



Graduate School of Development Studies

**Oil Resource Wealth: Analysis of the Impacts on Economic Growth. The  
Case of Nigeria**

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<b>Table of Contents</b>	<b>iii</b>
<b>List of Tables</b>	<b>iv</b>
<b>List of Figures</b>	<b>iv</b>
<b>Appendices</b>	<b>v</b>
<b>List of Acronyms</b>	<b>v</b>
<b>Acknowledgment</b>	<b>vi</b>
<b>Abstract</b>	<b>vii</b>
<b>Chapter 1 Introduction</b>	<b>1</b>
1.1 Background	1
1.2 Problem Statement and Justification	3
1.3 Objective of the Study and Research Question	3
1.4 Limitations of the Study	4
1.5 Organization of the Paper	4
<b>Chapter 2 Theoretical Framework and Literature Review</b>	<b>6</b>
2.1 Introduction	6
2.2 Theoretical Framework	6
2.2.1 The Resource Curse Theory	8
2.2.2 Political Resource Curse	10
2.3 Literature Review	11
2.3.1 Historical account of Crude Oil Price Volatility	12
2.3.2 Oil Resource Wealth and Economic Growth	15
2.3.3 Other Growth Indicators	16
2.3.4 Nigerian Case Study	18
<b>Chapter 3 Background of Nigerian Economy</b>	<b>20</b>
3.1 Introduction	20
3.2 Structure and Performance of the Economy	20
3.3 Industrialization Plans	26
3.4 Case for Industrial Transformation	28
3.5 Recent Growth Performances	29

<b>Chapter 4 Methodology and Data</b>	<b>31</b>
4.1 Introduction	31
4.2 Data	31
4.3 Variables	32
4.4 Methodology	35
<b>Chapter 5 Results and Data Analysis</b>	<b>34</b>
5.1 Introduction	34
5.2 Summary of Descriptive Statistics	35
5.3 Resource Wealth and Economic Growth	36
5.3.1 Resource and Non-Resource Sectors Performance	38
5.3.2 Government Expenditures (Health, Education & Debt Stock) and Economic Growth	42
5.3.3 Foreign Direct Investment and Economic Growth	46
5.3.4 Real Effective Exchange Rate and Economic Growth	48
5.4 Institutional Analysis	50
<b>Conclusion</b>	<b>52</b>
<b>References</b>	<b>53</b>
<b>Appendices</b>	<b>60</b>
<b>List of Tables</b>	
Table 1: Sectoral Composition and Contribution to GDP 2001-2015	22
Table 2: Growth Performance by Sector	30
Table 3: Summary of the Dependent Variables	32
Table 4: Correlation of Independent and Explanatory Variables	35
Table 5: Descriptive Statistics	35
<b>List of Figures</b>	
Figure 1: Oil Revenue and Real GDP Growth 2001-2015	2
Figure 2: Annual GDP Growth rate	2
Figure 3: Spending and Pulling Effect	7
Figure 4: Price Volatility of Primary Commodities and Manufactures	12

Figure 5: Global Crude Oil Price Volatility 1960-2015	14
Figure 6: Nigeria’s Fiscal Trends 2001-2015	25
Figure 7: Relationship between Crude Oil Revenue and Real GDP	37
Figure 8: Export Composition of Primary and Manufactured Goods	38
Figure 9: Import Composition of Primary and Manufactured Goods	39
Figure 10: Average Capacity Utilization in Manufacturing 1981-2015	41
Figure 11: Government Expenditure on Education and Health	42
Figure 12: Administration Economic Services Expenditure (% of TGE)	45
Figure 13: FDI Inflow and Oil Revenue 1970-2015	47
Figure 14: REER and Oil Revenue	49
Figure 15: Institutional Performance and Effectiveness Ranking 2001-2015	51

## **Appendices**

Figure 1: Federal Collected Revenue 2001-2015	60
Figure 2: External Debt Stock 1960-2015	60
Table 1: Brent Spot Oil Price in US \$ p/b 1960-2015	61
Table 2: Country Policy and Institutional Assessment	61
Table 3: Country Policy and Institutional Assessment	62

## **List of Acronyms**

CBN	Central Bank of Nigeria
EDA	Exploratory Data Analysis
EIA	U.S Energy Information Administration
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
HC	Human Capital
IMF	International Monetary Fund
MBNP	Ministry of Budget and national planning
NDP	National Development Plan
NNPC	Nigeria National Petroleum Corporation
OAPEC	Organization of Arab Petroleum Exporting Countries
OECD	Organization for Economic cooperation and Development
OPEC	Organization of Petroleum Exporting Countries
REER	Real Effective Exchange Rate

SSA	Sub-Sahara Africa
WB	World Bank
WDI	World Development Indicators
WGI	World Governance Indicators
WTO	World Trade Organization

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## **Abstract**

The literatures on natural resource abundance has proved that resource rich countries tend to underperform in terms of economic growth; a paradox known as the ‘resource curse’. Much of the studies use econometric models to estimate the economic performance of a cluster of resource rich countries. Therefore, we build on earlier studies to consider the impacts of resource wealth on Nigeria’s economic growth as a case study.

We examine the channels through which resource curse perpetuates, and latest researches that tests for effects in a cross-country setting. Our reflection of earlier claims and correlation tests shows that oil resource wealth impacts growth negatively. Using expenditure figures as measure of human capital accumulation, a downward trend in budgetary allocation is visible compared to administrative expenditure and debt stock. Secondly, increasing natural resource contemporaneously attracts more foreign direct investment than traded sectors, Thirdly, in trade barter terms, commodity exports signifies heavy dependence on primary commodities (agriculture and fuels) making the economy susceptible to price fluctuation. We document an unstable real exchange rate (appreciating and depreciating) when oil price/revenue adjusts. Lastly, we test for institutional analysis and document considerable effectiveness evidenced in recent growth performances.

## **Relevance to Development Studies**

Policy makers view resource abundance (crude oil) as launchpad for economic growth against claims by academics. However, growth studies debate that growth is endogenously propelled given proper resource management.

The earliest studies, were based on cluster of countries with same characteristics. Leveraging on these grounds, our research work pictures the varied impacts crude oil resource wealth have on economic growth in Nigeria through already proven channels. Consequently, the work occupies a relevant position in development studies by employing latest dataset, literature at a national level.

## **Keywords**

Resource wealth, Resource curse, Dutch disease, Economic Growth

# CHAPTER ONE

## Introduction

### 1.1 Background

The discovery of a natural resource usually creates a mindset of positive economic impact, and eventual buildup of real sectors (manufacturing and financial) for accelerated growth. As a result, economic growth and natural resource has become highly debatable in empirical studies and denoted as ‘curse’ or misapplication of opportunities (Auty 1993).

Specifically, natural resource (oil) discovery in Nigeria, poses critical economic and management challenges for long-term growth. Moreover, further evidence suggests poor and unsustainable growth results (declining human capital accumulation, increased poverty, declining capacity in real sectors and institutional corruption) compared to some other resource rich SSA countries e.g. Botswana (Sala-i-Martin and Subramanian 2003). Hence, our attention is drawn to critically examine the influences and extent of resource wealth effect on the macroeconomy for the period 2001-2015.

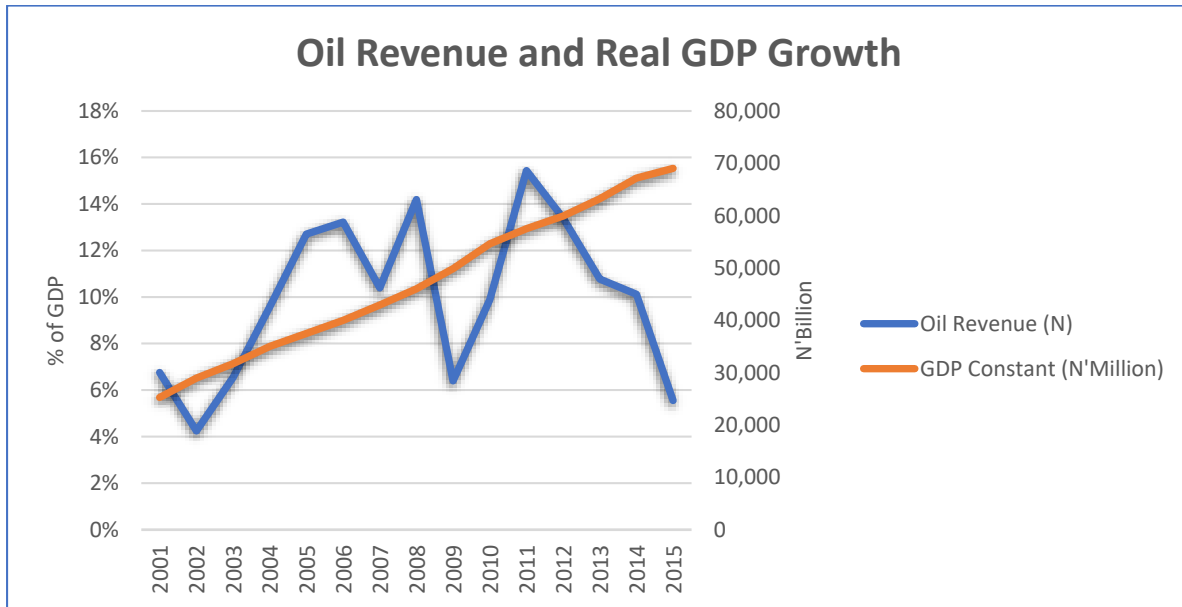
To unravel the above, economic and political channels of transmission through which the resource curse permeates are considered - exchange rate appreciation, contraction of the tradable sector, human capital accumulation, and institutions.

Nigeria’s economy is heavily supported by the oil industry in revenue terms accounting for about 85 percent of government revenue, 95 percent of export earnings. This is quiet in contrast to the subsectors share to real GDP of 6.3 percent and 8 percent in 2015 and 2016 compared to other sectors. Although the 2010 GDP increased year-on-year achieving its highest in 2014 toping South Africa. The recorded growth in the past years, put Nigeria amongst the Emerging Economies despite the inadequate infrastructure and economic activities in the non-oil sectors to spur economic growth (Igberaese 2013: 2).

According to Wumilledare, the contribution of oil in Nigeria is mostly rent, and this does not explain GDP growth in the absence of investment in non-oil sectors (MBNP 2017).



Fig 1: Oil Revenue and Real GDP Growth 2001–2015

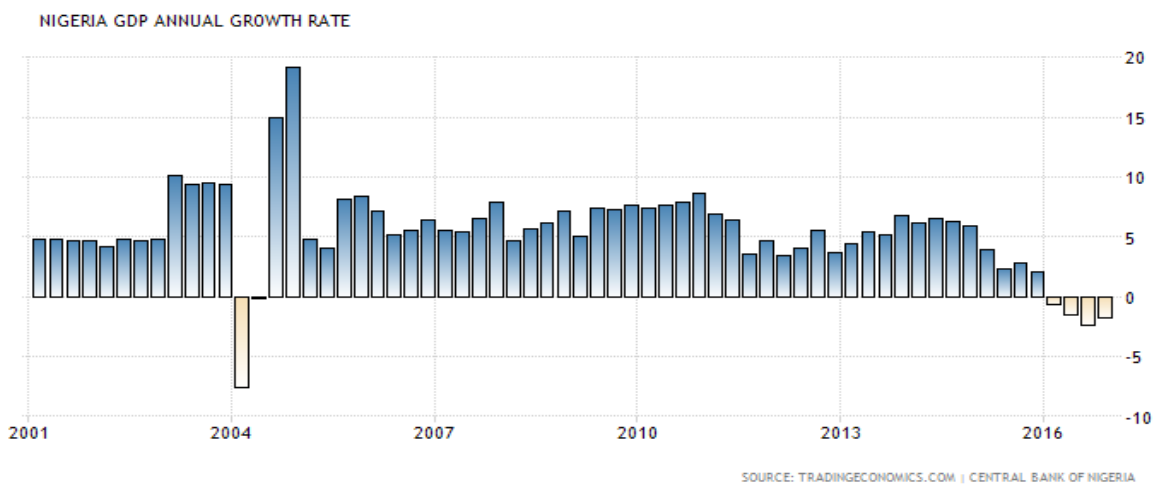


Source: CBN Statistical Database and author computation

Note: Oil revenue is the income derived from upstream activities (exploration and mining) of the oil subsector. This is excluding revenue from gas sales.

In fig 2 we show that Nigeria’s 2016 growth outcome was in the negative.

Fig 2: Annual GDP Growth Rate



Source: Trading Economics 2017

Annual GDP growth rates has continued to decrease since 2014 shrinking to 0.5 percent in quarter one of 2017. This was after 1.7 percent upward revision decreased in the earlier period although, seen as the smallest in five quarters since the crude oil rent continued to decline.

## **1.2 Problem Statement and Justification**

Rents from the oil and gas sector are the mainstay of Nigeria's economy. According to the IMF, the sector accounted for about \$87 billion i.e. 58 percent of government revenue for 2014. As the major foreign exchange earner, it accounted for about 95 percent of total exports in 2014 (IMF cited in EIA 2017).

Crude oil export revenue for 2015 was \$52 billion, this figure was \$35 billion short from the 2014 earnings. The oil rents for the periods of 2015 - 2016 has been less than \$60 p/b due to falling oil prices. Oil price movements determines a great deal of government revenue and Nigeria's national budgets benchmarked on US dollar price of crude for example. The above shows compelling evidence that other economic activities depend on the resource sector for growth. By implication, there is a procyclicality effect transmitted into the macroeconomy through investment, non-accumulation human capital, uncompetitive traded sector, and exchange rate mechanisms. Further impact is unleashed on the quality and effectiveness of public institutions in managing the resource wealth.

Nigeria was found suitable for this study for three reasons. One, Nigeria has large proven oil reserves and daily production of 2.5 million b/d thereby taking up resource dependency status. Secondly, economic growth proxied by GDP has fluctuated with oil resource windfalls over a prolonged period. And lastly, just as global oil shocks are inevitable, it is pertinent to understand recent growth indicators to rethink economic reforms in the context of tradable sectors.

## **1.3 Objective of the Study and Research Question**

The objective of this research is to empirically analyze the impact of oil resource wealth on economic growth with Nigeria as a case study. The work will also highlight current efforts at economic diversification.

Our research will be guided by the following research questions.






A) Do oil resource wealth affect Nigeria's economic growth?

- i) What transmission channels foster oil resource wealth impact on economic growth?
- ii) What is the basis for recent economic performance?

#### **1.4 Limitations of the Study**

The study period 2001–2015 is of importance because of major economic events at the time for example the global financial crisis, falling oil prices. As a limitation, the study could not to examine oil and non-oil states in Nigeria basically to understand the impact of oil resource at the local levels. This is basically due to time within which the study was carried out.

The research work is going to employ quantitative secondary data. To marginally limit data quality compromise, we derive data from reliable international and national sources. The sources include;

-  World Development Indicators
-  World Governance Indicators
-  Central Bank of Nigeria
-  U.S. Energy Information Administration
-  World Trade Organization

#### **1.5 Organization of Paper**

This work is arranged in parts in the following order. Chapter One, gives a background to the study, highlighting trends in oil resource wealth. This section presents also the research objectives, research questions, limitation and scope.

Chapter Two, deeply discusses the theories on which this study builds. It also reviews resource curse literatures and the channels of permeation.

Chapter Three, prevails on the earlier one by providing an overview of the Nigerian economy taking into account recent growth performances.

Chapter Four, explains the methodology and data used. Using correlation and exploratory data analysis, macroeconomic data are analysed for Nigeria to establish a relationship between independent, dependent and explanatory variables.

Chapter Five, presents the results and interprets them to draw conclusions. This chapter will link the work through findings, reviewed literature and theory.

## **CHAPTER TWO**

### **Theoretical Framework and Literature Review**

#### **2.1 Introduction**

This chapter discusses the theoretical explanations how natural resource wealth impacts economic growth from two perspectives. The political-economy and growth schools of thoughts are presented. The former argues that resource rich countries grow slowly with dysfunctional political institutions. Nevertheless, they divide into resource curse and political resource theories. Overlap

From the later school of thought, I present the New Institutions Economists'(NIE) views on natural resource wealth impact on growth. The NIEs debunks partly the resource curse idea that discovery of mineral resource tended to make countries grow slowly and have weak institutions.

They however, claim that abundance of the non-tradable sector leads to long-term economic growth predicated by good institutions.

#### **2.2 Theoretical Framework**

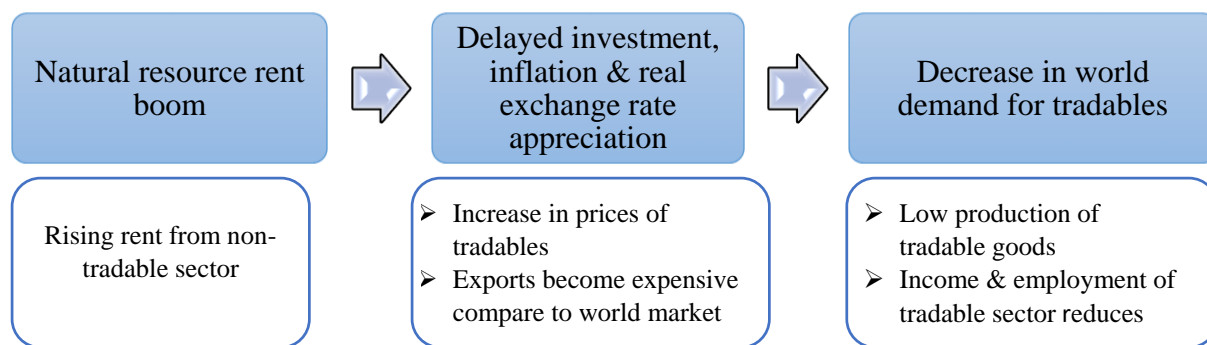
The discovery of a natural resource usually generates a felling of moving to better living standard, health care, education and technology. However, there are well-argued position in the academic and policy making space disproving earlier intuition that such ideas are dashed because resources impair institutions thereby slowing economic growth. The lines of argument are split into economic and political. The former argue that resource rich countries are prone to cyclical effect in commodity price, appreciating exchange rate, interest rate and proclivity for speculative investment; the later posits that resource wealth impairs the quality of institutions and a tendency for civil war, and a rentier state.

It is hard to fathom that primary resource discovery slows economic growth instead of improving it. However proven, certain identified mechanisms explain this phenomenon. This takes two forms; economic and political factors make the channels upon which the curse is perpetuated. First, the negative economic effects are resource dependency constricting the tradable sectors leading to Dutch disease,

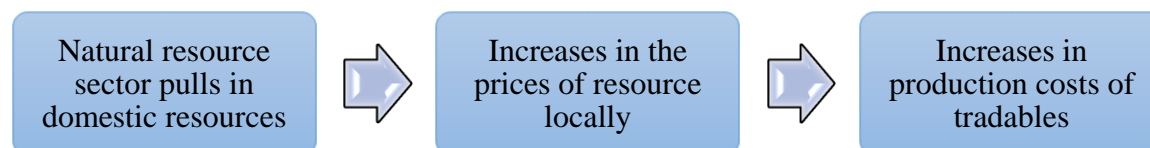
volatile commodity prices, and inadequate expenditure in human capital (education and health). The spending effects are however accompanied by resource allocation effect too as the non-tradables mop-up all factors of production to raise their rewards (Sandbu 2006: 1155, Badeeb et al 2017: 125). Internally, as the non-resource sectors contract, factors of production move to the resource sector thereby increasing their prices. Substantiating the effect of specializing in resource dynamic sectors, Matsuyama (1992), Krugman (1987) aver that increasing returns to scale thrive in the manufacturing sector and therefore is a veritable avenue for quick economic growth. Commodity price fluctuations cause cyclical fluctuation in revenue, making public expenditure difficult.

The economic vicious circle effects of resource wealth on the tradable sector is shown below.

Fig 3: Spending effect (Dutch disease mechanism)



Pulling effect (Dutch disease mechanism)



Adapted from Badeeb et al (2017: 126)

Secondly, the negative political effects are excessive rent seeking among the political class and weakening policies that constrict wastage of public goods. Based on this, reward in the public realm do not reflect workability of individual

contributions to the economy but rather political considerations inform the distribution of national income. This drives scarce entrepreneurial talents from producing exportable goods but into “rent seeking” activities.

### **2.2.1 The Resource Curse Theory**

As much as the Curse theory has been discussed, there is no universal agreement on how curse of natural resource and economic growth should be defined, but recent logics point to explanations of crowding-out effect thus,  $x$  resource(s) crowds-out  $y$  activity(ies). The divergent views however, reflect most in academic literatures with expansive explanations from the structuralist economists. Although there is a compelling drive in the logic, it does not imply loss of welfare or incompetence in the sector however, it makes for specialization in less dynamic sectors without increasing returns to scale as in the production of traded goods.

Certain reasons ascribe to natural resources as curse than blessing. In the first instance, prices are set in the international market and subject to fluctuation. Secondly, resources tend to crowd-out the traded sectors. And thirdly institutional failures accompany mineral wealth booms compared to economies built on modest tax systems (Frankel 2010: 4).

Specialization in non-tradables impacts the economy in the long-term through declining terms of trade i.e. the Dutch disease and staple trap. The theory of natural resource emphasizes the tendency for resource rich countries to underperform economically while depending heavily on the non-tradable sector because of increasing revenue in the short run. In the forefront of this view are notable literatures that have established the uncompetitive nature of primary resources in international market (Auty 1993, Frankel 2010 and Krugman 1987), all evidenced the immiserating characteristics of primary resource sector on the macroeconomy.

Many economic and political issues come with natural resource abundance for example, the oil boom periods of 1979 -1981 was characterized by the extinction of the tradable sectors which culminated to Dutch disease for majority of primary resource countries. In his work, Krugman observed that competition lost during mineral windfalls are usually not regained easily (Krugman 1987: 49). Manzano and Rigobon in a cross-country study, plotted GDP on horizontal and economic growth

on vertical axis. They show that prices of non-renewables in the 70's was high prompting massive borrowing and rising debt profile. The study affirmed negative correlation of resource wealth and growth. (Manzano and Rigobon 2001: 5). Mexico and Indonesia are examples of countries that went borrowing in the boom days. Further, macro scale studies also support this argument that discovery of primary products like oil, precious metals undermine investment and savings for the future (Papyrakis and Gerlagh 2006: 118 and Rafiq et al 2009: 122).

The United Nations continues to build on the works of Prebisch and Singer 1950 in pressing home that resource rents does not guarantee justifiable levels of economic growth. It affirms that prices of primary goods to finished goods tended to decline over longer period; hence growth is not guaranteed (Prebisch and Singer 1950). Since the 1900s price of non-fuel commodities have been on the decline year-on-year with a cumulative fall of 40 percent while fuel products cumulatively fall at 36 percent (Grilli and Yang 1988: 9).

Another group of economists however, suggested alternative explanation that could give rise to resource curse citing policy as reason. This route as stated by Hausman and Rigobon studies interactions in an economy specializing in primary products and developments in the financial sectors respectively. This benchmark model however assumes three sectors in the economy (oil, traded and non-traded sectors). Specialization in non-tradable sector results to volatile REER because increasing revenue is associated with increasing fiscal expenditure of shocks to resource income. These shocks however, do not adjust with the swings in the distribution of labour and capital but instead by expenditure switching. As a result, the financial sector will experience frictions in high interest rate. In all, continued volatile interest rate in the traded sector would lead to declining output and profit than in non-tradable sector (Sachs and Warner 2001: 833).

Further analysis to the specialization patterns and underdeveloped financial sectors (Hausman and Rigobon 2002: 14-15) shows that of course there is need to develop both traded and non-traded sectors to same levels to allow for labour movement when shocks arise both ways. Hence, the benchmark model theorizes that specialized economies with fluctuating rent will experience fluctuating REER while an economy balanced on both does not.



### **2.2.2 Political Resource Curse**

Recent studies have argued albeit without connected discourse that mineral windfalls tended to negatively influence the relationship among groups, political institutions, democratic and may give in to armed conflict such as the Niger Delta conflict (Brollo et al 2010: 1). This exemplifies situations where resource rents are centrally pulled before allocation to sub units. Democratic tendencies decline as politicians make a rush to the centre and prolonged their stay in government. In these cases, the rule of law and people's right to property becomes absent (Ross 2004: 338, Badeeb 2017: 127).

Distinctions have been made to the kinds of political systems existent in resource rich countries as autocratic. Evidence is found by poelhekke and Gylfason (2011) for 29 Sub-Saharan African countries. Meanwhile, in their novel study, Sala-i-Martin and Subramanian (2003: 13) established that Nigeria's oil wealth exerts negative effects on economic growth via the institutional channel. The motivations that engineer institutional failures are endogenously crafted through the political agency model (see Persson and Tabellini 2000, and Brollo et al 2010: 1). The model highlights competition between the incumbent and oppositions politicians leaving the incumbent on using resource wealth to achieve longer stay in power.

There are channels of permeation through which resource rents impacts the political system. First, moral hazard effect. Power brokers access huge budgets facilitated by most times absence of constraining regulations on expenditure of public fund. Secondly, the selection effect tends to increase the number of political office seekers who is incapable to run for office but do so because of the common wealth. This means that most government officials are severally incapable but elected to answer to the call of their principals. Using a combination of three datasets (federal transfers to municipal, audit of municipals and biography and electoral information of sitting mayors) of municipalities in Brazil, 10 percent increase in federal transfers induces corruption by 12 percent, it also undermines the value of candidates with college degree contesting against the incumbent by 7 percent (Brollo et al 2010). In support of the above, Ross (2006), Gilberthorpe and Papyrakis (2015) argue that countries with natural resource endowments have high tendency for underdeveloped bureaucratic system.

Yet in another setting, the New Institutions Economists, see growth as endogenous amidst natural resource wealth arguing ex-ante that good institutions are prerequisites. The NIEs establish examples of mineral rich countries with at least stable functioning institutions as Norway, Botswana, and Australia gaining enhanced economy because they have facilitated sectoral linkages (Larsen 2005: 81). Larsen established the impact of governance reflected in the way Norway managed its resource rents between 1999-2000. Norwegian policies were multidimensional and public-centric to resist compact formulation. He observed manufacturing hours increasing yearly by 0.3 percent compared to other Scandinavian neighbours. Consequent upon these policies, governing interventions became successful when entrusted officials do so without being deficient (Weil 2013: 355). Hence, they affirm that resource wealth's are double-edged sword that creates winners (Norway, Australia, and Botswana) and losers (Venezuela, Nigeria, Angola, and Saudi Arabia).

We would like to consider briefly trends in crude oil price volatility to be able to ascertain how much effect it exacts on the economy.

### **2.3 Literature Review**

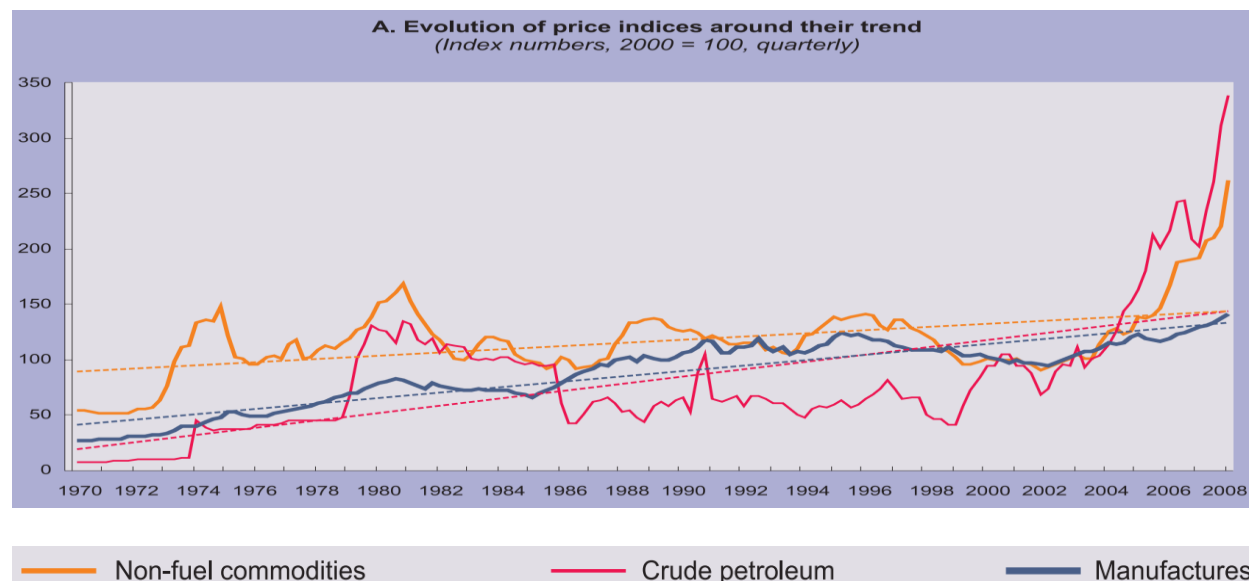
The history of crude oil is not without incidences of price volatility as pointed out in the curse theory. Price is demand driven and fluctuation of market price is the outcome of supply and demand forces therefore, increased levels of fluctuation signifies the interplay of market variables. We can deduct from above that price volatility is a common feature of commodity markets.

To be precise, fuel commodities have been found to have high volatility than non-fuel commodities over time. Although, structuralists conclude that primary product countries are more of price takers in the global market than industrialized countries (Poelhekke and Van der Ploeg 2009: 727).

The susceptibility of the phenomenon, reawakens a shift away from primary products. The 2008 trade and development report show that primary commodity export share fell to 33 from 77 percent because of the new industrializing economies (NIEs). However, 51 percent of world primary commodities still come developing

world and Africa accounted for 79 percent between 2003-2006 (UNCTAD 2008: 28).

Fig 4: Price Volatility of Primary Commodities and Manufactures.



**Source:** UNCTAD 2008 report. **Note:** The dotted lines represent the trend of the relevant price indices

Figure 4, highlights price movement of primary commodities over time in developing countries. The picture reflects uncontrolled price movement which are politically and economically motivated as revealed by significant literatures. Hence, in the foregoing accounts of oil shocks are presented to show significance in revenue generation.

### 2.3.1 Historical Account of Crude Oil Price and Supply Volatility

According to the U.S Energy Information Administration (EIA 2017) oil price volatility is measured by the percentage difference in the daily or monthly sales hence, degree of variation in time defines how volatile a market can be. Guo and Kliesen (2005), in studying US economy and oil prices, measured volatility as standard deviation of realized daily crude prices on NYMEX. As a result, price movement certainly do not reflect volatility in the market but that such is the case when it is disproportionately large (increase or decrease) in absolute value of daily, weekly, monthly or yearly price.

In its publication, the EIA 2017 analyses seven factors that has influenced the oil market since 1970s – geopolitical and economic events, expectations of economic growth, non-OPEC member production, changes in Saudi Arabia’s crude production, availability of inventory and unplanned supply disruptions, and decline in OPEC spare production (EIA 2017: 2-13).

Fluctuations in price of crude oil dates to the 1861 (see BP 2017: 20). Crude price fluctuation can be described from the dimensions of demand and supply. But to understand the short run price movement of crude oil, it is pertinent to know that price is central to quantity demanded of the product. According to (Hamilton 2009: 2) traces US oil shock for 60 years and observed a downward consumption adjustment in the 70s up to 20 percent which needed 80 percent increase in price between 1980-1982. The study explained that the low demand of energy was present as incomes rose simply because households and firms afforded it; but it was different between 2007-2008 as energy became priority for firms and households’ budgets.

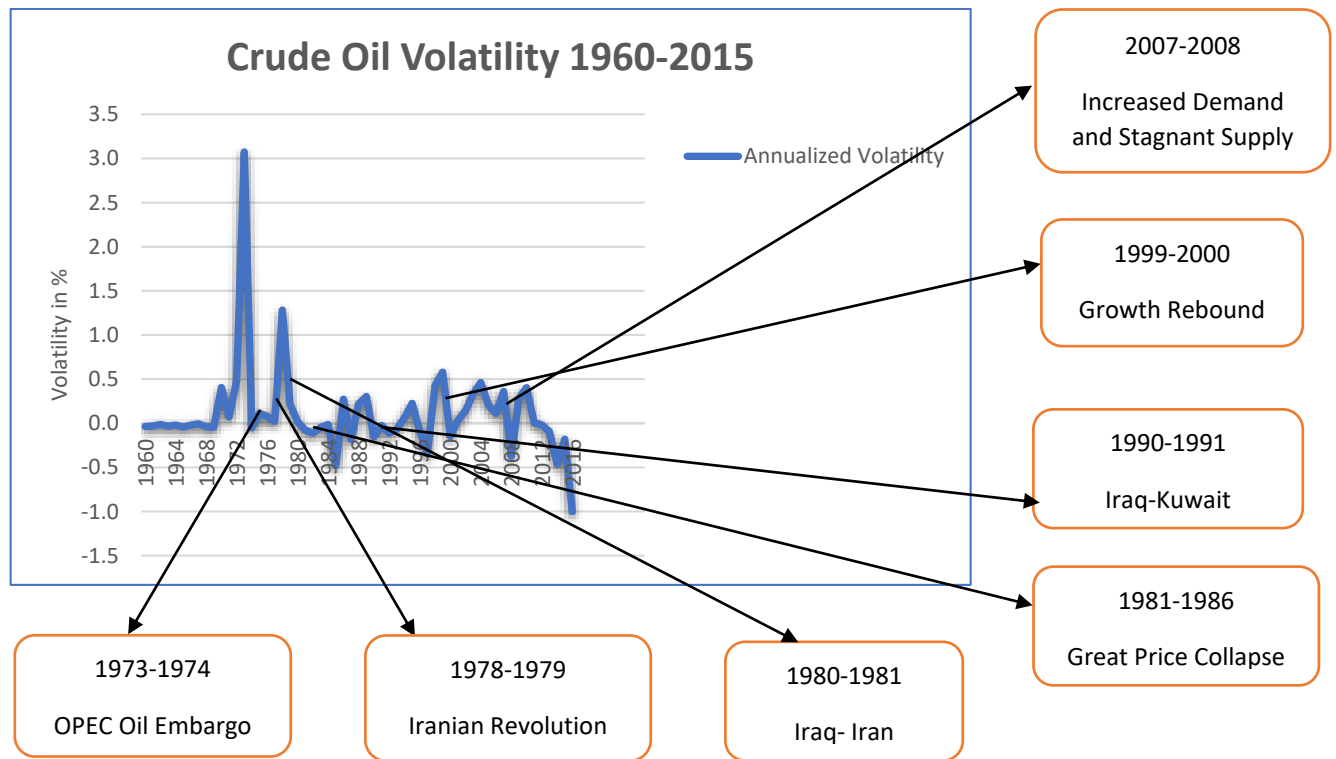
The years 1981-1986 chronicles great price collapse of the Iraq–Iran crisis. Organization of Petroleum Exporting Countries (OPEC) major producer Saudi Arabia was forced to cut production by  $\frac{3}{4}$  even though it was not enough to cushion the 25 percent decline in nominal and real price. Saudi Arabia abandoned every effort at pushing up production which saw prices down from \$ 25 in 1985 to \$ 12 by 1986. This represents a major oil shock in history. Another price rise came with Iraq occupation of Kuwait. The world lost 9 percent from both countries even as price increase lasted a short while (Hamilton 2011: 16-18).

Supply volatility of crude petroleum is described differently because factors such as politics rather than economics leads to decrease in quantity produced and supplied. The international crude oil supply has witnessed a handful of disruptions, but we will recount incidents from the late 20<sup>th</sup> century. The Suez crisis recorded decreasing supply which made price to rise insignificantly. Organization of Arab Petroleum Exporting Countries (OAPEC) was the first regional cartel to announce 5 percent cut in production and placing supply embargo on select countries supporting Israeli occupation of Arab territories (Yom Kippur War of October 1973) this significantly pulled down OPECs total production. There Scholars claim that the embargo was economically motivated because it was discussed beforehand and

called off even without achieving the motives for entering the war (Barsky and Killian 2001: 56).

Hamilton argues differently in that regard, that only Arab oil producers was involved (Hamilton 2000: 389), concluding that embargo timing, supply cut, and nature was peculiar to a geographical location. Other notable events over this period include Iranian revolution of 1978, a third of lost Iranian production was made up by Saudi Arabia and others. Iraqi invasion of Iran in September 1980, seized 6 percent of world production. Supply, was again disrupted in August 1990 upon Iraqi invasion of Kuwait after a decade of normalcy (Hamilton 2009: 4). Controlling crude oil prices is impossible due to mixed controlling factors. Figure 6 gives account of crude oil price movement since 1861.

Fig 5: Global Crude Oil Price Volatility 1960 - 2015



Source: EIA and computed by author

### **2.3.2 Oil Resource Wealth and Economic Growth**

Oil resource wealth can become negative or positive for economic growth. High oil prices tended to be positive in the short-term because it raises government revenue both at the central and regional levels. However, its immiserating tendencies shows up in the long-term when windfalls decline.

Depending on its management, oil resources pose varied impacts on the economy. It might be sensible to say that resource wealth effect is same for all countries, but recent macroeconomic studies confirm significant difference between exporting countries since the post-World War periods. Despite the differences, oil resources add more in revenue than the real sectors for economic growth in resource rich countries. Amidst these short-term outcomes, other bidirectional effects impede growth - rent seeking, inflation, REER appreciation, immobility of factors of production and investment uncertainty.

In another study, short-term monetary effects on REER was confirmed. Edward (1985: 2) agreed with (Prebisch and Singer 1950) that resource booms have short run benefits but are short-lived as monetary effects sets in. His argument is on the fact that unsterilized boom outcomes add pressure on money supply i.e. available foreign exchange resulting to inflation. Hence, the inflation will surpass equilibrium levels appreciating the exchange rate beyond real factors. This effect has been seen in a pocket of resource dependent countries including Indonesia and Colombia. In another work, long-run relationship of oil price and exchange rate was tested. This paper used panel data of G7 countries and recorded cointegration effects between oil price and exchange rates between 1972M1–2005M10 (Chen and Chen 2007).

Resource allocation is critical to the economy because it ensures movement of factors across sectors. Using a multi-sector model, Hamilton demonstrated that long-run oil earnings increases aggregate unemployment. It is not out of place to say that higher production cost leads to delayed production because of fallen demand in this case thus, firms are forced to stop production pending economic recovery. Lee and Ni, established that oil price substantially impedes growth tendencies when slightly stable than when it is highly erratic. This by no means indicates a weak relationship between economy-oil price (Lee and Ni 1995: 3).

With further reference to developing oil producing countries, Moshiri 2015, investigates whether nonlinearity relationship exist for GDP growth and oil price. He found a relationship using endogenous variables in the VAR model for nine major oil exporting countries. That oil prices exert direct and indirect outcomes on GDP through demand and supply channels. The direct outcomes are that rising oil rent adds to government revenue translating to investment and consumption. It's a major source of foreign reserve used to purchase manufactured goods. Indirect effects include inflation, REER appreciation and interest rate. The study found that developing country governments expend heavily during windfalls beyond capacity and as a result unable to cut back expenditure when revenue falls (Moshiri 2015: 227).

What we can take home from Moshiri is that most oil producing countries monetize budget deficits in the bust periods which keep inflation. Secondly, reserves are converted to local currency adding up to the money stock, aggregate demand and price levels. Thirdly, as part of monetary policy, exchange rate is not allowed to depreciate when oil prices come low; this leads to asymmetric effects.

### **2.3.3 Other Growth Indicators**

In other to explain and concretize the paths of economic growth process, it became pertinent to employ a few additional indicators as control variables. They are human capital accumulation – investment in health, education and government debt, exchange rate management, institution effect and FDI.

The process of accelerating economic growth in a consistent and sustained way is one crucial option academics and policy makers must deal with.

Three main indicators reflect economic growth according to Todaro and Smith (2009: 142-146). They classify these as population growth in labour force, capital accumulation (investment in land and equipment's and human resource - education, health, job skills) and technological progress. Investment that add to and improve human resource through consistent innovation and learning-by-doing for growth.

Significant growth literatures find importance for the accumulation of capital in production process. A study of the Asia-4 (Indonesia, Malaysia, Philippines and Thailand) suggests a linear relationship between growth and capital formation (Hussin and Saidin 2012: 119). Others who confirm the input-output relationship in the above are Dao (2012: 83), who with World Bank data and sampling 28 developing countries registered that growth of income per capita is heavily dependent on spending on health, education and capital formation. Ogun (2013: 28) did not see it differently in a constructed model using GDP, institutions, inflation, government debt, capital and population growth. He recorded that accumulation of factor capital through a national program, entrepreneurial education, and elimination of institutional weaknesses are sure means to economic growth.

Rodrik (2003: 17-18) in his seminal “Growth Strategies” concluded that igniting a successful growth process is easy if basic economic principles, property right, market competition are immersed into institutional structures while recognising local opportunities. However, keeping pace with short-term growth is much difficult, because it requires sound institutional underpinnings for a breakeven and to remain shock resistant in the long-term.

Hausman et al (2004: 21), was not different in “Growth Accelerations”. Investigating 110 countries for accelerated economic development sustained for eight years, they found 80 occurrences since 1950 and reported that growth tend to correlate capital accumulation – trade and investment with depreciating REER etc and that institutions are significant growth drivers. The above outcome suggests that achieving rapid economic growth in the short-term is within reach of any country. And not unrelated to the above, robust policies, stable political climate and institutional arrangements does not precede most short-term growth outcomes.

Technological progress is the result of new and improved ways of doing things traditionally. This could be in agriculture and construction etc. Technological progress sometimes also results from technology transfers or learning-by-doing. It is evident that developed countries moved up the ladder because of changes in industrial structure that aim foreign markets.

Ito et al (1999: 125), established that high investment in real sectors and export are good indicators of economic growth. They confirm that REER appreciates together with current account surplus from export of high-end products. Ito et al agrees with



Hausman et al, that fiscal, monetary and institutional policies are needed to sustain growth in the long-run.

Education is indispensable in the growth process. Productivity is enhanced by education that teaches a new way of doing things from traditional ways – technology, construction and inventions. Chen and Feng (2000: 13), evidenced that every “knowledge-driven” economy is bound to have accelerated growth given required opportunities. They employed higher education data to measure overall education link to economic growth. Accordingly, education and health are basic objectives of development as such, they are vital ends in themselves. Todaro and Smith (2009: 369), emphasized that education has the ability to develop necessary skills and absorb modern technology through learning-by-doing. It also highlighted that good health is prerequisite for productivity. More so, previous works on education, health and growth linkage acknowledges a positive meaningful relationship (Papyrakis and Gerlagh 2004, King and Ross 1993).

#### **2.3.4 Nigerian Case Study**

Many attempts have not been made to critically establish the extent to which crude oil resource impact growth negatively in Nigeria. Even so, the pocket of studies that exist, claim that the resource sector impacts many other predictors without much evidence on the contraction of the tradable sector.

In the case of Nigeria, one is tempted to ask why inflation persists during periods of falling oil price. Of course, falling oil prices should appreciate REER and vice-versa to cause rise in price of commodities. Iwayemi and Fowowe (2011: 609-610), report that oil price highs reflect in oil rent without much meaning on other indicators. Much of the earned foreign exchange go into importing intermediate and finished goods. Their result records a far-reaching effect of negative than positive effects. This however points to contraction in the non-resource sector (Dutch disease dilemma).

Extending their previous study while investigating impact of oil price and economic growth in oil exporting countries Iwayemi and Fowowe, made novel findings contrasting other previous narratives. The duo made estimations using VAR, Granger causality test, impulse response function and variance decomposition. They

establish that positive oil price Granger-cause macroeconomic indicators positively in agreement with earlier studies. Their findings include that output growth rate and capital formation declines after oil price fall and vice versa (Iwayemi and Fowowe 2011: 267). Surprisingly, this is a feature of the Nigerian economy where oil booms cause expansionary fiscal policy, speculative investments, neglect for human and physical capital formation. They further establish through impulse response function that volatile oil prices impact macroeconomic indicators but that these are usually insignificant since the up and down swings cancel each other. As such the impact cannot be classified as negative or positive.

In general, there seem to be agreement amongst scholars that resource wealth impacts economic growth directly or indirectly (as measured by GDP/GDP per capita).

## **CHAPTER THREE**

### **Background of Nigeria's Economy**

#### **3.1 Introduction**

We show the growth performances and factors responsible since the discovery of natural resource.

The first part discusses structure and performance of the economy in the face of surging oil wealth and macroeconomic impacts.

Part two, scrutinises the National Development Plan (NDP) for a shift to non-resource economy.

#### **3.2 Structure and Performance of the Economy**

Historically, Nigeria is a middle-income country with a mixed economy in the league of emerging markets. Nigeria ranked 21<sup>st</sup> in nominal GDP terms globally due to its expanding film, financial and communications and resource sectors with a rebased real GDP in 2014.

Agriculture employs over 30 percent of Nigerians and according to 2011-2015 figures, it added about 23 percent to real GDP which is highest compared to other sectors. Agricultural products for export range from cassava, corn, cocoa, millet, palm oil, wood and rubber, sorghum, yam, and livestock production. The sector suffers from labour shift leading to low productivity and to sustain local demand, its exports share decreased.

By its proven reserves, oil and gas remains Nigeria's major export product for foreign exchange earnings. The sub-sector basically accounts for about 85 percent of government total revenue and determines the part of fiscal policy. The types of crude exported are Qua Ibo, Bony Light, Forcados and Brass River crude oil respectively. Over the years, poor attention, ecological damages continually raise tension between government, international oil companies (IOCs) and host communities.

The era heralding civilian rule in 1999 witnessed influx of resource FDIs and a few others producing low-end non-resource goods just for local market (Iwuagwu 2009 cited in Igberaese 2013: 23). Cashed in on various diversification programmes, the new administration, attained substantial results in trade, agro-processing and telecommunication. The three sectors averaged growth of 28.4, 27.7, and 24.4 percent to real GDP in 2011-2012. Real GDP in PPP term rose to \$387 billion in 2012 while real GDP expanded by 7.01 percent in 2011-2012 representing a shift from the 2006-2010 trend. Based on that, analysts believe that growth rate has been impressive compared to 1.3 percent in 1981-1990 and 2.8 percent in 1991-2000 (MBNP 2017).

The economy showed signs of progressively moving towards intermediate and finished goods, but it is still primary resource driven now than in the 1960s. Value added in the building and construction subsector is insignificant considering 2.14 GDP contribution in 2011-2012. In 2011-2012 the telecommunications sector added 24.4 to real GDP growth, financial institutions 2.01 percent, real estate 2.65 percent, and transport, other services and utilities recorded 2.59, 2.25, and 2.65 percent respectively (MBNP 2017). Impressive how the economy has fared until 2012, but further insight is required about the year 2016 when the economy was hit with deep recession, inflation, rising unemployment rate, and high foreign exchange rates. With the rising price of basic food items, the government is concerned about raising the supply chains of rice, cassava and tomato. The Agric sector alone in 2016 added 24.4 percent of value to the GDP of which crop production accounts for 87.7 and livestock 8.7 percent.

Many analysts believe the industrial sector (manufacturing and extractive) is undeniably key to Nigeria's economic growth perhaps because it is responsible for about 85 percent of foreign exchange earnings. This sector is important because it accounts for company income tax, excise duties and revenue from oil. Manufacturing subsector is gaining more grounds with 47.5 percent, 18.3 percent above oil and gas subsector as a shift is imperative in the face of dwindling oil revenue. The subsector is however, not without challenges; high interest rate, tax rates and volatile exchange rate systems.

Available records from the NBS show that the services sector was the biggest for 2016 with 54 percent contribution to GDP. Year end 2016 saw individual subsector

raking in 55.8 percent for trade and 19.1 percent for telecommunication which is expected to drive the country's economy in the future.

Apart from natural crude, Nigeria is endowed with other natural resources that are also traded at the global market but their contributions towards economic growth differ perhaps because of infrastructural development and government policies. By 1960 Nigeria's economy was predominantly agro-led with 63.5 percent, while manufacturing mere gave in 5 percent. The oil and gas contributed 0.3 percent, services, and trade made 14, 13, percent each. The industrialization activities in the west caused oil price to rise and by 1970 manufacturing was down with oil sector leading (BudGIT 2017: 14). Also, in less than a decade, agro sector was casualty with 11.8 percent contribution to GDP in 1980.

Table 1: Sectoral Composition and their Contribution to GDP 1985 – 2015

Indicators	1985	1990	1995	2000	2005	2010	2015
Agriculture	17.81%	21.34%	27.29%	21.87%	27.09%	23.89%	20.86%
Industry	23.17%	17.99%	14.45%	12.09%	8.08%	6.65%	9.65%
Crude Oil	3.43%	11.62%	15.34%	18.36%	14.73%	15.39%	6.36%
Build and Construction	3.17%	3.47%	1.90%	1.77%	1.86%	2.88%	3.69%
Trade	9.24%	13.87%	22.73%	31.12%	32.01%	34.73%	40.29%
Services	43.18%	31.17%	22.73%	31.12%	32.01%	34.73%	40.29%

Source: CBN Statistical Database 2017 and computed by the author.

Note: The real GDP calculation is a 5-year average. Also, Industry comprises solid minerals and manufacturing.

Table 1, highlights individual contribution to GDP by sector over 5-year periods. The data shows falling contribution from oil as against increases in other sectors. Services so far, made the highest contribution followed by agriculture and trade. The periods 2006-2010 saw two historical events (Financial crises and soaring oil price). In those periods, the petroleum sub-sector recorded substantial decline attributable

to a 25 percent fall in quantity produced due to attacks on oil installations. By the next five years 2011-2015 oil revenue contribution dropped by 6 percent. This invariably signals a fall in government budget benchmarked on US dollar.

The service sector by 2015, grew in the share of 53 percent to the GDP making it the biggest contributor to the economy with average growth rate of 5.8 percent per annum 2010-2015 (MBNP 2017: 75). The telecommunication as part of the service sector, recorded commendable improvements despite slow penetration and subscription which calls for medium-term growth. The sector remains key predictor for a diversified and sustained economy. The MBNP (2017: 75), reported the telecommunications adding 4.4 percent by Q3 2016 to the GDP. The above is a pointer that ICT is required for expansion of economic frontiers. Still on services, the financial sub-sector grew by 11 percent between 2010-2015. Nigeria could not have achieved this much without a strong insurance market, though the growth has been marginal.

Apart from the service sector, agriculture dominates the primary commodities production in Nigeria. It accounts for majority share of 2015 GDP figure by 23.1 percent and employs about 38 percent of the working population. The sub-sectoral GDP share includes forestry (1 percent of agricultural production; 4.3 percent growth in 2010-2015), livestock (8 percent, 3.3 percent growth), fishery (2 percent, 7.5 percent growth) and crop production (89 percent, 4.1 percent growth) respectively (MBNP 2017: 66). Despite these welcomed achievements production remain mostly primary are challenged by access to finance, farm inputs, access to market especially for perishables goods and climate change threats.

Manufacturing in Nigeria is dominated by micro, small, medium enterprises (MSMEs). This group employed about 5.3 million of working population in 2010 alone mainly in agro-processing and textiles. By 2015, the manufacturing sector put in 9.5 percent to GDP with growth rate of 13.3 percent. The sector remains small when compared to economies like South Africa, UAE, Indonesia and Brazil with commendable increase. Impressively, the sub-sectors have maintained consistent increase in a five-year period; agro-processing includes food, beverage and tobacco put in 45 percent of 2015 GDP, light manufacturing – textile and wood production 31 percent and resource processing – basic metals and cement 18 percent (MBNP

2017: 70). On the other hand, the sector contracted by 7 percent in 2016 when the economy entered recession.

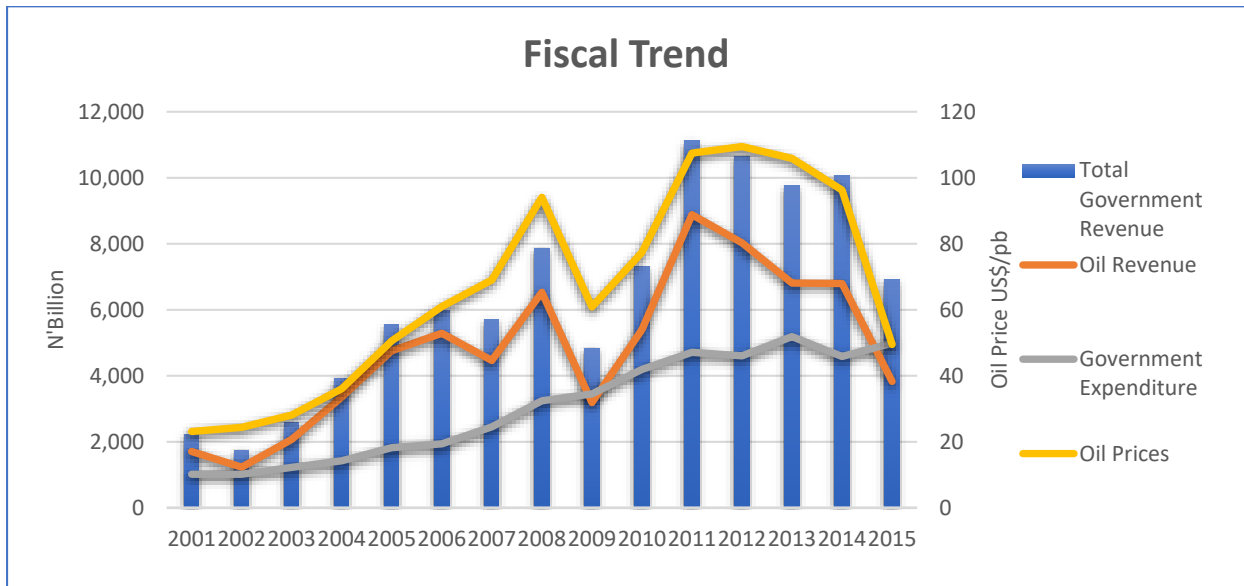
Solid minerals sector, have not grown tremendously as oil and manufacturing. According to the MBNP (2017: 73), the sub-sectors doubled in 2015 from N52 billion to N103 billion. Quarrying made the largest contribution of 89 percent, coal 7 percent, and metal ores 4 percent. Unlicensed individuals, small entrepreneurs predominantly dominate the solid minerals sub-sector. Hence, the slow growth is due to how capital intensity and inventories required; also, the demand follows its pricing in the international market. Nigeria's minerals vary in size and mixes and are geographically concentrated.

Between 2010-2015, the construction sector recorded considerable contribution to GDP by 11.4 percent and employing about 1 million of the active population in the period. The year 2016 was not a good outing however because of recession although, 2017-2020 projection is on the average of 5.39 percent championed by public and private investments respectively (MBNP 2017: 79).

The oil sector in 1956, was producing about 5, 100 b/pd. The sector has grown in leaps and bound and today produces in the capacity of 2.5 million b/pd putting Nigeria top in Africa and sixth in the globe. Although, according to Nigeria National Petroleum Corporation (NNPC) statistics, the country has more proven gas reserves than oil reserves. The upstream (crude exploration and mining) and downstream (refining, and marketing) sub-sectors make the oil and gas sector. The upstream in 2015 accounted for 94 percent of total export earnings, 62 percent of government revenue and mere 10 percent to the GDP, while the downstream sector added a low 0.3 percent. Nigeria have suffered crude oil volatility in two forms – price and production. In 2012-2015 production averaged 2.2 mb/pd, by quarter 1 of 2016 attack on oil installation reduced production to 1.1 mb/pd.

With the large chunk of government revenue coming from oil, Nigeria's fiscal policy remain influenced by international price of oil and activities in the sector. Because of that, government expenditure patterns follow similar trend. For example, in the periods 1979-1982, 1991-1992 and 2000-2002, and 2005-2009 Nigeria witnessed positive and negative price fluctuation, quantity produced fluctuated too. According to BudgIT (2017: 6), additional States were created escalating bureaucracy at all levels which intensified spending figures.

Fig 6: Nigeria's Fiscal Trends 2001 - 2015



Source: CBN Annual Statistical Bulletin 2015-003 and authors computation

Figure 6, above shows revenue from oil constituted the bulk of total revenue within the period of study. But between 2001-2010, government expenditure was on continuous increase with minimal fluctuation, however, it dropped sharply in 2011 following oil price and revenue decline. Moreover, the inability of the government to tenaciously develop other sectors placed a burden on oil revenue for public expenditure financing; this means volatile budget figures or deficit financing for Nigeria. Within the study focus, oil accounted for 90 percent of total revenue collected. Non-oil revenue (customs and excise duties, VAT, NITDF, EDT, corporation tax, and CGT) contribution is on year-on-year increase even though it is not considerable.

Using a 5-year moving average, the 2015 and 2016 national budgets have been benchmarked on \$53 pb, oil production of 2.2782 mb/pd at N190/\$ exchange rate and \$38 pb, oil production of 2.2 mb/pd at N197/\$ exchange rate. However, outcomes of the estimates vary depending on oil price. But certain reasons account for this according to MBNP “The 2015 budget was undermined by major setbacks, particularly in the oil sector: oil production was short of projection due to oil pipeline



vandalism and theft, in addition to falling oil price below budget reference price” (MBNP 2016: 9).

Looking from another angle (see appendix 1), oil revenue for most periods 2001-2011 recorded pockets of fluctuation in response to global oil prices. The slope from 2012 onward was a continuous one. On the reverse, non-oil revenue did not record encouraging height but with minimal volatility because oil price effect on public expenditure translates to other economic activities.

### **3.3 Industrialization Plans**

Shortly after attaining independence from Britain and grappling with the political landscape, inadequate and coherent economic policy, past Nigerian governments kick-started National Development Plans (NDP) to set the part for economic development. Although an agro-led economy, regional governments made contribution to the centre with enough surplus to for recurrent expenditures. So, between 1962-1985, Nigeria had had four NDPs with varying time lines.

#### ***1960 – 1968 First National Development Plan***

The first NDP 1962-1968 served as launch pad for manpower, industrial and human capital development beyond what colonial administration left. All regions pursued the import substitution industrialization strategy (ISI) aimed at reducing goods importation leading to establishment of industries in textile and apparel, tyres, cement, leather and footwears. To drive this strategy further, the Nigeria Industrial Development Bank (NIDB) was created to grant long-term loans to big and small companies. Also, capital projects were not left out as Kanji Dam and Port Harcourt refinery. The Western region for example ran a heavy recurrent expenditure on health and education amply financed from external borrowings. By 1966, the Federal budget was £18 million in surplus. But above all, the plan recorded commendable success but not without shortage of inputs to feed the industries and the Nigeria civil war.

### ***1970 – 1974 Second National Development Plan***

Just coming out of a civil war that left the country bereaved of human and industrial capacities, a second NDP was instituted to reconstruct and rehabilitate the economy. The purpose was genuine that governments investment attracted foreign investors in different areas and the establishment of the petrochemical company, fertilizer, paper and pulp companies. Some of the foreign companies like Volkswagen and Peugeot and Mercedes Benz moved in to different regions and established assembly plants even though but much of their inputs were imported. Part of the success recorded at those periods, was due to the oil windfall. To encourage usage of local content and indigenous participation, the Federal government enact Nigeria Enterprise Promotion Act 1972 objectively to transfer equity holdings to local firms.

By 1972, a new economic dawn was imminent because oil revenue became significant and government focus shifted. The Arab-Israeli war quickened the move from agriculture to oil when price rose from \$4.73 pb in 1973 to \$12.21 pb in 1975. Interestingly, the end of 1975 saw crude oil leading the economy with about 77.5 percent in revenue (BudgIT 2017: 4).

### ***1975 – 1980 Third National Development Plan***

This NDP was not in any way significantly different from the second because it focused on capacity building especially in human and physical to feed local firms. R&D in agriculture, rural electrification, livestock farming and free education at the primary level and further industrialization was paramount (Ekhosuehi and Ibietan 2013: 302). This period coincided with the increasing oil rents given global political and economic events that characterized soaring oil price, but it did leave a handful of achievements like the Ajaokuta steel company to make steel locally, Kaduna and Warri refineries respectively. Significant growth was recorded in the short-run with manufacturing sector averaging 18.1 percent and GDP at 5 percent annually (Ekhosuehi and Ibietan 2013: 303).

### ***1981 – 1990 Fourth National Development Plan***

Facilitated by growing demand for Nigeria's sweet crude blend by industrializing countries, crude oil raked in more revenue for the government from N631mn in 1970 to N5.5bn in 1975. On the advice of the IMF, Structural Adjustment Program (SAP) came to be aimed at deregulating and liberalizing the economy and making government less participatory. These efforts made little or no headway because depreciating naira worsened exchange rate and of course local firms were unable to purchase inputs for manufacturing. In a bid for solution, the World Bank SME II Loan Scheme, Peoples Bank (1989), Nigeria Export-Import Bank (1991), and Community Banks (1991) were set up.

Many projects started at the period and financed with oil proceeds were not completed and termed "abandoned projects". But according to notable scholars (see Hausman et al., 2004 and Rodrik 2003), the falling price of primary commodities are usually the cause of failure to industrialize however, they aver that beginning a growth process is at the disposal of every country, but sustenance is the case because of the feeling of safe arrival in the short-run. By and large the above suggests that the second and third NDP growth successes did not make impact on the fourth plan because the government even though had implementation plans, but lacked sustainability plans.

### **3.4 Case for Industrial Transformation**

Trends in the international oil market signals threat to oil revenue for Nigeria's fiscal policy. Specifically, the US, Nigeria's major trade partner in oil has reduced purchases thanks to shale oil. Brazil and China too hold substantial deposits which makes them probable to reducing dependence on crude oil import in the future. The take home here is that government might not be able to deliver on its responsibility in the future if demand for the Brent falls.

Poverty remains high in the population and active workforce unemployed despite impressive growth records. Given the unprecedented growth in population, there are fears that a "Nigeria Spring" is imminent if the menace is not tackled. According to Bloom et al., (2015), 15 million jobs are estimated to be created by 2020 to keep unemployment at 2010 rate. The recorded growth was raked in from

the agricultural and trade sectors due to the presidential initiative. This also, created labour shift and rising earnings which did not improve productivity but rather enabled factor accumulation (Haywood and Teal 2010).

With short-term gains consolidated and Nigeria's Vision 20:2020 in mind, it is pertinent to sustain and improve the successes recorded towards high-end goods for export. Having said that, sectors responsible for moving the economy forward need take advantage of available resource to achieve growth that is inclusive. The NV20:2020 is unattainable without reflecting on structural changes and drawing on other countries experiences.

The call for industrialization is a strong one in the face of declining primary commodity prices. However, in decomposing Nigeria's growth trend shows huge physical capital formation over periods of oil boom while recording negative total factor productivity.

### **3.5 Recent Growth Performance**

Nigeria's economy is primary commodity dependent for revenue and foreign exchange earnings. The economy also leans heavily on importing intermediate goods and most raw materials as feedstock for local industries and consumption of cheap foreign goods. Crude oil basically drives the economy in revenue terms but despite its much-talked importance, it contributes an average of 10 percent to GDP, 62 percent of total government revenue and whooping 94 percent of export earnings.

Although being challenge by infrastructure inadequacy, ineffective and inefficient policies that undermine growth, the economy seem to have made pockets of successes toward diversification. As we may know, global growth trend is rapidly changing with declining growth in major emerging economies leading to fall in oil prices. Thus, in the face of these events, Nigeria's economy remained strong before GDP contracted in 2016 to about 0.36 percent in quarter one, 2.1 and 2.2 percent in quarter two and three respectively. GDP growth hovered around 6.58 percent in 2012 against world GDP growth of 3.1 percent. Based on this, 2013 growth was estimated at 6.5 percent with the aim of reaching 6.75 percent by 2014 with agricultural sector, wholesale and retail, construction and real estate sectors as drivers. The recorded performance represents about 6.5 percent growth for 2001-2010 and 6.8 for 2006-

2012. Overall, the outcome of the millennial economic growth has been impressive compared to previous decades.

At the return to civil rule in May 1999, major policies were aimed at diversifying the economy with wholesale and trade, agriculture and telecommunication services driving the economy at an average growth of 28.4, 27.6, and 24.4 percent. Manufacturing grew 7.6 percent while contributing about 4.5 percent to real GDP between 2011-2012. Growth in the solid minerals subsector averaged 12.5 percent adding 0.37 percent to GDP. Summarily, the growing tradable sectors signifies a shift away from oil even though the recorded progress seem small.

In the following table, we show that 2011-2012 growth rate meant that growth is sustainable looking backward to 2001-2010 records.

Table 2: Growth Performance by Sector

	2001 – 2010	2011 - 2012
<b>Real GDP Growth</b>	6.70	7.01
<b>Sectoral Contribution to GDP</b>		
Agriculture	41.70	39.70
Industry	22.60	18.80
Wholesale & Trade	17.10	19.60
Building & Construction	1.80	2.10
Services	16.80	19.70
<b>Sectoral Growth</b>		
Agricultural	6.51	4.80
Industry	-0.06	1.50
Wholesale & Trade	13.44	10.50
Building & Construction	12.58	12.30
Services	10.43	13.50

Source: CBN Statistical Bulletin (Various Issues).

## **CHAPTER FOUR**

### **Methodology and Data**

#### **4.1 Introduction**

This chapter explain the data sources and strategies for their collection. Also, the variables deployed in the research are explained and show support why they qualify for the research work. Lastly, an overview of methodology employed for data analysis.

#### **4.2 Data**

A set of annualized longitudinal data set was analysed basically to establish the impact on economic growth due to crude oil resources wealth. These data are secondary and taken from local and international sources –the World Development Indicators (WDI), the Central Bank of Nigeria (CBN), World Governance Indicators (WGI), U.S Energy Information Administration (EIA) and World Trade Organization (WTO).

Real GDP taken at 2010 constant basic prices in (Naira Million), crude oil revenue and government budgetary expenditures were taken from the CBN's annual statistical bulletins. GDP figures are real as such they have been adjusted for inflation purposes.

Spot oil prices were drawn from the EIA for Brent crude. Accordingly, the EIA method of calculating price movement is adopted i.e. percentage change in daily or monthly price of crude oil. Data for oil price is indexed in daily, weekly, monthly, and yearly figures, but due to large amount of data to be handled, the annualized spot price index is adopted (see appendix table 1). Trade figures for three parameters were taken from the World Trade Organization.

### 4.3 Variables

A few variables which includes key dependent variable, key explanatory variable, and control variables were utilized. We use resource wealth proxied by crude oil revenue from exploration and mining activities as independent variable. The use of this is in line with Sachs and Warner (1995), who in “natural resource abundance and economic growth” used share of natural resource to measure contribution to GDP, while Hussin and Saidin (2012: 12) adopted rate of growth as a measure for economic growth. (Manzano and Rigobon 2001: 35) used share of primary exports and GNP figures from the WB.

The dependent variable employed is economic growth proxied by real GDP. The share of all sectoral activities put together are responsible for growth measured by real GDP figures. Gylfason (2000) in his study ‘resources, agriculture and economic growth in economies in transition’ adopted growth proxied by GDP. The real GDP is at 2010 constant prices.

To understand how the former impacts the later, a few explanatory variables that predicate long-term economic growth were introduced. These variables were adopted because of their ability to sustain accelerated growth in the long-term. Government expenditures tends to grow as resource rent increase. These two variables are important aspects of a sustainable growth process hence, they are employed to establish what trade-offs there is in government expenditure patterns to foster growth.

The explanatory variables are;

Table 3: Explanatory variables: description and data source

Variable	Description	Data source
Human Capital (health and education) accumulation	Against the parameters adopted by other literatures – primary school enrolment (Baro 1991, Chen and Feng 2000), secondary school enrolment Manzano and Rigobon (2001), this study as in Dao (2012) used health and education expenditures for primary, secondary and tertiary education.	Central Bank of Nigeria Statistical Bulletin

Trade Bata Terms	Trade values in exports and imports for the study period 2001-2015.	World Trade Organization
Foreign Direct Investment (FDI)	Foreign direct investment measures investment equity flows into the reporting economy. It is the sum of equity capital, reinvestment of earnings, and other capital	World Development Indicators
Real Effective Exchange Rate (2010 = 100)	Real effective exchange rate is the nominal effective exchange rate (a measure of the value of a currency against a weighted average of several foreign currencies) divided by a price deflator or index of costs.	World Development Indicators
Institutional Quality	Measures the quality of bureaucracy that predicates growth. These records are obtained from CPIA of the World Bank and WGI as prepared by Kaufmann et al 2017.	Country Policy & Institutional Assessment and World Governance Indicators

Source: Authors compilation.

#### 4.4 Methodology

Exploratory data analysis (EDA) is used to analyze the data sets. Each analysed data aims to establish a relationship between identified variables. If a Successful relationship is established, we then can provide explanations with regards to the extent oil resource impacts economic growth in Nigeria.

The choice for EDA hinges on the basic principles of scepticism and openness to applicable variables. EDA will give the researcher opportunity to explore data in varied possibilities without being placed in a confirmatory mode existent in other methods (Hartwig and Dearling1979: 10-11). In that case, a model is not constructed a priori living outcomes open to unexpected possibilities. They further stated that one invariant procedure does not exist for the EDA to generate results hence, different EDA techniques can derive different outcomes with same data set (Hartwig and Dearling1979: 76). Above all, scepticism and openness permeate EDA methodology.



## **CHAPTER FIVE**

### **Results and Data Analysis**

#### **5.1 Introduction**

Chapter five analyses data for the different variables - economic growth, resource wealth, and select explanatory variables in two parts.

Part one will look for and analyze relationships amongst identified variables on economic growth using descriptive statistics. With EDA, we analysed explanatory variables that determine long-term growth. And in part two, institutional analysis is considered given their roles in fostering long-term economic growth.

As stated in the scope of study, we used dataset of 15 years and 7 variables. Data for institutional analysis has missing values for 2001 due to its unavailability from WGI. The variables remain the same for the correlation and exploratory data analysis. However, in the EDA we eliminated the main dependent variable allowing the independent and explanatory variables to interact.

While previous studies explored cross country effects of resource abundance, we examine whether the reported effects apply to Nigeria. We focused on several questions aimed at explaining the effects of resource wealth on growth using correlation and exploratory analysis. First, we explored the relationship between resource wealth and growth variables. Secondly, using EDA, we examined resource wealth with real GDP, extent of dependence on oil resource at the expense of manufacturing, oil resource and FDI and exchange rate, and finally, the performance of political institutions.

## 5.2 Summary of Descriptive Statistics

Table 4: Correlation of Independent and Explanatory Variables

	<i>Oil</i>							
	<i>Revenue</i>	<i>Real GDP</i>	<i>REER</i>	<i>FDI</i>	<i>IA</i>	<i>HCE</i>	<i>Exports</i>	<i>Imports</i>
<i>Oil Revenue</i>	1							
<i>Real GDP</i>	-0.35142	1						
<i>REER</i>	0.647758	0.955924	1					
<i>FDI</i>	0.261158	0.508747	0.388696	1				
<i>IA</i>	0.176829	0.292349	0.241918	0.247795	1			
<i>HCE</i>	-0.54306	0.939484	0.916716	0.458518	0.28082	1		
<i>Exports</i>	-0.08279	0.768554	0.711989	0.742287	0.32275	0.786462	1	
<i>Imports</i>	-0.12463	0.89202	0.799066	0.74918	0.218323	0.843447	0.855208	1

Source: Own construction using Microsoft Excel

Table 5: Descriptive Statistics

	<i>Oil Revenue</i>	<i>Real GDP</i>	<i>REER</i>	<i>FDI</i>	<i>IA</i>	<i>HCE</i>	<i>Exports</i>	<i>Imports</i>
<i>Mean</i>	481.8	46.73	96.39	4989.6	13.80	300.87	61234.62	29574.27
<i>Standard Deviation</i>	229.9	14.3	17.9	2549.4	4.7	199.9	31418.0	15132.5
<i>Minimum</i>	123.0	25.0	73.2	1190.0	0.0	64.4	17968.7	7354.2
<i>Maximum</i>	887.0	69.0	127.1	8841.0	19.5	582.9	114172.1	55171.1
<i>Count</i>	15	15	15	15	15	15	15	15

Source: Own construction using Microsoft Excel

We have tested all concerned variables and the correlation result in table 4, indicates that increasing crude oil revenue negatively correlated with real GDP at -0.35 percent confirming MBNP's statement that oil revenue does not add to the GDP but only in money terms (MBNP 2017) which can be considered a large effect. There is also symmetric result for REER and oil revenue in the negative at 0.64 percent. This

affirms earlier findings especially for Nigeria. A negative relationship also exists for terms of trade – export and import with a value of -0.08 and -0.12 respectively. Our expectation ex ante contrasts the result for imports because periods of revenue boom indirectly makes domestic goods expensive paving way for foreign manufactured goods although, this is visible in the next method. Expenditure on human capital negatively correlates with oil revenue at -0.54 percent. Higher real GDP figures positively correlated with other explanatory variables – REER, FDI, IA, HCE.

Conversely, oil revenue recorded strong positive relationship with FDI at 0.26 percent and IA at 0.17 percent. In confirmation of this, the CBN accordingly, reported symmetric progress in resource FDI inflow between 2000-04 at 40.47 percent than non-resource FDIs. In same vein, institutional quality strongly correlated with increasing resource wealth meaning that the ‘curse’ may disappear if country studies are done properly (Badeeb et al; 2017: 132).

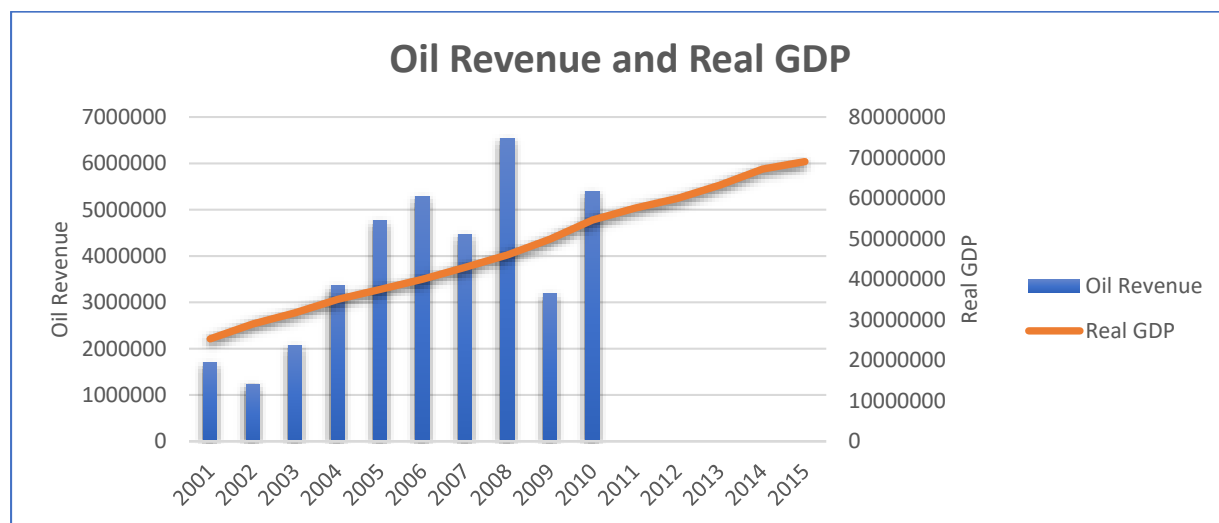
### **5.3 Resource Wealth and Economic Growth**

Ab initio, resource windfalls are found to impair sustainable growth in host countries. However, this paper considers in detail, the impact of oil revenue on economic growth from an exporting country perspective.

The above narrative informed the analysis and as such we look for a relationship between resource wealth and growth. Oil revenue is considered a positive endogenous factor for growth, but its distortionary mechanism transcends variables that control for economic growth. Data for a spanned period of 2001–2015 is used but other years are also incorporated for reference purposes. Although, some major characteristics of this period is 2008 oil price increase, global financial crisis, and major steps towards economic diversification.

We first start with the data looking for significant correlation between oil revenue and real GDP.

Fig 7: Relationship between Crude Oil Revenue and Real GDP



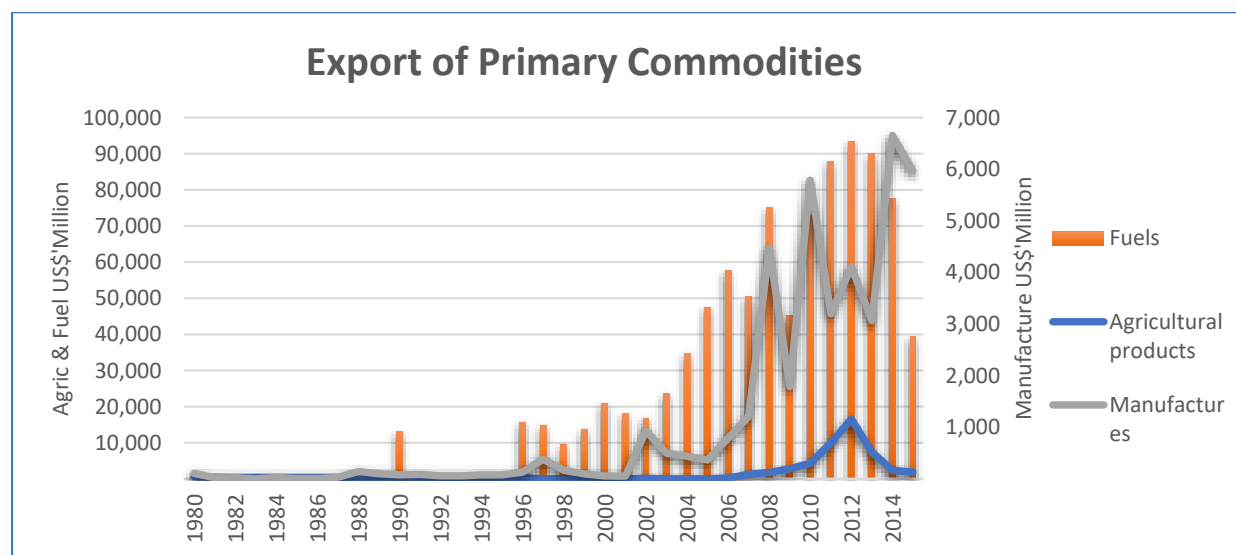
Source: CBN Statistical Bulletin and computed by author.

Figure 7, analyses government crude oil revenue and Real GDP to establish the extent of relationship that exist. The variables co-moved for most part of the period even when the oil revenue contribution is meagre. Take for instance, real GDP constantly rose throughout the study period. Oil revenue fluctuated due to global price movements but also exerted disproportionate impact on GDP as the figures show. Our a priori expectation of a relationship is confirmed in fig 8 and evidenced in Poelhekke and Van der Ploeg (2009: 732), that resource rents display erratic tendencies than food, and metals. Obviously, government revenue rose in 2008 however, a decline afterwards impacted fiscal policy negatively. To confirm how bad revenue fluctuation is Aghion et al (2006), shows in his seminal work that volatile revenue resulting from resource sector could be bad for growth (firms' inability to invent because of liquidity constraints) especially if financial institutions are underdeveloped.

### 5.3.1 Resource and Non-Resource Sectors Performance

In the foregoing, we analyze data to establish the extent resource wealth impacts diversification away from primary product and its translation into economic growth.

Fig 8: Export Composition of Primary and Manufactured good (US '\$Million)



Source: WTO data, computed by author

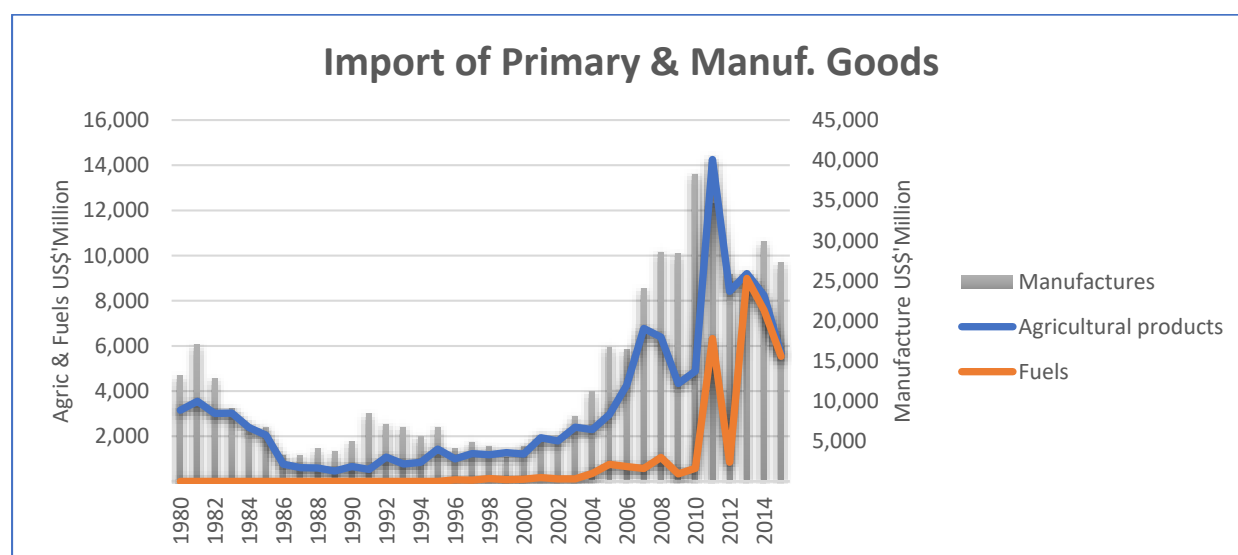
Note: Data was not found for exported fuel between 1980-1989, 1991-1995 are not available.

The figure above depicts Nigeria's ToT in agricultural, fuels and manufactured exports. For agricultural and manufactured commodities, 1981-1995 show less than minimal growth and fuel products in receipt of \$13,191million in 1990. Somewhat increase started in 1996 with fuel commodity values growing strength to strength. The variables co-moved recording disproportionate swings most of the time from 2006-2015 with fuel at the top with \$93,492million. It is obvious that agriculture recorded \$16,570million earning value because of government policies in on agricultural diversification from 2010 even though they were mostly unprocessed commodities. So, un a cursory view, the value of agriculture and manufactured commodities worth \$95,457million compared to fuels \$915,955million to show the extent of specialization in crude oil. However, export of manufactures after 2010 were not sustained due to laxity in the import substitution policy.

The above analysis tells of the results from industrialization plans coupled with political stability. These results were realised mainly through learning-by-doing in the textile, agricultural and intermediate goods which had competition elsewhere. Matsuyama (1992: 330), in ‘agricultural productivity, comparative advantage, and economic growth’ opined that as engine of growth, industrialization through learning-by-doing presents a positive link to a small open economy like Nigeria. To support the above statement, Chen and Feng (2000: 10), affirm that an export oriented economy is bound to raise factor outputs, efficiency in resource use and innovate technologically. This way, the local economy integrates into the global market, increasing capacity utilization and returns to scale.

Unlike Norway that reinforced and sustained gains from its resource sector, Nigeria’s political climate impedes policy frameworks from permeating institutions and eliminate institutional inefficiency and corruption (see Rodrik 2003). In Sala-i-Martin and Subramanian (2003), politics rather than macroeconomic factors are responsible for poor growth. The MBNP acknowledged this in its economic blue print that “Nigerian economy is characterized by structural challenges that limit its ability to sustain growth, create jobs and achieve real poverty reduction” (MBNP 2017:29).

Fig 9: Import Composition of Primary and Manufactured good (US \$'Million)



Source: WTO data, computed by author

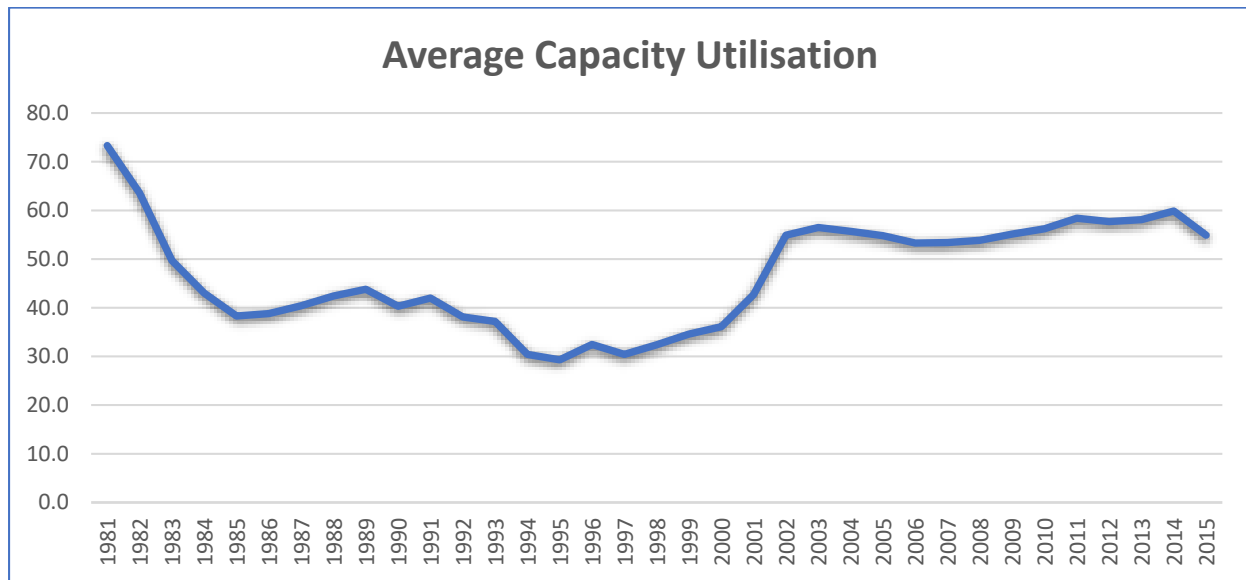
Note: Between 1980-1995 Nigeria refined for its domestic use, so figures these dates remain zero.

The above analysis describes the pattern of importation of manufactures, agricultures, and fuels. 1982-1990 recorded constant declines in the value of imported manufactures from \$12,796million to \$4,918million. We could deduce from the result that earlier national development plans achieved minimal results in only import of intermediate goods to produce finished goods. Hardly was manufactures capacity sustained after the 90s due to structural adjustment programme (SAP) in the mid-1980s which shaped the sectors capacity disadvantageously due to inability to obtain FOREX for importation of intermediate goods. So now because the importation of intermediate goods depends on availability of foreign exchange, local finished goods become expensive and the result is rush for cheap imported finished goods. This is obvious from the period 1996 up to 2010 with highest value of \$38,270million. Agricultural intermediate imports also recorded constant rise through 1986-2011 to a high of \$14,251million. However, a sharp and further decline ensued because consistent agricultural policies were intensified by past administrations.

The above figures, depicts heavy specialization pattern in primary commodities as advocated by neoclassicals that countries should produce goods they have absolute advantage over hence, it suggests near total dependence on crude oil for revenue. Though, other strands of literature argue for divergent production lines away from volatile features of primary goods (see Poelhekke and Van der Ploeg 2009). Collier and Goderis (2012: 1240), using panel error correction of sampled countries found that higher primary goods prices negatively impact long-term growth. While explaining the case with Nigeria and Zambia, they recorded that primary commodities constituted about 35 percent GDP in 1990s and that rising prices added to real income offsetting output decline in revenue terms but even so, the rise does not equal long-term declines. Having established a negative correlation in specialization patterns, we expand further to look for a relationship between oil revenue and GDP growth.

To understand how resource windfalls, impact the backward-forward linkages in the manufacturing sector, we scrutinize the quality of investment of which substantial part is owned by the government. Therefore, in the following diagram, we expose the average manufacturing capacity utilization for prior years and study period.

Figure 10: Average Capacity Utilization in Manufacturing 1981-2015



Source: CBN Statistical Bulletin 2016

Figure 10, analysis shows a five-year fall in capacity utilization from 73.3 percent in 1981 to 43.8 percent in 1989. It deepened further to reach average of 30.4 percent in 1997, but not without upward trend that settled at 56.5 percent in 2003. Between 2004 and 2015, capacity utilization averaged around 55.7–54.9 percent, almost making a stagnant line below 60 percent average. The outcome of the above is that physical capital exceeds productivity. In other words, industries make more of quantity than quality in product output (Sala-i-Martin and Subramanian 2003: 13). To cap it all, Bevan et al (1999: 67) states that “This conjunction of a powerful political impetus to public investment and lack of civil service skill is what makes Nigeria’s economic history spectacular in this period: almost all entire windfall was invested, and yet...there was nothing to show for it”.

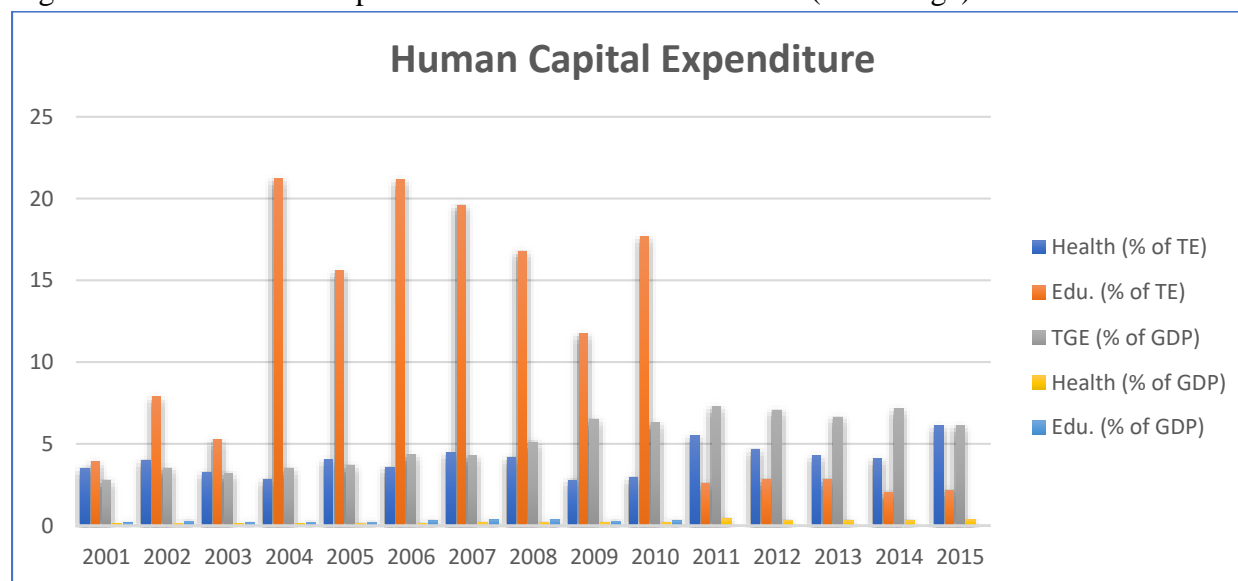


### 5.3.2 Government Expenditure (Health, Education and Debt Stock) and Growth.

Budgeting as a part of government statutory responsibility, is subdivided into recurrent and capital expenditures and with several subheads. These allocations account for strategic development policies and projects which endogenously drive the economy in the long-term. According to available literatures, government expenditures and debt stocks tended to increase with resource wealth over time. The Nigerian factors is indicative of the stylized fact in resource curse literatures, though without specific mention of the extent to which there is trade-offs.

In the foregoing, a dataset is investigated to establish correlation in expenditure patterns in critical predictors of growth such as human capital development in the face of rising oil revenue.

Figure 11: Government Expenditure on Education and Health (Percentage)



**Source:** CBN Statistical Bulletin

**Note:** When the number is smaller than 0.05% the percent may appear as zero. That accounts for why the % of GDP bar for health and education is not visible in the study period.

To start with, we would like to explore the budgetary patterns and trade-offs in public expenditure in critical sectors. A close look at figure 11, expenditure on health reveals a sluggish rise. Between 2001-2015, total government health expenditure was almost stagnant for the study period with an average of 6 percent in 2011 and 2015. As a percentage of total public expenditure, the graphics show inadequacies in public health funding. Year 2015 received the highest budgetary allocation of 6.12 percent and lowest in 2004, 2009 and 2010 as percentage of total government expenditure. On its real GDP calculation, health expenditure disappeared as it recorded a percentage below 0.05. Arguably, these are important signs that allocation to the health sector does not correlate resource revenue for sustained growth. The WEF 2016 report ranked Nigeria 127 out of 130 countries on education, health and workforce opportunities. Hence, it confirms that “investment in human capital can make a difference to a nation’s human capital endowment regardless of where it belongs on income scale” (WEF 2016: 13). This is critical as WHO reported that government health expenditure for 2014 averaged 25 percent while households spending was 72, and others by 3 percent (WHO 2017: 1).

Now let’s critically assess the importance of accumulating human capital as a measure for diversifying away from the resource sector. Health and education are complementary and predicated growth. Put simply, increased resource windfalls cannot make for economic growth except through investment in an educated and healthy labour force. It was in this vein that Todaro and Smith (2009:369) emphasized that good health is needed for productive activities and education that is successful hinges on adequate health systems; hence both are basic for development and growth. More so, considerable number of literatures advocate for greater allocation to human capital development.

Secondly, for its greatest contribution to economic growth, allocation to education from analysis marginally increased in 2001 and 2003 with 21 percent in 2004. The figure steeped continuously in 2009-2015 and became very low compared to figures of general administration. Our results show that allocation to education as percentage of total government expenditure has been erratic though, not in line with oil revenue but perhaps due to the priority and policies that guide its provision. The 2004 figures were 21 percent, but it lost 5 in 2005, by 2006-09 it had steady decline and a sharp fall resulted in 201-15. On the other hand, percentage of education expenditure to real GDP was not commensurate to TGE as percentage of GDP.

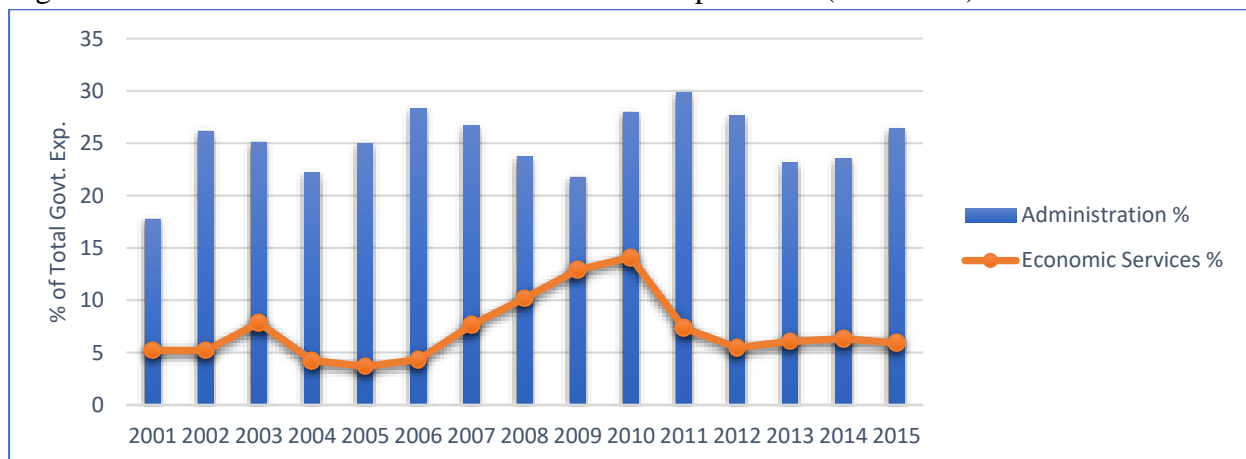
The facts are not encouraging from the analysis hence, because expenditure on human capital accumulation is practically low, sustaining short-term growth outcomes become impracticable thereby explaining evidence of the resource curse. To corroborate our results, Saint et al; (2003: 3), noted low investment in education and research, explaining why industrial capacity utilization maintains abysmal growth as shown in figure 11. Nigeria is one developing country yet to articulate and formulate policies for a knowledge based economy as evidenced in the educational structure – lack of autonomy and responsiveness for the university system to meet demands of modern industries. Norway, with the highest human development index (HDI) did not trade-off investment in education in the face resource windfalls. As such, human capital investment, property rights, finance in R&D, and strong institutions forms the fundamentals of an innovative system (Saint et al., 2003: 3).

Against this backdrop, empirical evidences confirm the need for knowledge-driven economy that spurs technological innovations or even the scale effect. For instance, Romer (1990), states that countries with greater inventory of human capital achieve efficiency and grow faster. Also, using primary school enrolment rate as proxy for HC reveals a positive correlation between education and growth (Barro: 1991). In Chen and Feng (2000: 2) among critical determinants of growth, human capital is the first followed by a system that retains the best labour for developing countries.

Following the above also, Dao (2012: 81), finds increasing health and education expenditure against income stimulate economic growth. Also, that total expenditure as a percentage of GDP tended to raise GDP per capita of developing countries. In Todaro and Smith (2009: 370-371), “the distribution of health and education within countries is important as income hence, they have to be undertaken with equity and efficiency to achieve potential effects on income”.

These budgetary allocations seem to be one-sided against priority areas for long-term growth. Hence, to further establish our claim, we consider the budgetary patterns and trade-offs among growth predictors.

Figure 12: Administration and Economic Services Expenditure (% of TGE)



Source: CBN Statistical Bulletin

Note: Administration expenditures are – general admin., defence, internal security and national assembly. Economic Service expenditure include – agriculture, construction, communication and transport. TGE (Total Government Expenditure).

Arguments in favour of human capital expenditure fill many literatures as stated earlier, but figure 12, evidence is obvious that government administrative expenditures rise in tandem with revenue increase even though it is with minimal fluctuations. Maintaining minimal fluctuation, administrative expenditures recorded 26.2 percent of total government expenditure in 2002. It rose in 2004-2006 (22.1, 24.9 and 28.3 percent) almost equals a slope of (26.6, 23.7 and 21.7 percent) as at 2007-2009. On the other hand, allocations to economic service (agriculture, construction, transport and communication) is not substantial in the period considering its strategic role in economic diversification. Its lowest was 3.6 percent in 2005 although a push was visible around 2006-2010, but a decline followed the global financial crisis.

A stock of the allocations for figure 12 and 13 so far, is suggestive of budgetary trade-offs between administration, economic services, education and health. Although, certain other reasons that our data did not present, might be responsible for the trends. On the surface, the disparity seems normal but allocations to administration tends to crowd out education and social services the long-run. It is in our understanding that the Federal structure makes increasing administration expenditure possible. Many arguments support reducing administrative expenses

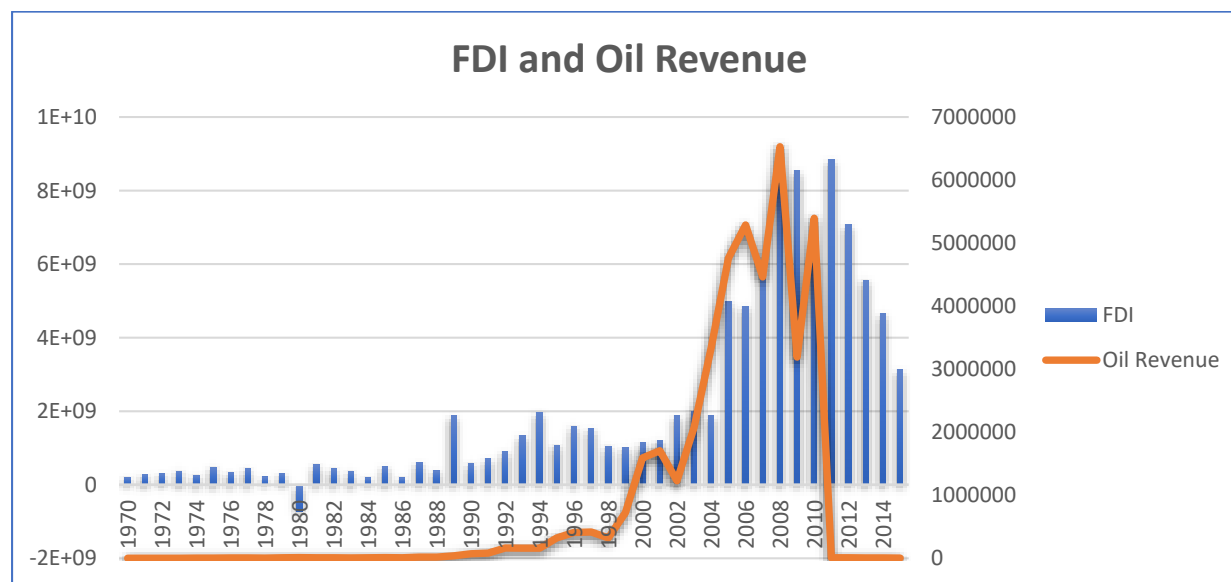
(defence and the National Assembly) in favour of health and education, but others claim the vulnerability of these areas. In Looney (1993:587), military expenditures mostly are autonomous of government financial limitations, indicating their relative independence. Most developing countries like Nigeria, tends to adjust their education and health budgets more frequently than defence (McKinlay 1989).

Our observation also is that government debt follows same trajectory as figure 13. Between 1965-70, government debt doubled hitting ₦175 million in 1970, the increase became alarming in the 80's and beyond as every revenue boom was an avenue to secure foreign loans with projections of future rebound (Manzano and Rigobon 2001: 22). On the other side, savings went into non-productive ventures against building real sectors as did United Arab Emirate and Oman (Looney 1990, 1993). Above all, the cyclical correlation between government spending and real GDP is inevitable due to increasing taxes and royalties from non-renewables however, well-chosen fiscal and monetary policies can mitigate the impacts. Having understood the constraints of a debt overhang on the current account, we are motivated to see FDI performance due to openness to foreign investments in the 80's.

### **5.3.3 Foreign Direct Investment and Economic Growth**

Foreign direct investments (FDI), and resource factors have become critical factors for economic growth while it facilitates technology transfer. But against normal expectation, resource abundant countries attract more resource FDI than the traded sectors – institutions are found to be responsible. However, the nexus that exist for both concepts draws array of arguments as to the rational and conditions that facilitates FDI location in resource rich countries. In the following table, we show FDI inflow trend and benefiting sectors.

Figure 13: FDI Inflow and Oil Revenue 1970-2015



Source: WDI and CBN 2017 and computed by author

Figure 13, firstly reveals the FDI trend prior to study duration 1970-2000. The period was characterized by low FDI perhaps due to rising debt (see appendix for fig 2), negative capital account, political instability and less return on investments. Also, the indigenization policy of the 1970s helped capital flight resulting to non-participation in Nigerian enterprises (CBN 2013: 13-14). In this vein empirical findings claim that countries with substantial risk of expropriation, loss of fund, and political tensions tended to witness FDI loss (Hajzler 2014: 139). In sum, political than economic factors determined pre-1990 FDI flows.

As a follow-up, the 1990s showed progress at an average of 1.07 percent apparently because of favourable oil prospecting licences as compensation for willing investors. Also, as illustrated in fig 5, rebounding oil prices increased FDI especially in the resource sector. The CBN's sectoral analysis of foreign assets and liabilities in 2000-04, evidenced that the extractive industry attracted more FDIs with a share of 40.47 percent, the manufacturing sector followed with 27.7 percent while transport, storage and communication accounted for 12.9 percent respectively (Doguwa et al., 2014: 150). Poelhekke and Van der Ploeg (2012: 9) Nigeria and Brazil were in the top ten FDI destinations in 2002 against 1984 receipts but interestingly, however,

China's resource FDI was less than Nigeria's. Non-resource FDI for countries with early resource discovery contracts by 12.4 percent but in countries with late resource discovery, it contracts in the short-term by 16 percent and 68 percent long-term (Poelhekke and Van der Ploeg 2012: 9).

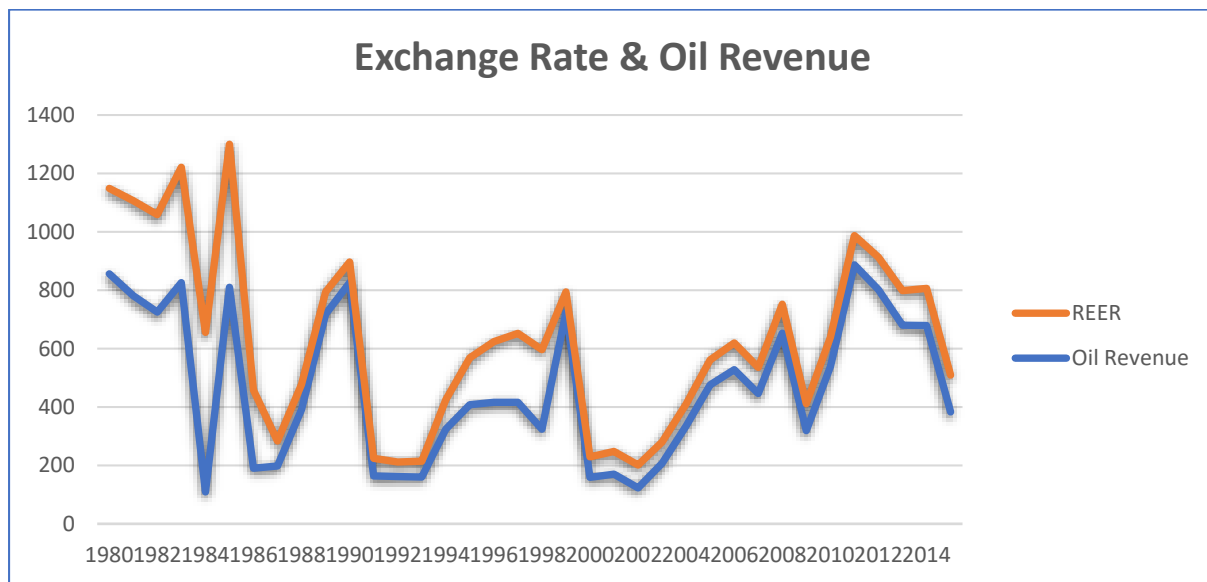
Even as clear as it seems, some literatures declare asymmetric relationship that strategic assets and efficiency rather than natural resource significantly drive inflow of FDI in resource rich SSA countries (Okafor et al; 2015: 876). But based on the strategic role oil play globally, we assume that it constitutes a strategic asset hence, its prospects drive the rationale for investment in the sector.

The political turning points on return to democracy and presidential amnesty program boosted flow of foreign assets, increasing external reserves, and credit ratings. Also, this period featured economic openness and regulatory frameworks intensified, export processing zone (EPZ), fiscal policies (tax holidays, exchange rate policies). However, the inkling here is that rising resource wealth correlates with FDI than it does for real GDP over the study period as shown in table 1 (CBN 2013).

#### **5.3.4 Real Effective Exchange Rate (REER) and Economic Growth**

Exchange rate movement reflects demand and supply mechanisms in the foreign and local markets. Literatures suggest a strong correlation between oil price, reserves, and exchange rate. It is also a key policy variable in the realignment of currencies and relative prices. These interactions can be positive or negative for local market and competitiveness of the traded goods sector. Hence, we consider REER and oil revenue (OR) interaction. This specification underlines the issue of maintaining stable exchange rate as resource wealth increase.

Figure 14: Real Effective Exchange Rate and Oil Revenue



Source: WDI and CBN 2017. Computed by author

We take cognizance of pre-study periods to fully acquaint ourselves and understand the interactions that exist. The figure shows symmetrical movement of and that the contemporaneous variable impacts positively on REER in consistency with economic theory. Oil revenue and REER moved proportionately for all time periods of 2001-2015, with attending exchange rate appreciation or depreciation. Significant sources record evidences for the short-term deterioration of REER (Turhan et al 2012). Nikbakht (2009) a long-term linkage exists for REER and oil revenue. Accordingly, the CBN, in late 2014, devalued the naira moving the official window of the foreign exchange market from N155/\$ to N168/dollar (Eromosele 2016). Hence, the foregoing is suggestive that REER and oil revenue maintain negative relationship against a-priori expectations. Lastly, our result is in harmony with stylized facts.



## 5.4 Institutional Analysis

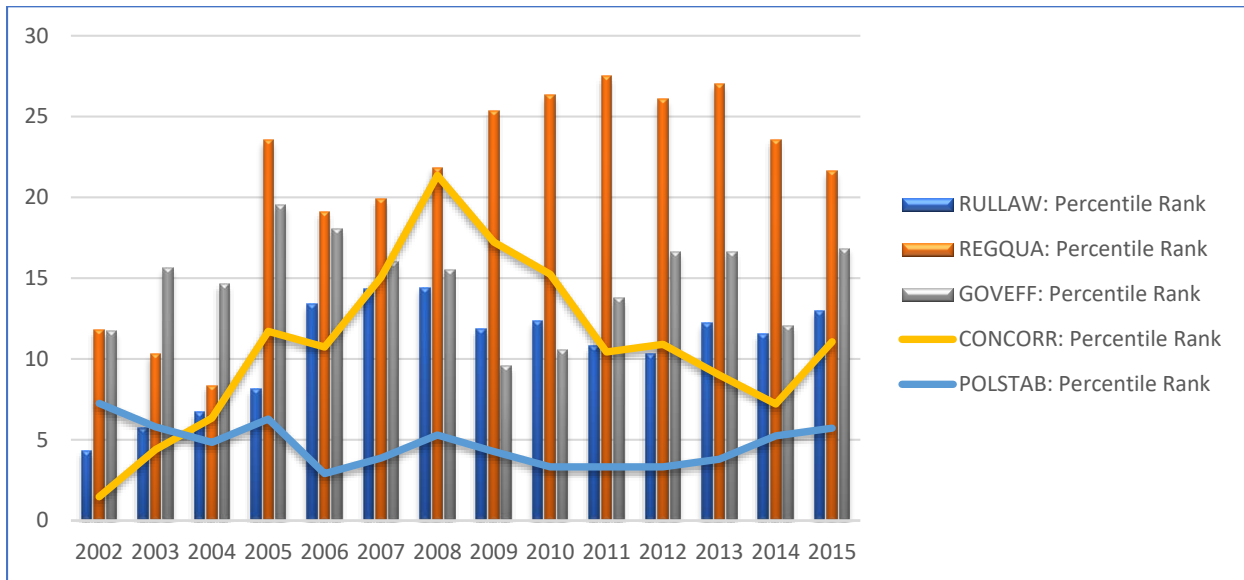
We will introduce exogenous variables that measure bureaucracy performance and quality in Nigeria. They have standard measurements from WGI hence, in table 4 we present result from the data. Also included is figure 15 all from WGI and prepared by Kaufmann et al.

Many studies base institutional assessment on how corrupt public institutions are. But we need not forget that being corrupt is an integral feature of every human given the opportunity thus, a well organised system is possible with corruption existent. In this context, we examine institutions from performance, fiscal management, rule of law and governance effectiveness perspectives (see appendix for table 3).

Institutions make policies become workable. Hence, strong institutions act as precursor for policy formulation and implementation and this make the difference between countries rich in resource or not – Norway, Nigeria. Whatever geographical location that may exist, sustainable economic growth follows certain preconditions (openness, human capital accumulation) which developed countries share as a feature and endorsed by the endogenous growth theory (Auty 2001 cited in Larsen 2005: 78, Romer 1990). Windfall resource mismanagement is the result of governance issues that leads to the “paradox of poverty from plenty”. The political institutions of Nigeria and most SSA countries are characterized by ineptitude, nepotism and corruption breeding a rentier state and dependence on the central government. For example, oil producing countries of SSA score below average in Government Performance Index and rank below on Transparency International’s Corruption Perception Index (Shaxson 2007: 1124).

Furthermore, institutional assessment is done to establish whether effectiveness and performance correlates oil resources windfalls. We illustrate, with six parameters from Kaufmann et al (2017), capturing voice and accountability (VOICEACC), regulatory quality (REGQUA), and rule of law (RULLAW), government effectiveness (GOVEFF), control of corruption (CONCORR), and political stability (POLSTAB)

Fig 15: Institutional Performance and Effectiveness Ranking 2001-2015



Source: World Governance Indicators (WGI) 2017 as prepared by Kaufmann et al.

Note: Data for 2001 is missing. This ranking is based on percentile indicating Nigeria’s position among other countries covered by same indicator. 0 = lowest rank, and 100 = highest rank.

The analysis of figure 15, estimates that rule of law, regulatory quality and government effectiveness determines the effectiveness of public institutions, control of corruption, and stability of the political climate.

In our preview rule of law marginally rose between 2002-2008 and fluctuated in the remaining period. REGQUA maintained considerable levels from 2009 after abysmal progress ex ante. Based on the performance of RULLAW and REGQUA, GOVEFF performed poorly below 20 percent. Although our data could not decipher the reason why REGQUA is high and RULLAW is low.

The CONCORR made impressive rise in 2008, but also declined at same rate. Between 2008 and 2014, corruption control declined to 7.2 percentile in 2014 however, with the new administrations vigour to bring sanity gradual rise is recorded to about 11.05 percentile. The POLSTAB ranking fluctuated and never crossing 7.24 percentile in 2002 with lowest 5.7 percentile in 2015. It concludes that countries with

weak and poor system become vulnerable during resource discovery (Shaxson 2007). However, sustained growth outcomes are products of positive political changes (Hausman et al; 2004: 21). Larsen also documented how Norway's strong institutions averted the resource curse, forestalling the sub-optimal over-expansion of the resource sector over the tradable sector (Larsen 2005: 82). In other words, multifaceted policies resisted compact formulation causing a co-movement between tradable and non-tradable sectors.

Conclusively, we would aver that resource wealth has had varied impact on Nigeria's economic growth in harmony with earlier studies. Exposition of our institutional variables REGQUA, RULLAW and GOVEFF show considerable rankings. More so, institutions matter the most for accelerated growth as they correlate in several ways surpassing everything else such that macroeconomic stability is the outcome of virile institutions.

## **Conclusions**

It is believed that resource wealth drive economic growth in resource abundant countries. However, this intuition continues to elude policy makers in these countries; for example, Nigeria. Between 1960-1990, Nigeria's national developmental plans underperformed against the amount of resource applied. Hence, crude oil still accounts for about 85 percent of government revenue.

The interaction of oil revenue and real GDP confirms that increasing resource windfalls retards economic growth over time; in other words, oil resources are insignificant to real GDP increase rather, it adds to revenue only. Our results for the explanatory variables like human capital expenditure, export of local goods and import remained negatively correlated and we consider such effect to be large. The correlation test for real exchange rate turned significantly positive with increasing oil wealth affirming a priori knowledge. Also, a test for foreign direct investment and institutional analysis, is suggestive that resource wealth drives both variables to record significant positive relationship.

Using exploratory data analysis in the absence of main dependent variable substituted by explanatory variables we confirm the above outcomes. Our test of export and import terms of trade did not confirm total contraction of the traded sector in anyway due to recent fluctuating economic performance however, a declining capacity utilization in manufacturing is evident uncompetitive to foreign goods.

In sum, this study affirms the resource curse empirics as reflected in the channels. Nigeria's economic growth is heavily impacted by oil rents in the short-term while it remains unsustainable in the long-term due to institutional inefficiency. We expect that these results will spur further cross-country study on rethinking natural resource curse from the political and cultural perspectives in resource abundance countries.

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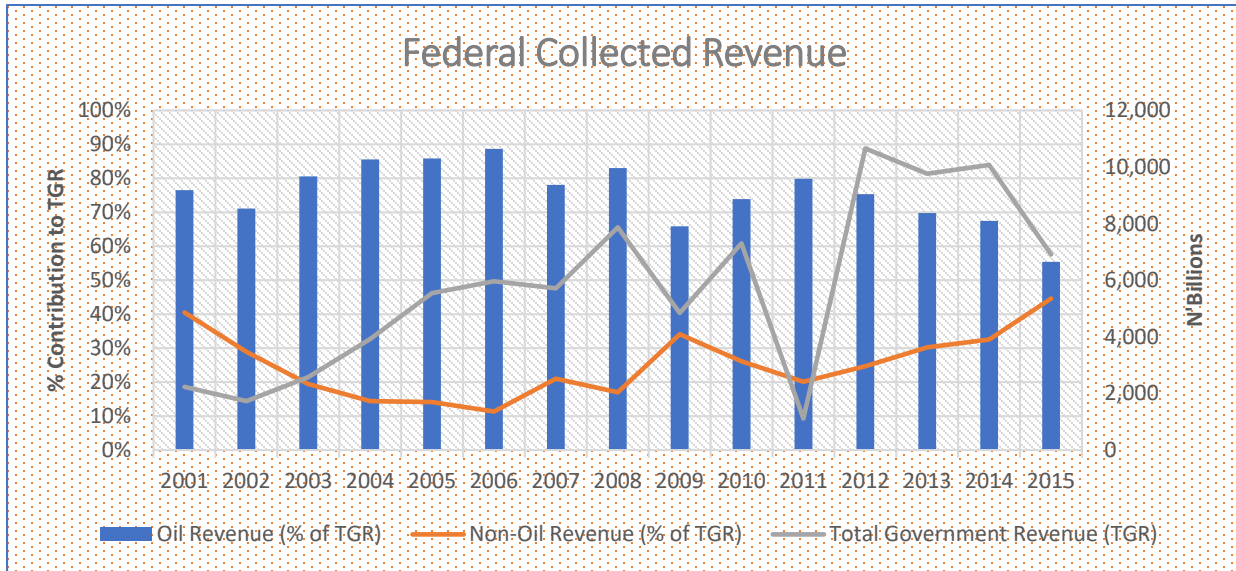


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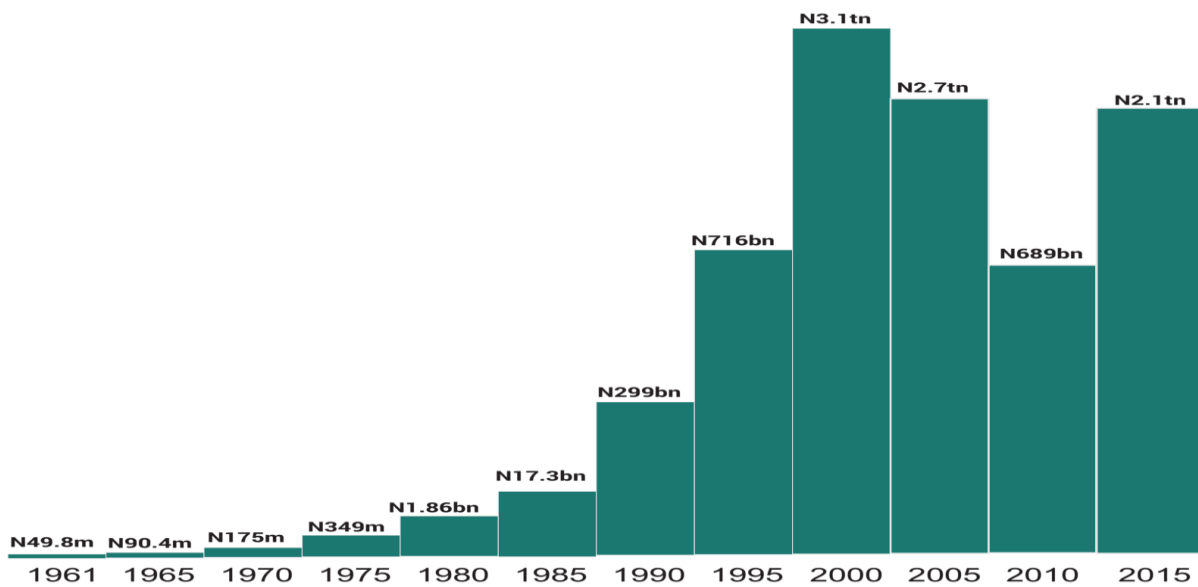
## Appendices

Fig 1: Federal Collected Revenue 2001 - 2015



Source: CBN annual statistical bulletin 2015-003 and computed by author.

Fig 2: External Debt Stock 1960 -2015



Source: BudgIT 2017

Table 1: Brent Spot Price US\$ p/b 1960 - 20015

Year	US\$ p/b	Year	US\$ p/b	Year	US\$ p/b	Year	US\$ p/b
1960	1.63	1975	10.43	1990	22.26	2005	50.59
1961	1.57	1976	11.6	1991	18.62	2006	61
1962	1.52	1977	12.5	1992	18.44	2007	69.04
1963	1.5	1978	12.79	1993	16.33	2008	94.1
1964	1.45	1979	29.19	1994	15.53	2009	60.86
1965	1.42	1980	35.52	1995	16.86	2010	77.38
1966	1.36	1981	34	1996	20.29	2011	107.46
1967	1.33	1982	32.38	1997	18.86	2012	109.45
1968	1.32	1983	29.04	1998	12.28	2013	105.87
1969	1.27	1984	28.2	1999	17.44	2014	96.29
1970	1.21	1985	27.01	2000	27.6	2015	49.49
1971	1.7	1986	13.53	2001	23.12		
1972	1.82	1987	17.73	2002	24.36		
1973	2.7	1988	14.24	2003	28.1		
1974	11	1989	17.31	2004	36.05		

Source: EIA

Table 2: Sectoral Composition and their contribution to GDP 2001 – 2015

Indicators	2001 – 2005	2006 – 2010	2011 – 2015
Agriculture	25%	25%	23%
Crude Petroleum	27%	18%	12%
Solid Minerals	0%	0%	0%
Manufacturing	6%	7%	9%
Construction	3%	3%	4%
Trade	11%	16%	17%
Services	28%	32%	36%

Source: CBN Statistical Database 2017 and computed by the author.

Note: The GDP calculation is on a 5-year average for the study period. Also, Industry sector comprises crude petroleum, solid minerals and manufacturing. However, they are fragmented for clarity purposes.

Table 3: Country Policy and Institutional Assessment

Year	Economic Mgt.	Public Resource Use	Public Sector Mgt.	Budgetary & Fin Mgt.
2001	n/a	n/a	n/a	n/a
2002	n/a	n/a	n/a	n/a
2003	n/a	n/a	n/a	n/a
2004	n/a	n/a	n/a	n/a
2005	3.8	3.5	2.8	3
2006	4.0	3.5	2.8	3
2007	4.3	3.5	2.9	3
2008	4.3	3.5	2.9	3
2009	4.3	3.5	2.9	3
2010	4.2	3.5	2.9	3
2011	4.0	3.5	2.9	3
2012	4.3	3.5	2.9	3
2013	4.5	3.5	2.8	3
2014	4.3	3.5	2.8	3
2015	3.8	3.5	2.8	3

**Source:** Country Policy and Institutional Assessment (CPIA) of World Bank 2017

**Note:** Data for the years 2001, 2002, 2003, and 2004 are available on the CPIA. Rating is as follows (1=low to high=6). The scores depend on the level of performance in each year assessed against the criteria, rather than on changes in performance compared with the previous year.