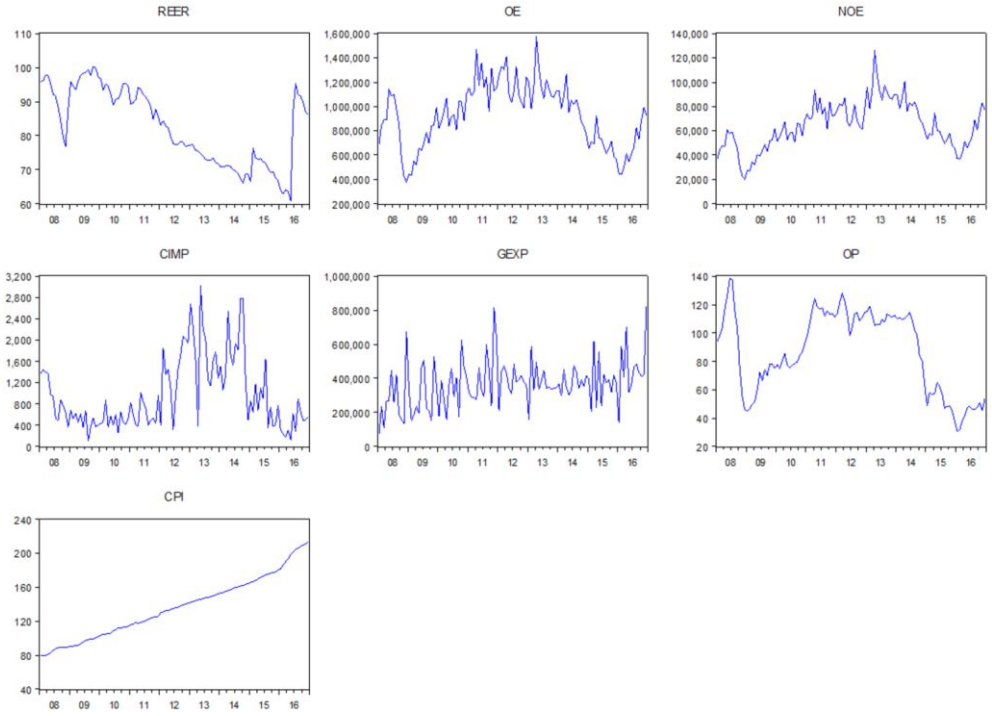
The above details highlighted distinctive characteristics in the data and thus we subjected the data to various tests of stationarity.

IV.3.2 Graphical Presentation

The graphical presentation of the data in levels was shown in Figure 6. It showed that the element of domestic prices (CPI) exhibited a linear distinct upward and deterministic trend in the pattern. REER was downward sloping but showed

a minor upward break around 2016M06, which could be as a result of the shift to a more flexible exchange rate regime. OP also exhibited elements of minor breaks, which could be attributed to crude oil price shocks in 2009M01. Another episode of crude oil price shocks was experienced in 2015M01. An inspection of the graphs revealed that all the variables except GEXP were likely to be non-stationary.

Figure 6: Graphical Presentation of the Variables



Source: Author's computation using e-views

IV.4 Unit Root Tests

Results of the unit root test rejected the nulls of unit root for REER, OE, NOE, OP and CPI, indicating that CIMP and GEXP were stationary, that is I(0), while REER, OE, NOE, OP and CPI were non-stationary and integrated of I(1). Due to the various orders of integration, the ARDL method was considered appropriate in estimating the equations. Furthermore, the Bounds testing approach was accommodative to such statistical properties and was encouraged to be used with the ARDL method (Narayan and Narayan, 2003).

Table 2: Augmented Dickey Fuller (ADF) Unit Root Test

Variable	Level	First Difference	I(d)
REER	-1.8987	-8.7570[a]	I(1)
OE	-2.2723	-7.6707[a]	I(1)
NOE	-2.4301	-13.6438[a]	I(1)
OP	-1.3228	-6.3050[a]	I(1)
CIMP	-3.2276[b]		I(0)
CPI	0.1066	-4.5878[a]	I(1)
GEXP	-11.4252[a]		I(0)
Note: a, and b denote 1% and 5% levels of statistical significance, respectively.			

Source: Author's computation using e-views

Table 3: Phillips-Perron (PP) Unit Root Test

Variable	Level	First Difference	I(d)
REER	-1.8987	-8.6502[a]	I(1)
OE	-3.0821	-14.0826[a]	I(1)
NOE	-3.4199[b]		I(0)
OP	-1.8772	-6.1805[a]	I(1)
CIMP	-4.4085[a]		I(0)
CPI	1.4084	-7.1101[a]	I(1)
GEXP	-11.4622[a]		I(0)
Note: a, and b denote 1% and 5% levels of statistical significance, respectively.			

Source: Author's computation using e-views

The Schwartz Information Criteria (SIC) was used in determining the best model, because of its parsimony. Also included were two fixed regressors (constant and trend) based on the results of the unit root tests. Equations 10 and 11, revealed a parsimonious ARDL with five (5) independent variables each having $ARDL(p, q_1, q_2, q_3, q_4, q_5,)$ where p, q1, q2, q3, q4, and q5 represent the lag lengths of the ARDL model.

The parsimonious models used in the determination of the co-integration of the variables was given as:

$$ARDL(p, q_1, q_2, q_3, q_4, q_5) = ARDL(1,1,0,0,0,0) \quad (10)$$

$$ARDL(p, q_1, q_2, q_3, q_4, q_5) = ARDL(1,0,0,1,0,0) \quad (11)$$

IV.5 Bounds Test

The bounds test was used to determine the joint significance of all the variables in the model. The F-statistic of 3.81 and 4.64 were significant at 5% level, necessitating the failure to reject the null hypothesis of joint insignificance. Consequently, when compared with the critical values provided by Pesaran et al. (2001), the F-statistic lied above the upper critical bound in both models. Therefore, the null hypothesis of no level effect was rejected thus a long-run relationship amongst the variables was established.

Table 4: ARDL Bounds Test for Equation10

Test Statistic	Value	K
F-statistic	3.8060	5
Critical Value Bounds		
Significance	I0 Bound	I1 Bound
10%	2.49	3.38
5%	2.81	3.76
2.50%	3.11	4.13
1%	3.50	4.63

Source: Author's computation using e-views

Table 5: ARDL Bounds Test for Equation 11

Test Statistic	Value	K
F-statistic	4.6449	5
Critical Value Bounds		
Significance	I0 Bound	I1 Bound
10%	2.49	3.38
5%	2.81	3.76
2.50%	3.11	4.13
1%	3.50	4.63

Source: Author's computation using e-views

The short-run ARDL model was computed with the first differenced series as shown in Equation 12:

$$\Delta y_t = \hat{\theta}\varepsilon_{t-1} + \sum_{i=1}^{N} \delta_i \Delta y_{t-1} + \sum_{j=0}^{N} \gamma_1 \Delta X_{t-j} + \varepsilon_t \quad (12)$$

where $\hat{\theta}\varepsilon_{t-1}$ was the adjustment factor

V. Results and Findings

V.1 Interpretation of Results

The results of Equations 10 and 11 were presented in Tables 6 and 7, respectively. The results showed that crude oil price and government expenditure were significant in the determination of external competitiveness in the short-run, while only CPI was significant in the long-run. The sign and size revealed that a 1.0 per cent increase in crude oil price was expected to raise REER by 0.2 per cent (in Equation 10) and 0.1 per cent (in Equation 11), which showed improvement of Nigeria's competitiveness. Also, a 1.0 per cent increase in government expenditure would lead to 0.01 per cent increase in REER; hence improvement of competitiveness in the short-run for both models.

The result implied that in the short-run, as oil price rises, Nigeria's competitiveness improved because an increase in capital inflow enhances government revenue, reduces government deficits and the need to borrow. This lessens the crowding-out effect and improves available credit to the private sector. Furthermore, the improved government revenue would also be used in providing more infrastructure and creating a better business environment that would attract foreign investors. For domestic prices, a 1.0 per cent increase would raise REER by 5.4 and 2.7 per cent in Equations 10 and 11, respectively. Hence, improving competitiveness in the long-run. This trend is not as expected and this could be as a result of an increased depreciation in the naira, which could be said to have dampened the effect of the rise in domestic prices. This increase in domestic CPI given the depreciation in the naira would thus improve competitiveness.

The trend component of technology was included in the estimation. Based on the results, the variable exhibited a significant negative relationship with competitiveness. This implied that, due to the structure of the Nigerian economy, the level of technology did not impact positively on competitiveness; thus emphasising limited value-addition in terms of exports. This is strengthened by the large average share of oil exports in total exports during the period 2008 to 2016, which was as high as 93.5 per cent. Where technology is said to impact on the non-oil sector, the ratio of the share of oil exports in total exports, would have declined, significantly over time.

Table 6: Model 1 – Long-Run and Short-Run Estimation of Determinants of External Sector Competitiveness for Nigeria

Long-Run Estimates							
	$\log\mathbf{OE}$	$\log\boldsymbol{GEXP}$	$\mathrm{Log}\mathbf{OP}$	$\log\boldsymbol{CIMP}$	$\mathrm{Log}\boldsymbol{CPI}$	**TREND**	
$\mathbf{log}\boldsymbol{REER} =$	-0.9253	0.0611	0.3519	0.0267	5.3839[c]	-0.0476[c]	
$\mathbf{SER} =$	(0.8032)	(0.1011)	(0.5013)	(0.0709)	(3.1399)	(0.0254)	
$\mathbf{T-stat} =$	[-1.1521]	[0.6039]	[0.7020]	[0.3770]	[1.7147]	[-1.8729]	
Short-Run Estimates							
	$\Delta\log\mathbf{OE}$	$\Delta\log\boldsymbol{GEXP}$	$\Delta\log\mathbf{OP}$	$\Delta\log\boldsymbol{CIMP}$	$\Delta\log\boldsymbol{CPI}$	$\mathbf{C}$	$\mathbf{E(-1)}$
$\Delta\mathbf{log}\boldsymbol{REER} =$	-0.0185	0.0130[c]	0.1584[a]	0.0088	-0.4499	-1.1689[a]	-0.1289[a]
$\mathbf{SER} =$	(0.0305)	(0.0071)	(0.0491)	(0.0064)	(0.5988)	(0.2232)	(0.0245)
$\mathbf{T-stat} =$	[-0.6080]	[1.8219]	[3.2288]	[1.3821]	[-0.7511]	[-5.2329]	[-5.2542]
$\mathbf{R^2 = 0.9100; F-stat = 123.8739^a; Durbin\ Watson = 1.96}$							
$\mathbf{LInearity\ [Ramsey\ Reset\ test\ (F-stat)] = 1.7938}$							
$\mathbf{Serial\ Correlation\ [Ljung\ Box\ (Q-stat)] = 4.5843}$							
$\mathbf{Heteroskedasticity\ [ARCH-LM\ (F-stat)] = 1.7078}$							
$\mathbf{Normality\ [Jarque-Bera] = 2069.841^a}$							
Note: a, b and c represents 1%, 5% and 10% levels of statistical significance.							

Source: Author's computation using e-views

The values of exports for both oil and non-oil, and capital importation were found to be insignificant; thus, they had no effect on external competitiveness. This is rather puzzling considering the fact that oil export is a dominant component of international trade in Nigeria. The insignificance of the non-oil export was expected because of its dismal contribution to Nigeria's total export due to poor infrastructure and quality of institution, as noted by Mahvash (2008). The performance of the non-oil sector in oil-exporting African countries is insignificant, due to the impact of "the Dutch Disease", where revenues are not used prudently to reduce oil dependence.

The error correction term of the two models exhibited an appropriate statistics. The coefficients of the adjustment factor suggested that about 0.1 per cent of any disequilibrium between external competitiveness and its determinants, with respect to oil export, would be corrected within seven (7) months and that of non-oil export would be within four (4) months.

Table 7: Model 2 – Long-Run and Short-Run Estimation of Determinants of External Sector Competitiveness for Nigeria

Long-Run Estimates							
	log**NOE**	log$GEXP$	Log**OP**	log$CIMP$	logCPI	**TREND**	
log$REER$ =	-0.0417	0.0291	-0.2416	0.0312	2.6628[b]	-0.0266[a]	
SER =	(0.1817)	(0.0588)	(0.1476)	(0.0427)	(1.1783)	(0.0099)	
T − stat =	[-0.2298]	[0.4954]	[-1.6368]	[0.7309]	[2.2599]	[-2.6968]	
Short-Run Estimates							
	Δlog**NOE**	Δlog$GEXP$	Δlog**OP**	Δlog$CIMP$	ΔlogCPI	**C**	**E(−1)**
Δlog$REER$ =	0.0414	0.0135[c]	0.0944[b]	0.0094	-0.4135	-1.2811[a]	-0.2073[a]
SER =	(0.0287)	(0.0073)	(0.0472)	(0.0065)	(0.6062)	(0.2621)	(0.0423)
T − stat =	[1.4437]	[1.8635]	[1.9979]	[1.4606]	[-0.6821]	[-4.8881]	[-4.9046]
$R^2 = 0.9107$; F − stat = 124.8813[a]; Durbin Watson = 1.74							
LInearity [Ramsey Reset test (F − stat)] = 1.8141							
Serial Correlation [Ljung Box (Q − stat)] = 5.7261							
Heteroskedasticity [ARCH − LM (F − stat)] = 5.8793							
Normality [Jarque − Bera] = 2587.900[a]							
Note: a, b and c represents 1%, 5% and 10% levels of statistical significance.							

Source: Author's computation using e-views

Source: Author's computation using e-views

V.2 Post-Estimation Diagnostics

The adjusted R-squared (91.0%) of the post-estimation diagnostics revealed that the overall goodness of fit of the models was satisfactory. The joint significance of the explanatory variables was statistically significant at the 1.0 per cent level, for both models as measured by the F-statistic. The Durbin-Watson statistics for both models was approximately 2, indicating the non-existence of serial correlation. The results of the Ljung box and the ARCH-LM tests showed evidence of no serial correlation and constant variance, which further supported the correctness of the models. However, the residuals exhibited some evidence of non-normality, which could be attributed to the inclusion of both I(0) and I(1) models in the estimation. This factor had, however, been taken care of by the use of the ARDL model.

VI. Conclusion and Policy Recommendations

The study investigated empirically the determinants of Nigeria's external competitiveness, using the ARDL Bounds test approach with monthly time series data for the period 2008 to 2016. The results revealed that government expenditure and crude oil price were major determinants of Nigeria's external

competitiveness in the short-run; while only CPI was significant in the long-run. This implied that in the short-run, as oil price increased foreign exchange earnings would improve, thus reducing government deficits. The possibility that CPI would improve Nigeria's external sector competitiveness in the long-run may be attributable to positive real interest rates recorded in the later part of the review period. From Figure 8, positive real interest rates were recorded for the period 2012M12 and 2016M1, which might have triggered increased foreign investments into the economy. In addition, the improved earnings could be used to reduce infrastructural deficit, enhance business environment and promote competitiveness. The combined effect of shock of all the variables were corrected within seven (7) and four (4) months of its occurrence for oil and non-oil exports, respectively.

The following recommendations are proffered:

1. Since oil price improves competitiveness in Nigeria, in the short-run, government should ensure optimal production of crude oil by promoting stability in the oil-producing areas, as well as fast tracking the passage of the Petroleum Industry Bill. Furthermore, government should maximise its potentials, by resuscitating the existing refineries, and building modular refineries, in order to limit the importation of refined oil;

2. Government should fast-track efforts in restructuring expenditure profile from recurrent to capital to guarantee infrastructural development, improve standard of living, create employment and stimulate domestic production. This derives from the result of the model, which showed that government expenditure contributes significantly to external sector development. The more the investment in human and physical capital development, the better the inflow into the economy and, by extension, improved competitiveness of the external sector. In terms of infrastructural development, Nwankwo (2017) reported an infrastructural deficit of US$25 billion per annum for the next seven years. Therefore, in order to achieve infrastructural balance, a concerted effort, to intensify government revenue drive, is required. As at end-2016, there were about US$14 trillion global investment funds invested in

negative-yielding bonds (Ocheho, 2017) from which the government could attract for investment purposes. Also, efficiency in tax administration and broadening the tax base should be pursued vigorously.

3. Since CPI improved competitiveness in the long-run, the monetary authority should ensure policy actions that assure low and stable prices in the economy. This should be done in collaboration with the fiscal authorities.

4. Since government expenditure improves competitiveness in the short-run, there is the need for assured and diverse revenue sources to sufficiently take care of these expenditures. Therefore, government should intensify efforts at technological advancement in the productive sector of the economy to optimise productivity and specialisation. Technological advancement in the manufacturing sector ensures meeting of domestic demand and exports that lead to improvement of the country's competitiveness. Also, emphasis should be on value-chain approach to agriculture and value addition in solid minerals development, so as to meet domestic demand that reduce import bills and enhance foreign exchange inflow through non-oil exports. In addition, government should ensure improvement in human capital development that would guarantee optimum productivity.

5. Also, in the short-run, government should ensure prudence in its spending and channel its resources to priority sectors of the economy, as it improves competitiveness. Strategies for ensuring ease of its expenditure and bureaucratic bottlenecks that are detrimental to the genuine expenditure and business should be eliminated.

References

Adeleye, J.O., Adeteye O. S. & Adewuyi, M. O (2015). Impact of International Trade on Economic Growth in Nigeria (1988-2012), *International Journal of Financial Research*, Vol. 6, No. 3, pp. 163-172.

Agenor, P. R. (1997). Competitiveness and External Trade Performance of the French Manufacturing Industry. *Springer*, Vol. 133, Issue 1, pp. 103-133.

Alege, P.O. & Okodua, H. (2014). International Competitiveness and Growth of the Nigerian Economy: A Structural VAR-Based Perspective. Macrothink Institute, Research in Applied Economics. Vol. 6, No. 4, February 2014, pp. 53 – 57.

Bakardzhieva, D., Naceur, S. B. & Kamar, B. (2010). The Impact of Capital and Foreign Exchange Flows on the Competitiveness of Developing Countries. *IMF Working Paper WP/10/154, July 2010*.

Balassa, B. (1965). Trade Liberalisation and Revealed Comparative Advantage. Manchester School of Economics and Social Studies, Vol. 33, pp. 99-123.

Brixiova, Z., Egert, B., & Amor Essid, T. H. (2013). The Real Exchange Rate and External Competitiveness in Egypt, Morocco and Tunisia. African Development Bank Group *Working Paper Series*. No. 187, pp. 1-26.

Cham, T. (2016). An Assessment of External Price Competitiveness for the Gambia. *Journal of Applied Economics and Finance*. Vol.3, No.4, pp. 207.

Cheptea, A., Fontagné, L., Emlinger, C., Orefice, G., Pindyuk, O. & Stehrer, R. (2013). EU External Competitiveness: Recent Developments (Doctoral Dissertation, Commission of the European Communities).

Eboreime, O. F. & Umoru, D. (2016). An Econometric Estimation of Nigeria's Export Competitiveness in the Global Market. *European Scientific Journal*, Vol.12, No.7, pp. 39.

Engle, R. F. & Granger, C. W, J. (1987). Co-Integration and Error Correction: Representation, Estimation and Testing Econometrica. Vol. 55, No. 2, pp 251-276.

European Commission, 2001. *European Competitiveness Report 2001*. DG for Enterprise & Industry, Brussels.

Fagerberg, J. (1988). International Competitiveness. *The Economic Journal*, 98, 355-374.

Frăsineanu, P. L. (2008). The Porter's Theory of Competitive Advantage http://Feaa.Ucv.Ro/Annals/V7_2008/0036v7-030.Pdf

Gutierrez, E. (2007). Export Performance and External Competitiveness in the Former Yugoslav Republic of Macedonia. *South-Eastern Europe Journal of Economics, No. 2*.

IMF (2017) Via the IMF Help Link at http://datahelp.imf.org/knowledgebase/articles/537472-what-is-real-effective-exchange-rate-reer

Johansen, S. (1988). Statistical Analysis of Co-integration Vectors. *Journal of Economic Dynamics and Countrol*. Vol. 12, Issue 2-3, pp. 231-254.

Johansen, S. (1991). Estimation and Hypothesis Testing of Cointegration Vectors in Gaussian Vector Autoregressive Models. Econometrica. Vol. 59, No. 6, pp 1551-1580.

Johansen, S. & Juselius, K. (1990). Maximum Likelihood Estimation and Inference on Cointegration – with Applications to the Demand for Money. Oxford Bulletin of Economics and Statistics. Vol. 52, Issue 2, pp. 169.

Kemi, A. (2014). Real Exchange Rate, Terms of Trade and Economic Growth in Nigeria (1980 – 2012). Journal of Economic Theory. Vol. 8, Issue 2, pp. 19-23.

Khomo, M. M. & Aziakpono, M. J. (2015). The Behaviour of the Real Effective Exchange Rate of South Africa: Is there a Misalignment? Economic Research Southern Africa (ERSA) Working Paper 644 pp. 1-23

Krugman, P. (1994). Competitiveness, a Dangerous Obsession. Journal of Foreign Affairs. Vol. 73, No. 2, pp. 28-44.

Lafay, G. (1992). The Measurement of Revealed Comparative Advantage, in Dagenais, M. G. and Muet, P. A. (eds). *International Trade Modelling*, London: Chapman and Hall.

Laurenceson, J. & Chai, J. C. H. (2003). Financial Reforms and Economic Development in China. Cheltenham, UK, Edward Elgar. Pp. 1-28

Leichter, J., Mocci, C. & Pozzuoli, S. (2010). *Measuring External Competitiveness*: An Overview. *Italian Ministry of Economy and Finance Working Papers*. No. 2, pp. 1-55.

Mahvash, S. Q. (2008). Africa's Oil Abundance and External Competitiveness: Do Institutions Matter? IMF Working Paper, No. 08, Vol. 172.

Manfort, B. (2008). Chile: Trade Performance, Trade Liberalisation, and Competitiveness. IMF Working Paper, Vol. 08, No. 128.

Mohammed A. (2014). Theories of International Trade, Lecture Notes No.5. Sprott School Of Business, Carleton University.

Narayan, P. & Narayan, S. (2003). Savings Behaviour in Fiji: An Empirical Assessment using the ARDL Approach to Co-integration. *Department of Economics Discussion Papers, Monash University*. No 03/02.

Nwankwo, A. (2017). Fiscal Space and Debt Management in Times of Recession and Exchange Rate Crisis, Paper Presented at the CBN Executive Seminar held at Golden Tulip Hotel, Festac Town, Lagos State, between September 11-13.

Obinwata, I. B., Owuru, J. E. & Farayibi, A. O. (2016). Exchange Rate Trends and Export Performance in Nigeria: A Descriptive Approach. Centre for Allied Research and Economic Development, Ibadan.

Ocheho, S. (2017). Managing Recession and Exchange Rate Crisis: Operators Perspective, a Paper Presented at the CBN Executive Seminar held at Golden Tulip Hotel, Festac Town, Lagos State, Between September 11-13, 2017.

Omojimite, B. U. & Godwin, A. (2010). The Impact of Exchange Rate Reforms on Trade Performance in Nigeria. *Journal of Social Sciences*, 23(1): 53-62.

Orszaghova, L., Savelin L. & Schudel, W. (2013). External Competitiveness of EU Candidate Countries. European Central Bank, Occasional Paper Series No. 141.

Owuru, J. E. & Farayibi, A. O. (2016). Exchange Rate Trends and Export Performance in Nigeria: A Descriptive Approach. Available online at https://mpra.ub.uni-muenchen.de/74158/MPRA paper No. 74158.

Pesaran, M. H., Shin, Y. & Smith, R. J. (1999). Pooled Mean Group Estimator of Dynamic Heterogeneous Panels. *Journal of the American Statistical Association*. Vol 94, pp. 621-634.

Pesaran, M. H., Shin, Y. & Smith, R. J. (2001). Bounds Testing Approaches to the Analysis of Level Relationships. Journal of Applied Econometrics. Vol. 16, pp. 289-326.

Pesaran. M. H. & Pesaran, B. (1997). Working with Micro-fit 4.0: Interactive Econometric Analysis. Oxford University Press.

Phillips, P. C. B. & Hansen, B. E. (1990). Statistical Inference in Instrumental Variables Regression with I(1) Processes. *Review of Economic Studies. Volume* 57, Pp. 99-125.

Porter M.E. (1990). The Competitive Advantage of Nations. *Harvard Business Review*. March-April 1990, https://hbr.org/1990/03/the-competitive-advantage-of-nations

Reserve Bank of Zimbabwe (2015). Assessing the Impact of the Real Effective Exchange Rate on Competitiveness in Zimbabwe. *Central Bank of Zimbabwe, RBZ Working Paper Series, No. 1.*

Ricardo, D. (1951). The Works and Correspondence of David Ricardo. 11 Vols. {Sraffa ed].

Smith, A. (1776). An Enquiry into the Nature and Causes of the Wealth of Nations. Vol. 1.

Tashu, M. (2015). Drivers of Peru's Equilibrium Real Exchange Rate: Is the Nuevo Sol a Commodity Currency? IMF Working Paper WP/15/26, February 2015.

UNIDO (2014). United Nations Industrial Development Organisation Competitiveness Industrial Performance Report 2014.

Vitek, F. (2009). An Assessment of External Price Competitiveness for Mozambique. IMF Working Paper, Vol. 09, No.165.

Watson, M. (2003). The Politics of Inflation Management *The Political Quarterly* Vol. 74, Issue 3, pp. 285.

World Bank (2010). World Bank Development Indicators. April. Retrieved from https://openknowledge.worldbnk.org./handle/ 10986/4373