OIL REVENUE, NON-OIL REVENUE, AND ECONOMIC GROWTH IN NIGERIA

(1981-2019)

By

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CERTIFICATION

This is to certify that this research project work was carried out by TOYON BOLUWATIFE SEWANU with the matriculation number 17020301004. This project meets the requirements concerning the award of Bachelor of Arts (B.A) Degree in Economics. Department of Economics of the Mountain Top University, Ogun State, Nigeria.

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DEDICATION

This project is dedicated to the convenant keeping God.

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ABSTRACT

This paper empirically examined the relationship between oil revenue, non-oil revenue and economic growth in Nigeria over the period of 1981 to 2019 employing time series data, Augmented Dickey fuller test, Phillips-Perron test, Johansen Co-integration test and the lag length test, long run estimation dynamics and short run estimation dynamics all representing the estimation techniques. Findings from the analysis reveals that oil revenue has a positive significant effect on economic growth, however, in a special case like Nigeria where the resource theory is evident, it can be said that the government should invest massively in the non-oil sector so as to yield maximum result and boost economic growth. The result conducted also shows that non-oil revenue has a positive significant effect on economic growth. However, government at all levels should invest in both the oil sector and the non-oil sector in order to enhance economic growth thereby validating the Balanced Growth Theories.

This study, thus, implies that the sectorial contributions of non-oil revenue undermined. It is concluded that sectorial contributions of non-oil revenue is positive and significant to economic growth in Nigeria. Recommendations were made that, environmental, ICT, financial among others non-oil sectors should receive the same magnitude of fund as in the case of oil sector, i.e., the sector should be more funded and well equipped to ensure good outputs and contributions, government should review environmental factors and policy that may spur the economy significantly.

Keywords: Economic growth, Oil revenue, Non-oil revenue, Trend.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The contributions made by the oil sector to economic growth of a country especially developing countries like Nigeria can never be over-emphasized, this implies that the contributions of oil sector revenue have always been encouraging and on the increase. However, oil contributes over $231 billion in rents for the Nigerian economy and these rents have constituted between 21 percent and 48 percent of Gross Domestic Product, nonetheless, the effects have not assisted to alleviate poverty and unemployment currently embattling the nation (Okezie & Azubike, 2016). This is enough reason for government to divert to the non-oil sector in order to compliment revenues with oil revenue. This study advocates that if Nigeria is the real "giant of Africa" as claimed, efforts must be made by the government to foster attention to the non-oil sector otherwise, the worse is yet to come. As a result, Nigeria's over dependence on crude oil revenue has affected the economy negatively, thereby, reducing the productivity in the economy, no doubt that oil revenue has contributed substantially to revenue generation and growth of Nigeria's economy (Sanusi, 2003). Nonetheless, revenue generation from oil has begun to drop as a result of general price fluctuation and oil price shocks which calls for economic diversification into the non-oil sector before it gets out of hands.

Nigeria had developed a product by the late 1960s and early 1970s. When the international oil price rose in 1970, Nigeria was able to profit from its oil output almost immediately. Nigeria became a member of OPEC in 1971 and established the Nigerian National Petroleum Corporation (NNPC) in 1977, a state-owned and controlled enterprise that operates in both the upstream and downstream sectors. (Madujibeya, 1976). According to Gbolahan (2010),

i4ncreased crude oil production in Nigeria, a major increase in crude oil prices, and more favorable fiscal arrangements gained by the government as a result of its better bargaining position over time have all contributed to the significant growth in government receipts in recent years. The oil sector has made numerous contributions to the Nigerian economy over the years. These contributions include the contributions to government revenues, foreign exchange reserves; creation of employment opportunities; gross domestic product, local expenditure on goods and services, the supply of energy to industry and commerce, etc. One of the most important contributions of the oil industry to the Nigerian economy is the delivery of substantial earnings to the government. It has dominated government finances, particularly after 1971, when it accounted for nearly half of all federal revenue collected (Ogbonna, 2004).

Over the years, the oil sector has been one of the key sources of government revenue. The total amount of income derived from the sale of crude oil in an economy is referred to as oil revenue. According to Hirschman's unbalanced growth hypothesis, oil revenue is supposed to contribute to the growth of other sectors and the broader economy in countries where it is generated (Hirschman, 1953). Oil money is the main source of revenue in Nigeria, and it is used to calculate budgets and other fiscal measures. Oil income is also known as the entire amount a country earns from the sale of petroleum products (crude oil, fossil fuels, etc). The extraction, processing, production, and distribution of petroleum products are all part of the oil industry. The increased demand for petroleum products may be due to higher incomes (Akinlo, 2012).

Nigeria's oil industry has provided a respectable quantity of job opportunities for its population. Oil, pipeline license fees, royalties on oil extraction, rent of oil wells and grounds, sale of petroleum and gas, and penalties for gas flaring make up the oil revenue. The non-oil

sector, which is defined as those economic activities that are not related to the oil and gas industry, is a vital sector in Nigeria (Ude and Agodi, 2014).

Non-oil revenue is derived from economic activities that are not directly related to the petroleum and gas industries. Manufacturing, solid minerals, agriculture, telecommunication financial assets, services, and other similar industries are included. To support this, Adulagba (2011) and Onwualu (2012) classified the non-oil sector into the following categories: construction (building); telecommunication services; financial sector (banking and insurance) services; tourism (hotels, restaurants, parks, carnivals, movies; wholesale and retail trade); health services; export trade; agricultural activities; mineral activities; power (conventional and renewable); and power (conventional and renewable); transportation services (road transportation, rail transportation, water transportation, air transportation, and post and courier services); manufacturing; environmental services (cleaning, waste collection and recycling); Research and Development (R & D) activities; Information and Communication Technology (ICT), environmental sector; wholesale and retail sector, etc. Each of these activities is made up of a variety of enterprises that employ a big number of people. For example, hotels and restaurants, resorts/recreation parks, cultural activities, carnivals, the movie business, arts and crafts, comedy, and so on are all part of tourism. In light of this, the widespread belief that the non-oil economy consists solely of agriculture and mining activities is incorrect and makes the assessment of the sector narrow (Onwualu, 2012).

According to Izuchukwu (2011), the non-oil sectors have the potentials of providing employment opportunities for the teeming population and thereby contributing to the growth of the economy.

Growth, according to Olopade & Olopade (2010), entails a rise in economic activity. Economic growth is described as a steady increase in a country's overall production. Economic growth also includes increases in labor productivity through division of labor and an increase in productive labor through capital accumulation. A rise in real gross domestic product (GDP), which is GDP corrected for inflation, is also a factor. Oil revenue is an essential part of the receiving countries' economic growth. As a result, for strategic considerations, most oil-rich countries invest earnings from the oil sector into non-oil businesses.

The Central Bank of Nigeria (CBN) established the Non-Oil Export Stimulation Facility (NESF) to diversify the economy's revenue base and accelerate the growth and development of the non-oil export sector. The Facility will aid in reversing the decline in export finance and repositioning the industry to contribute more to economic growth (Central Bank of Nigeria). Corruption, political instability, inequality, insurgency, and other problems are all working against growth and higher output.

1.2 Statement of Research Problem

Oil revenue has undoubtedly contributed significantly to Nigeria's revenue generating and economic growth. However, researchers and non-researchers alike are concerned about Nigeria's overdependence on the oil sector and the urgent need for economic diversification (Sanusi, 2003). Non-oil exports, according to Nwidobie (2014), contribute to export diversification and serve as a means of poverty alleviation. There is no doubt that Nigeria's oil and gas industry is beset with a slew of looming issues, because crude oil is a finite resource, it is unreliable for long-term economic development in Nigeria (Utomi, 2004).

Furthermore, oil revenue (OREV) is one of the major drivers of economic growth in Nigeria and a key variable in achieving the study's goal. In the literature of development economics, the obstacles of oil revenue to economic growth and development of oil-dependent states at the expense of other sectors are collectively referred to as Dutch Disease (Otawa, 2001). Over the years, the policy concern has been to diversify the nation's export base by increasing non-oil exports (Adedipe, 2004). There is a prevalent misunderstanding about the difference between oil money and non-oil revenue, which has sparked a lot of dispute among academics.

Despite the flow of oil wealth, Nigeria has poor economic growth and slow economic development, according to the resource curse theory's direction. Because of their opinion in the oil industry's negative flaws, some researchers have urged for the development of other sectors, while others have claimed that the sector should be supported and developed for its benefits. Over-reliance on oil money tends to distort and discourage governments from obtaining funds from other sources. For example, as a result of large oil revenue flows, countries tend to downplay the importance of income taxes as a source of government revenue. Nigerians have suffered from a lack of infrastructure development over the years as a result of corruption and resource mismanagement (Omodero, 2019). Nigeria's economy has been rapidly shifting away from oil and toward non-oil revenue sources, necessitating this inquiry.

During the Covid-19 outbreak, the apparent necessity to diversify the economy became quite clear when the Nigerian oil price was forced down from an anticipated $57 per barrel to $30 per barrel (Nwagbara, 2020). It was this incidence that prompted Nigeria's 2020 budget adjustment, which saw both capital and recurrent expenditures cut by 20% and 25%, respectively (Nwagbara, 2020).The effect of the Covid-19 pandemic on oil revenue validated the claim made by certain experts that oil wealth may become an economic enemy if it is not properly spent in stimulating

economic growth. Investing in viable ventures is usually done with the goal of making a profit, and this is what keeps an economy afloat. Absolute reliance on a single source of money is unhealthy and has a negative impact on all aspects of the economy. Nigeria's vulnerability to crude oil price swings and shocks is a phenomenon that has left the country badly impacted by international crude oil price fluctuations, a condition that has exacerbated the country's volatility.

Mahmud (2009) used the Structural VAR Approach in his study titled "Oil Price Shock and Monetary Policy Aggregate in Nigeria," and discovered that GDP growth, the balance of payment ratio, and the exchange rate all responded negatively to crude oil price shocks over time, with only the interest rate responding positively. The impacts of a lower crude oil price on an economy's development rely not only on whether the lower price is projected to be temporary or permanent, but also on the causes of the crude oil price reduction, according to the Monetary Policy Report (February, 2015). According to Nwosa and Ogunlowore (2013), the reported amazing increase in oil revenue has not translated into considerable growth in the non-oil economy, as some Asian economies have experienced.

1.3 **Research Questions**

To achieve the objectives of this study, the following questions are to be answered in this study:

i. What is the trend analysis of oil revenue, non-oil revenue and economic growth in Nigeria?

ii. How does oil revenue affect economic growth?

iii. How does non-oil revenue affect economic growth?

1.4 Research Objectives

The broad objective of this study is to investigate the impact of oil, non-oil revenue on economic growth in Nigeria. The specific objectives of this study are to:

i. Assess the trend of oil revenue, non-oil revenue on economic growth.
ii. Examine the impact of oil revenue on economic growth.
iii. Evaluate the impact of non-oil revenue on economic growth.

1.5 Research Hypothesis

The following null hypotheses guided the study in line with the research questions:

H01: Oil revenue, non-oil revenue and economic growth has not maintained an upward trend in Nigeria.

H02: Oil revenue has no significant impact on economic growth.

H03: Non-oil revenue has no significant effect on economic growth.

1.6 Significance of the Study

Following the recent falling nature of global oil prices, the ongoing discussion on the impact of oil revenue on many parts of the Nigerian economy continues. Due to high oil price volatility and abundance of oil, empirical evidence verified the existence of the resource curse hypothesis, since oil abundance has a negative influence on economic growth. Economic growth is fueled by financial development and government development spending. Furthermore, oil revenue increases short-term economic growth while reducing long-term growth, proving the presence of the resource curse theory in Nigeria.

Ogba, L. J., Park, I., & Nakah, M. B. (2018) investigated the effect of non-oil income on economic growth in Nigeria from 1981 to 2016. The study found a long-run relationship and also confirmed that the non-oil revenue contributed significantly and positively to Nigeria's economic growth. Several researches has been carried out over the years to study the impact of either oil revenue or non-oil revenue on economic growth. The information to be compiled, tested and concluded in this study will provide opportunities for the revenue generated by the oil and non-oil sector to be checked thoroughly and to also regulate its exportation thereby regulating the balance of payment. This research will help the government agencies and parastatals to know the degree of responsiveness of oil and non-oil revenue to economic growth and to know how to avoid a resource curse. Future and various researchers wanting to research about this topic or topics similar will benefit from this study and also broaden their knowledge and widen their horizon.

1.7 Scope of the Study

This study is a macro analysis using annual data from the period 1981-2019. The year 1981 to 2019 was chosen based on data availability and based on the fact that it was around the period of oil boom in Nigeria and the involvement of Nigeria in the oil sector. The key variables for this study are; oil revenue, non-oil revenue, economic growth with oil and non-oil revenue being the independent variable while making economic growth being the dependent variable.

CHAPTER TWO

LITERATURE REVIEW

This chapter is devoted to section 2.1 which depicts the conceptual review, section 2.2 shows the theoretical review, and section 2.4 shows the works of previous researchers on the relationship between oil revenue, non-oil revenue, economic growth which also focuses on the empirical literature about the project topic or related topics which can also be called the empirical review and lastly, the gaps in the literature which shows the method used.

2.1 Conceptual Review

2.1.1 Oil Revenue

The Oil Revenue (OREV) is the total amounts of income derived from the sales of crude oil/refined petroleum products annually in the country both internally and internationally in local currency unit (Naira). As we know, oil is a non-regenerative resource (Idekwulim, 2014).

2.1.2 Non-oil Revenue

Non-oil revenues are derived from sources other than oil production (such as petroleum revenue from the upstream activity and other oil related operations). Revenues from companies that aren't involved in oil and gas exploration, such as corporate income tax, personal income tax, customs and excise duties, and value added tax, are examples of non-oil revenue. Non-oil tax is therefore a tax imposed by the government on these non-oil producing industries, and non-oil tax revenue is the money generated by the government as a result of the imposition of non-oil tax.

Non-Oil Revenue (NOREV) is a category that includes all revenue kinds that are not covered by oil resources. It primarily consists of corporate income tax, customs and excise charges, and value-added tax, which are the three most major non-oil revenue sources.

A. Companies' Income Tax (CIT)

According to Okeke, Mbonu and Ndubuisi (2018), a company is defined as any company or corporation (other than corporation sole) established by or under any law in force in Nigeria or elsewhere. The institution responsible for the registration of companies in Nigeria is the Corporate Affairs Commission (CAC). Ogbonna and Companies Income Tax (CIT) is a tax levied on profits of companies (excluding profit from upstream operations) accruing in, derived

from, brought into, or received in Nigeria in respect of any trade or business, rent, premium, dividends, interest, loyalties, and any other source of annual profit, according to Appah (2016).

B. Personal Income Tax (PIT)

Personal income refers to income of individuals, families or communities arising from employment, business, trade, profession, or vocation (Dandago & Alabade, 2001). Personal Income Tax (PIT) (Amendment) Act 2011 defines personal income tax as the tax imposed by the government on the incomes of individuals and corporation soles. This tax is levied on individuals, body of individuals or corporation soles based on their level of income or profits.

C. Value Added Tax (VAT)

VAT (Value Added Tax) is a tax levied on the value that a supplier or seller of products or services adds to them before selling them. The necessity to increase government revenue from non-oil sources following volatility in oil revenue due to the international market oversupply required the implementation of VAT. The Federal Inland Revenue Services administers VAT, which was introduced into the Nigerian tax system in the 1994 fiscal year with the publication of VAT Decree No. 102 of 1993 to replace the Sales Tax Act, 1986 at a rate of 5%. (PWC, 2018).Value added tax (VAT) is a multi-stage tax levied on the additional value of goods produced or services rendered as they progress through multiple stages of production, distribution, and service rendering

D. Customs and Excise Duties (CED)

Customs duty, usually referred to as import duty, was first introduced in 1860. Customs duties are the oldest form of contemporary taxation in Nigeria, and they are the primary source of revenue for the federal government, as they are paid by importers of specific products (Buyonge 2008). Customs duties are taxes levied on products and services imported into Nigeria. They are charged as a percentage of the value of the goods or services imported, or as a fixed amount based on the number of items (unit tax) (Buba, 2007).

In order to widen Nigeria's revenue base, excise tariffs were imposed on a variety of items in 1962. (Buba, 2007).

2.1.3 Economic Growth

Economic growth, according to Aigbokhan (1995), is defined as an increase in the average rate of output per person, usually assessed on a per year basis. It's also the rate of change in a country's output or income over time. The increase in the inflation-adjusted market value of an economy's commodities and services through time is known as economic growth. Statisticians commonly use the percent rate of rise in real gross domestic product, or real GDP, to measure such growth.

2.2 Theoretical Review

2.2.1 Theories of Oil and Non-oil Revenue

a. **Dutch Disease**

The term "Dutch disease" refers to an economic phenomenon in which fast growth in one sector of the economy (especially natural resources) leads to a deterioration in other sectors. It is also frequently accompanied by a significant increase in the value of the domestic currency. The Dutch illness initially surfaced in 1959, when the Dutch discovered a massive natural gas field in Groningen. The Netherlands attempted to use this resource in order to profit from gas exports. When the gas began to flow out of the country, however, the country's capacity to compete against the exports of other countries deteriorated. The Dutch currency began to appreciate as the country's priority shifted to new gas exports, hurting the country's capacity to export other goods. The Netherlands began to endure a recession as the gas market grew and the export economy shrunk.

This process has been observed in a number of countries around the world, including Venezuela (oil), Angola (diamonds, oil), the Democratic Republic of Congo (diamonds), and a number of others. The Dutch plague reduces the competitiveness of tradable commodities on global marketplaces. Corden and Neary developed the Dutch sickness idea (1982). Where natural resources are discovered, such as oil or minerals, the positive effects of the shock may be accompanied by a contraction or stagnation of manufacturing and agriculture, according to the theory. The term Dutch disease refers to changes in the structure of production that are predicted to occur in the wake of a favorable shock, such as the discovery of a large natural resource or a rise in the interbank lending rate. Other tradable sectors of the economy are predicted to decrease or stagnate as a result of these structural changes, which are expected to be accompanied by an appreciation of the country's real exchange rate (Gelb and Associates, 1988).

Concerns about Dutch disease may also arise in the context of large, sustained private capital or foreign aid inflows (Auty 2001).

Lederman and Maloney (2007), on the other hand, question the validity of these findings on a variety of reasons, including the econometric limitations of cross-section data and the necessity for a more theoretically based measure of natural resource abundance. They conclude that natural resource richness has a positive effect on growth using panel data and calculating resource abundance as net exports of natural resources per worker. They also claim that productivity growth in the service or natural resource sectors may not be inferior to manufacturing, and they dispute whether manufacturing has such unique qualities. If the natural resource sector is not inferior in terms of its growth potential, then this sectoral shift would be of similar import to the canonical displacement of agriculture by manufacturing. With the crude oil exploration growing rapidly and the agricultural sector dwindling geometrically, we have indications of the "DUTCH DISEASE", since the Nigerian economic system was built on crude oil base in the early 1970's, then we began to experience the Dutch Disease syndrome. The Dutch Disease (DD) refers to a situation where reversal of positive effects or negative effects of natural resources booms on countries hamper their economic transformation where they are extracted. This theory conceptually emanated from the Netherlands now Holland in the 1960"s period as a result of the exploitation and tapping of the newly found gas reserves positioned in the north sea, revenues denominated in hard currencies was earned and the domestic Dutch gilder began to appreciate in value sharply, hurting non-oil sector like "agriculture and manufacturing" and their exports dwindled in the world markets, with an overall negative effect on the whole economy, leaving oil or hydrocarbons to dominate the economy.

The (SAP) was implemented on the basis of IMF expertise advice after critically evaluating national projects and proffering it as an antidote to the manifestation of (DD). "Dutch Disease can be defined as a case of huge monetary influx due to accumulated funds from a major

sale of major natural resource export at the global market, this impact will crowd out numerous aspect of the economy, leaving behind wreckages in employment and inflicting have burden on the system if not properly managed as there will be imbalances to contend with such as joblessness, crime, increase in price levels and trade deficit, where all these features are prevalent in the Nigerian economy. After many years of operation, the economy remain stagnant, steady and sustainable growth still seem unrealistic, this means that serious efforts in unraveling the root cause of this economic impasse must be put in place, without ruling out the presence of Dutch Disease in the country and other (un)observable causes, while putting in place necessary designs, solutions and implementation of suitable masses friendly programmes.

In summary, an abundance of natural resource may be accompanied by the existence of Dutch Disease, which must be properly investigated to detect its presence, because this availability of natural resources may corrode the quality of social, infrastructure, weaken human and physical capital and thus impede rapid socio-economic growth.

b. **Rentier Effect**

While many states export resources or license their development to other parties, Rentier states are distinguished by a lack of domestic tax revenue, as their naturally occurring riches eliminates the need to take revenue from their citizens. The Rentier state theory can be thought of as a sub-category of resource curse theory study. Before digging into the Rentier state and its characteristics, it is necessary to define the idea in order to fully comprehend the case study presented in this paper. According to Beblawi, a state must be called in order to be called a state. There should be specific traits in a rent-seeking or Rentier state, such as rent dominance in the state economy, rent externality, and few persons engaged in rent generation.

c. **Resource Curse Theory**

Oil revenue was viewed as a godsend for the Nigerian economy because it contributed significantly to the country's wealth, but it was also viewed as a curse because it led to the neglect of other sectors (Agbaeze and Ukoha, 2018). The resource curse, also known as the abundance paradox or the poverty paradox, is a phenomenon in which countries with an abundance of natural resources (such as fossil fuels and certain minerals) have lower economic growth, democracy, and development outcomes than countries with fewer natural resources. The causes for, and exceptions to, these negative results are the subject of numerous theories and academic discussion. Most experts feel that the resource curse is not universal or unavoidable, but rather impacts specific countries or regions in specific circumstances.

The 'resource curse,' as the new strategy was dubbed, proposed likely to experience poor economic performance, low level of democracy and conflicts within/between states. Indeed, in his book "Sustaining Development in Mineral Economies: The Resource Curse Thesis," Richard Auty, the first scholar to introduce the "resource curse" theory, stated, "The new evidence suggests that not only many resource-rich developing countries fail to benefit from a favorable endowment; they may actually perform worse than less well-endowed countries." The resource curse thesis is based on this counterintuitive result." Furthermore, Sachs and Warner's research on the economic performance of resource-rich countries from 1970 to 1989 set the ground for a major growth in resource curse studies. They discovered that there is a correlation between natural resource curse intensity and economic growth as a result of their research. The reasons for the genesis of the resource curse should be investigated. To put it another way, what makes resources a curse for states rather than a blessing? Although the answers vary in the literature on

resource curses, the rentier state theory appears to be one of the strongest analytical tools for illuminating the reasons of resource curses.

2.2.2 Theories of Economic Growth

a. Classical Growth Theory

According to the classicalist, a country's economic growth will slow as its population grows and resources become scarce. This is an implication of classical growth theory economists' assumption that a transitory boost in real GDP per person will inevitably lead to a population explosion, limiting a country's resources and, as a result, lowering real GDP.As a result, the economy of the country will begin to slow. Because of an expanding population and limited resources, the classical growth theory claims that economic expansion will slow or stop. Economists who subscribed to the classical growth theory believed that temporary rises in real GDP per person would result in a population explosion, lowering real GDP.

Neo-Classical Growth Model

The neoclassical growth model (NGM) is the starting point for any study of economic growth (Solow, 1956 and Swan, 1956). In the short run, capital accumulation drives economic growth, according to the model. This can be accomplished by enforcing fiscal policies that encourage people to save more. However, the NGM believes that, in the long run, growth rates

will revert to the pace of technical advancement, which the NGM considers to be exogenously determined and unaffected by economic forces. As a result, the NGM is gloomy about economic growth in the long run. It uses the theory of declining marginal productivity to explain this pessimism, which establishes a limit to how much output a worker can produce just by working with more and more capital.

The Neo-classical Growth Theory is an economic growth model that explains how three economic factors (labor, capital, and technology) interact to produce a stable pace of economic growth. The Solow-Swan Growth Model is the most basic and widely used variant of the Neoclassical Growth Model. Short-term economic equilibrium, according to the theory, is the outcome of variable levels of labor and capital, both of which are critical in the production process. According to the thesis, technological change has a substantial impact on an economy's general functioning. The three variables required for a rising economy are outlined in neoclassical growth theory.

- **Endogenous Growth Theory**

At first, an endogenous growth rate was achieved by replacing Solow's assumption of diminishing returns to capital with a broad definition of constant returns to capital. A second phase concentrated on monopolistically competitive models with an endogenous rate of technological growth.

2.3 Empirical Review

2.3.1 Evidence from developed countries

Rautava (2004) used a VAR model to evaluate the effects of oil price shocks on the Russian economy and found that crude oil has had a major impact on Russian GDP. In both the short and long runs, he discovered that an increase in crude oil price led to an increase in GDP.

Oil price hikes have a detrimental influence on economic growth in Japan and China, but a favorable impact on economic growth in Russia, according to Jin (2008). In particular, a 10% permanent increase in international oil prices is linked to a 5.16 percent increase in Russian, as well as a 1.07 percent drop in Japanese GDP. On the one hand, a real exchange rate appreciation results in positive GDP growth in Russia and negative GDP growth in Japan and China.

2.3.2 Evidence from developing countries

Makochekanwa (2013) investigated Botswana's response to the Dutch illness. He discovered that, whereas the Dutch Disease (DD) model predicts that a resource boom will always impair a country's manufacturing exports, Botswana's scenario contradicts this prediction. While qualitative literature discusses how the country has avoided the resource curse hook, he claims that his study used econometrics to test the DD hypothesis on the country's primary export items from the manufacturing, mining, and agriculture sectors. He used the gravity model to infer that diamond exports, far from hurting the country's exports, actually helped manufacturing exports.

Bela (2008) identified a significant and positive association between economic growth and export promotion for less developed countries in his comprehensive empirical study of

eleven countries with strong industrial bases. Bela proposes that countries who ignore their export sector by discriminatory economic policies would have to accept lower rates of economic growth, and that export performance reflects export economic policies.

Krueger (2008) examined the relationship between export growth and inflation in eleven countries from 1954 to 1971. For each country, he used a simple log-linear specification. One of the study's findings is that the correlation between GNP and export earnings is stronger than the correlation between GNP and total foreign exchange availability. A positive relationship between export performance and export-oriented policies is a corollary of this finding. These findings are in line with those of (Emery 2007, Severn 2008, and Syron and Walsh, 2008) who used bi-variant regression to study a similar phenomenon.

Michaely (2007) carried out studies on international statistical comparison of export performance and economic growth. He also adopted a single equation model. He found the correspondence between growth in per capita income (a proxy of economic growth) and the ratio of export to GNP to be significantly positive for a sample of forty less developed countries. However, this evidence was significant only with respect to twenty-three less developed countries included in the sample.

Harma and Panagiotidis (2004) use a variety of approaches to examine the export-led-growth hypothesis for India, and the results support the arguments against the export-led-growth hypothesis for India.

On a number of countries, Stijns (2003) used a gravity trade model to empirically evaluate the Dutch Disease theory. The study discovered clear evidence of the DD, with energy price-led booms systematically hurting energy exporters' industrial exports.

Amavilah (2003) examines Namibian data from 1968 to 1992 to estimate the effect of export on economic growth. The findings explained the broad significance of exports, but there was no discernible evidence of increased growth as a result of exports.

Vohra (2001) examines the relationship between export and growth in India, Pakistan, the Philippines, Malaysia, and Thailand. When a country reaches a certain degree of economic development, exports have a favorable and considerable impact on economic growth, according to the empirical findings. By pursuing export expansion plans and recruiting international investments, the study demonstrates the value of open market policies.

Thornton (1996) showed a positive and substantial causal association between exports and economic growth in Mexico using Engle-Granger co-integration and Granger causality tests within a two-variable framework.

In a tri-variate causality study of exports and economic growth, Amoating and Amako (1996) run a causality test for 35 African nations by incorporating foreign debt service as a third variable. Export revenue, foreign debt service, and economic growth all had a simultaneous feedback effect, according to the findings.

Doraisami (1996) study strongly supports the idea of bi-directional casualty between export and growth in Malaysia, as well as the existence of a positive long-run relationship between these outcomes.

Maddison (1990) cites the costs incurred by other countries in developing policies to boost exports, either through a more realistic exchange rate or through special export subsidies. Pakistan, for example, has significantly increased manufacturing exports thanks to a bonus

structure that differed depending on the type of production. India likewise had a system of export subsidies which were temporarily discontinued at the time of 1966. She also authorized reimbursements of domestic taxes and custom duties on exports. These countries' efforts validated the need for export promotion.

Various authors, including Lamfalussy (2001), Todaro (1980), Ayagi (2000), Ndulor (1993), and others, warn that developing countries should be wary of continuing to push exports, whether oil or non-oil. Lamfalussy (2001) is concerned about the impact of increased exports. More export, he claims, implies more items leave the country, leaving less for home consumption. This translates to reduced social wellbeing and the consequences that follow. Osagie believes that embarking on an export promotion effort when the basic demands of domestic consumers and industry have not been satisfied is not a good idea.

Todaro and Okengwu warn against concentrating our non-oil export production on a single primary commodity, as this makes the economy extremely sensitive to market fluctuations over time. They claimed that commodity-specific price variations can make development strategies based on export promotion exceedingly unreliable.

According to Ayagi, we should always assess the feasibility of any export promotion goal. He believes it is risky for any country to embark on such a policy if it has no hope of contributing anything to the recovery of its economy. As a result, he warns that adopting economic policies aimed at promoting non-oil exports should be cautious because they will simply ensure the Nigerian economy's constant and unavoidable debt trap.

Meier (1970) believes that policies aimed at expanding agriculture are one of the most promising ways for developing countries to increase revenue and foreign exchange gains. According to

him, the expansion of exports meets the needs of the existing external market. As a result, a significant increase in agricultural export production is a sensible policy.

Maizels (1968), In order to estimate the relationship between exports and economic growth, he conducted a study in sixteen nations and did time series analysis on exports and GDP. Maizels discovered that export and economic growth do not have a strong relationship. He, on the other hand, provided two possible explanations. The first is the limited sample size, and the second is that in each of the countries studied, the relative importance of exports in national income was not taken into consideration.

Export, according to Esfahani (1991), allows developing countries to alleviate potential import shortages. To put it another way, Export earnings can help close the foreign exchange imbalance, which is seen as an impediment to growth.

2.3.3 Evidence from Nigeria

Omodero and Dandago (2019) used the ordinary least squares method to investigate the impact of tax income on public service delivery in Nigeria. The study looked into the impact of tax income on Nigerian education and health care facilities. Tax income had a considerable positive impact on both education and health care services, according to the data.

Olayungbo and Olayemi (2018) investigated the relationship between non-oil earnings, government spending, and economic growth in Nigeria. Government spending had a negative impact on economic growth, according to the report. Non-oil revenue, on the other hand, had a beneficial impact on economic growth.

Ogba et al. (2018) looked at the impact of non-oil revenue on Nigerian economic growth. The study discovered a long-term association and confirmed that non-oil earnings aided Nigeria's economic progress significantly and positively

Olayungbo and Kazeem (2017) used ARDL to examine the effects of oil revenue and corruption on Nigeria's economic growth. The findings revealed a long-run equilibrium relationship between oil revenue, corruption, and economic growth. In the long run, corruption and oil revenue aided economic growth, but in the near term, there was a decrease, according to the study.

Using the bound test, Aladejare and Saidi (2014) examined the impact of key non-oil sector drivers on Nigeria's economy. The findings reveal that non-oil exports have a substantial impact on the country's economic development in the short and long run. The findings of the study also revealed that an increase in inflation is accompanied by an inverse link between the exchange rate and Nigeria's economic growth. The real interest rate, on the other hand, has no discernible impact on economic growth.

Ude and Agodi (2014) examined the impact of non-oil revenue on Nigerian economic growth. Agriculture and industry were included as non-oil revenue variables in the study. The findings revealed that agriculture, manufacturing, and interest rates all had a significant impact on Nigeria's economic growth. However, in our study, we use a non-oil revenue source that is more tax-related, as reported in Central Bank annual reports.

For the period 2000 to 2009, Ogbona (2012) used ordinary least square regression analysis with SPSS to investigate the relationship between petroleum income and the Nigerian economy. Oil revenue has a positive and substantial association with GDP and per capita

income, but a negative and significant relationship with inflation, according to the findings. The study therefore concludes that petroleum income has positively and significantly impacted on the Nigerian economy for the studied period.

Adedokun (2012) looked at the impact of oil export revenue on Nigerian economic growth. The analysis found that oil export earnings have a favorable and considerable impact on the country's economy in both the short and long term. The analysis also found that variations in global crude oil prices were the key determinant of Nigeria's foreign exchange revenues.

Akilo (2012) looked at the role of oil on the development of the Nigerian economy. The study found that oil might spur the growth of non-oil industries. Oil, on the other hand, had a negative impact on the industrial sector. Oil and manufacturing, oil and building and construction, manufacturing and building and construction, manufacturing and trade and services, and agricultural and building and construction were all found to have bidirectional causality. It also proved that unidirectional causality exists between industry and agriculture, as well as commerce and services and oil. The study, however, revealed no link between agricultural and oil, nor between trade and services, nor between building and construction. In order to integrate the oil sector into the economy and counteract the detrimental impact of oil on the manufacturing sub-sector in Nigeria, the study proposed necessary regulatory and pricing reforms.

Farzanegan (2011) investigated the emotional effects of oil revenue shocks on various categories of Iranian government spending using instinct reaction functions and the difference disintegration breakdown approach. The findings revealed that whereas Iran's military and security spending reacted considerably to oil price changes, social spending did not.

The effect of tax income on agricultural performance in Nigeria was investigated by Oladipo, O.A., Iyoha, F., Fakile, A., Asaleye, A.J., and Eluyela, D.F. (2017). The study used the Engel and Granger approach, which found that Nigeria's tax revenue was insufficient to encourage agriculture.

Odularu and Okonkwo (2009) soughed to evaluate the impact of the development in the crude oil sector on the Nigerian economy through government finances and income. They found that the effect of crude oil on government revenue was positive. That is, there was a positive relationship between crude oil price and government expenditure, claiming that this relationship was significant and have fiscal implications and linkages. These linkages arise from the use of increasing crude oil revenue by the government to develop other sectors of the economy such as agriculture, education, infrastructures, etc which are components of various government capital and recurrent expenditures.

Oil and non-oil revenue are important determinants of economic growth. The above study proposes that there is a trade-off between oil sector and non-oil sector as regards to management and balance between sectors. This study aims to determine the effect of oil and non-oil revenue on economic growth. As a result, this research will assist the Nigerian Central Bank, OPEC, and other organizations in better understanding of the relationship between oil, non-oil revenue, and economic growth, as well as develop more strategies for controlling gains or profits and channeling the profit and investing them in appropriate channels to yield adequate revenue.

2.4 Gaps in The Literature

The assessment of the current literature Extensive research has been conducted out on oil, non-oil revenue, and economic growth in developing countries, particularly the Nigerian

economy. On some times, economic theory suggests that focusing less on the oil sector will enhance economic growth, while on other occasions, some experts feel that sending more money to the oil sector will boost economic growth, making the limited research on oil and non-oil revenue contradictory.

To the best of my knowledge, Based on what I've learnt so far through theoretical and empirical investigation. Because of the resource curse, there is a clear negative relationship between oil revenue and economic growth and development; however, because oil revenue is diverse and includes agricultural, manufacturing, and other sectors, there is a positive relationship between oil revenue and economic growth. This paper fills the void by providing an empirical examination of the potency of economic growth and development, thereby expanding the non-oil sector's operations in Nigeria, as well as prospective remedies to the country's persisting difficulties and economic setbacks.

CHAPTER THREE

RESEARCH METHODOLOGY

This research work is divided into 5 sections. Section 3.1 shows the theory on which this study is based. Section 3.2 shows the model specification of both objectives 2 and 3. Section 3.3 is the A priori expectation. Section 3.4 talks about the sources of data collection. Section 3.5 depicts the estimation techniques used in running the data analyses.

3.1Theoretical Framework

The hypothesis on which this research is based is described in this portion of the approach. This topic's theoretical underpinning is the resource curse, often known as the paradox of plenty, which says that countries with abundant natural resources have inferior economic

growth, democracy, and development outcomes than countries with fewer natural resources. Nigeria's economy relied on agriculture to live and thrive prior to the discovery of oil. Revenue from agriculture was appropriately used to build landmark social and economic infrastructure, while providing basic services like education, health, water and electricity supply [Ogunlowo, 2008]. The term 'resource curse' refers to the observation that nations with rich endowments of natural resources (oil as in the case of Nigeria) often dramatically under-perform economically relative to what one would expect. The idea that natural resources might be more of an economic curse than a blessing began to emerge in the 1980's. In this light , the term resource curse thesis was first used by Richard Auty in 1993 to describe how countries rich in natural resources were unable to use their wealth to boost their economies and how, counter-intuitively, these countries had lower economic growth than countries without an abundance of natural resources. Numerous studies, including one by Jeffrey Sachs and Andrew Warner (2003}, have shown a link between natural resource abundance and poor economic growth. This discontent between natural resource wealth and economic growth can be seen by looking at an example from the oil producing countries. From 1965-1998, in the OPEC countries, gross national product per capita growth decreased on average by 1.3 percent, while in the rest of the developing world, per capita growth was on average 2.2 percent. Research in recent times clearly shows that conflicts among the multi ethnic groups within a country with abundant natural resource, revenue volatility, Dutch disease, excessive burrowing[using natural resources as collateral], and lack of diversification /enclave effects are possible reasons [Bulte, et al, 2005; Ross, [1999]; Humphreys et al,[2007];, and Sachs, [2001]. In the light of the above, the concept of resource curse is used to ascertain the level of economic growth in Nigeria vis-a-vis the increase in oil revenue over the years.

3.2 Model Specification

The model below shows the relationship between oil revenue, non-oil revenue and economic growth. In order to achieve the first objective, we will make use of descriptive tools which consists of the use of tables, graph, chart and percentages for analysis. The model below shows the functional relationship between the three variables;

RDGP= f (OREV, NOREV) (1)

Where RGDP, OREV and NOREV are Economic Growth, oil revenue and non-oil revenue respectively.

To achieve objective two of this study, the wish to determine the effect of oil revenue on economic growth, which will be estimated in the following equation;

RGDP= f(OREV, OEXP, FDI, INFR, GCF, CS) (2)

Converting the equation to an econometric model we have;

$RGDP=\beta_1+\beta_2 OREV+\beta_3 OEXP+ \beta_4 FDI + \beta_5 INFR_+ \beta_6 GCF+\beta_7 CS +\mu$ (3)

where, OREV, OEXP, FDI, PCS, INFR, GCF, CS are Oil Revenue, Oil Export, foreign direct investment, physical capital stock, Inflation rate, Gross Capital Formation and Capital Stock respectively β_1, β_2, β_3 and β_4 are the coefficients of the respective variables.

μ=error term that is used to capture other variables

To achieve objective three of this study, the wish to determine the effect of non-oil revenue on

economic growth, which will be estimated in the following equation;

RGDP= f(NOREV, NOEXP, TAX, EXC, TRADE, SVRCS) (4)

Converting the equation to an econometric model we have;

RGDP=β0 + β1NOREV+β2 NOEXP +β3TAX+β4EXC +β5TRADE+β6SVRCS (5)

Where, RGDP, NOREV, NOEXP, TAX, EXC, TRADE, SVRCS are economic growth, non-oil revenue, non-oil export, tax, exchange rate, trade, services respectively.

To go further, for objective two, the augmented ARDL-UECM version of the model, equation 3 is further expressed as:

$$\Delta \ln RGDP = \beta_0 + \sum_{i=1}^{a} a_1 \Delta \text{In RGDP}_{t=1} + \sum_{i=0}^{b} a_2 \Delta \ln OREV + \sum_{i=0}^{c} a_2 \Delta \ln OEXP + \sum_{i=0}^{d} a_2 \Delta \ln FDI + \sum_{i=0}^{e} a_2 \Delta \ln INFR + \sum_{i=0}^{f} a_2 \Delta \ln GCF + \sum_{i=0}^{g} a_2 \Delta \ln CS + \beta_1 \ln RGDP_{t-1} + \beta_1 \ln OREV_{t-1} + \beta_1 \ln OEXP_{t-1} + \beta_1 \ln FDI_{t-1} + \beta_1 \ln INFR_{t-1} + \beta_1 \ln GCF_{t-1} + \beta_1 \ln CS_{t-1} + \mu_t \quad (6)$$

Where, Δ denotes the first difference operator, α_0 is the drift component and, μ_t is white noise residual. The β's correspond to the long run effects (elasticities) whereas α's capture the short run dynamics (elasticities) of the model. Thus, from equation (7) in applying co-integration tests the study test the null hypothesis of no co-integration: H_0: $\beta_1 = \beta 2 = \beta_3 = \beta_4 = \beta_5 = 0$ β β against the alternative hypothesis H_1: $\beta_1 \neq \beta_2 \neq \beta_3 \neq \beta_4 \neq \beta_5 \neq 0$

$$\Delta \ln RGDP = \beta_0 + \sum_{i=1}^{a} a_1 \Delta \text{In RGDP}_{t=1} + \sum_{i=0}^{b} a_2 \Delta \ln NOREV + \sum_{i=0}^{c} a_2 \Delta \ln NOEXP + \sum_{i=0}^{d} a_2 \Delta \ln TAX + \sum_{i=0}^{e} a_2 \Delta \ln EXC + \sum_{i=0}^{f} a_2 \Delta \ln TRADE + \sum_{i=0}^{g} a_2 \Delta \ln SVRCS + \beta_1 \ln RGDP_{t-1} + \beta_1 \ln NOREV_{t-1} + \beta_1 \ln NOEXP_{t-1} + \beta_1 \ln TAX_{t-1} + \beta_1 \ln EXC_{t-1} + \beta_1 \ln TRADE_{t-1} + \beta_1 \ln SVRCS_{t-1} + \mu_t \quad (7)$$

where, Δ denotes the first difference operator, α_0 is the drift component and, μ_t is white noise residual. The β's correspond to the long run effects (elasticities) whereas α's capture the short run dynamics (elasticities) of the model. Thus, from equation (7) in applying co-integration tests the study test the null hypothesis of no co-integration : H_0: $\beta_1 = \beta 2 = \beta_3 = \beta_4 = \beta_5 = 0$ β β against the alternative hypothesis H_1: $\beta_1 \neq \beta_2 \neq \beta_3 \neq \beta_4 \neq \beta_5 \neq 0$

3.3 A Priori Expectation

The a priori expectation is a measurement which is based on signs and magnitude of the coefficient of the variables under investigation. An a priori argument, reason or probability is based on assumed principles or facts, rather than actual or observed fact. These in economic terms are based on economic theory and they seek to determine whether the expected is equal to the observed, i.e. whether the economic expectations are in line with actual observations in the analysis.

3.4 Sources of Data Collection

Data collection was done through secondary data and was updated to meet the information prerequisite of this study. Secondary data are those data accumulated or collected by other people for differing purposes. A thorough review of literature, libraries, reports, journals and materials from the internet is used as my main secondary source of gathering data. The data covered a period of thirty-eight years (1981-2019).The data used for this study are sourced from the World Development Indicators (WDI) and Central Bank of Nigeria Statistical Bulletin(2019).

3.5 Estimation Techniques

This paper employed ARDL model to analyze the dynamic relationship between oil revenue, non-oil revenue and economic growth of the Nigerian economy. The estimation of the equations which were mentioned in the previous section, were explained in this section. The ARDL model can be stationary at I (0) or I (1), or I(0) and I(1) variable together. However, I (2) cannot be the analysis of an ARDL model. Therefore, this study needs to check whether all variables are in line with stationary I (0) or I (1) which was used in equation 6 and 7. Following the nature of the data and the specific objective in this study, Augumented Dickey Fuller (ADF) unit root test, Phillips-Perron (PP) unit root test and Johansen Co-integration test were employed to examine the relationships among economic growth, oil revenue and non-oil revenue in Nigeria over the period of 1981-2019. The technique adopted for analyzing data is the Auto-regressive Distributed Lag (ARDL) model. The ARDL model is used for providing reliable estimates of the long-run coefficients which are asymptotically normal regardless of whether the regressors are I(0) or I(1). It is also efficient for small sample data.

3.5.1 Test for Stationarity

In order to do any expressive policy analysis with the results of this study, it is important to differentiate between correlations that is developed from sheer trend (spurious) and one related to a primary causal relationship. To realize this, all the data used in the study are initially

tested for unit root to establish that they are stationary. By stationarity, what is intended is that (Guajarati, 2007) the mean and variance of the time series data are the same no matter what point how they are measured; that is, they do not vary with time. The test would help to detect spurious regression on the time series and it will also help in good forecasting. To know whether or not the time series data is stationary at any level, a unit root test using the Augmented Dickey Fuller (ADF) and Phillips-Perron (PP) tests are adopted.

3.5.2 Lag length

Under the lag length, some selection criteria were considered; Hannan-Quinn information criteria (HQ), Final Prediction Error (FPE), Log Likelihood (LL), Akaike information criteria (AIC) and the Schwarz information criteria (SC).

3.5.3 Co-integration Analysis

The use of the Ordinary Least Square (OLS) method of estimation becomes unacceptable when the time series data of the regressor and the regressed variable are not integrated of order zero (0). Given such a scenario, a co-integration analysis can be used to examine the long run relationship between the two variables that are not integrated of order zero (0). Co-integration analysis refers to a group of variables that move together, although individually they are non-stationary, meaning that they are likely to go upwards and downwards over time. After ascertaining that variables are stationary, it is required to determine whether or not there is any long term relationship between foreign direct investment and economic growth.

3.5.4 Short run and long run estimates

It is to know the coefficient of the long run variables and short run variables in order to ascertain whether there is a long run relationship or a short run relationship.

3.5.5 Unit Root Test

In this study, the Augmented Dickey Fuller (ADF) unit root test method is employed to ascertain the relationship for each study variable. If a variable is a stationary at level, hence it is expressed as integrated of order zero I(o) and if not, there is need to consider the first difference of such variable, community know as integrated of order of I(1). Further, whenever the unit root tests for variables are mixed, implying both integrated of other zero, I (1), the, an auto regressive distributive lag (ARDL) is appropriate for the OLS estimation.

One of the problems that is common with most time series data is that of unit root problem as the order in which the data is integrated with one another is determined by unit root. Thus, the presence of a unit root problem in the time series data suggests that the data is not stationary, which means that the data will continue to diverge away from its long-run path. Under such circumstances, an application of the OLS estimation technique will yield spurious regression that will render the estimated coefficients meaningless and ineffective (Brooks, 2002). Thus, if the data is not stationary at levels, it should be subjected to further stationarity tests at first-difference and higher order differences if necessary until the unit root problem is resolved.

Testing for unit root via both approaches involves comparing the test statistic with the corresponding critical values that are at 1%, 5% and 10% respectively. The absolute values of the ADF and PP must be greater than the critical values to reject the null hypothesis of unit root. If the absolute values of the ADF and the PP statistics are, however, smaller than their corresponding critical values the data can be said to suffer from a unit root problem and must be differenced and subjected to additional unit root tests.

CHAPTER FOUR

PRESENTATION AND DISCUSSION OF RESULTS

This chapter presents the results of the econometric analysis of this study. It is divided into six sections. Section 4.1 shows the result of the unit root test. Section 4.2 depicts the lag length of the objective 2 and 3 stated in chapter one using the VAR lag selection criteria. While, Section 4.3 contains the results of the co-integration test among the variables using bound test approach. Section 4.4 assesses the long and short run relationship of variables in objectives 2 and 3. Section 4.5 reveals the trend and pattern of oil revenue, non-oil revenue and economic growth in Nigeria from year 1981-2019. This chapter is concluded with section 2.6 which shows the summary of the discussion of the findings.

4.1 Unit Root Test Results

Unit root tests are conducted for the variables using the Augumented Dickey Fuller test and the Phillips-Perron test and the results are presented in the table 4.1 and 4.2 below. Note that the Mackinnon (1996) critical values for the Augumented Dickey Fuller test and the Phillips-Perron test estimation at 1%, 5% and 10% significance levels are stated in the tables below. Stationary (unit root) test conducted the set of variables enumerated above revealed that all the variables are I (1) variables (Integrated of order 1).

Testing for unit root in a research is important in order to avoid the outcome of I(2) variables. If I(2) variables appear as a result in a model, the computed F-statistics provided by Pesaran *et al*. (2001) will be rendered invalid since they are proven on the presumption that the variables are I(0) or I(1) Testing for the unit root also aids in identifying the maximal order of

integration entering the augmented VAR model. In this study, the tests applied are the two types of formal tests in order to observe the order of integration of the series under consideration. These two tests are the Augmented Dickey-Fuller test (ADF) and the Phillips-Perron test (PP) tests. The choice of these two test statistics is prompted by the fact that both tests are able to control higher-order autocorrelation. Both tests statistics were done for two alternative specifications at 5% level of significance respectively.

Stationary (unit root) test conducted the set of variables enumerated below in table 4.1 upper panel (ADF test for intercept only) reveals that oil export, economic growth proxy as real GDP , capital stock, foreign direct investment, inflation, exchange rate, gross capital formation, trade and services are stationary at level I(0) while oil revenue, non-oil revenue, non-oil export and tax were stationary at first difference I(1) i.e they are not stationary at levels but are all stationary at their various first differences.

The lower panel of the same table 4.1 ADF test for (trend and intercept) shows that OEXP, NOEXP, RDGP, FDI, INFR, TRADE, SRVCS were stationary at level I(0) while OREV, NOREV, CS, TAX, EXC, GCF are stationary at first difference I(1)) i.e they are not stationary at levels but are all stationary at their various first differences.

Following the PP test as seen in table 4.2, the test results displayed in the upper panel (intercept only) shows that OREV, OEXP, NOEXP, RGDP, CS, FDI, EXC, GCF, TRADE and SRVCS are stationary at level I(0). While NOREV, CS, TAX, EXC and GCF are stationary at first difference I(1). The lower panel of the same table 4.2 PP test for (trend and intercept) showed that RGDP, FDI and INFR stationary at level I(0) while OREV, NOREV, OEXP, NOEXP, CS, TAX, EXC, GCF, TRADE and SVRCS were stationary at first difference I(1)) i.e they are not stationary at levels but are all stationary at their various first differences.

Table 4.1: Result of Augmented Dickey Fuller(ADF) test

Augmented Dickey Fuller test(intercept only)

variables	level					1st difference					
	Test statistic	critical values			probability val	Remarks	test statisti	critical values			prob.	remarks
		1%	5%	10%				1%	5%	10%		
lnorev	-1.2744	-3.615588	-2.941145	-2.609066	0.6314	NS	-6.171975	-3.621	-2.94343	-2.6103	0.0000	I(1)
lnnorev	-1.0138	-3.615588	-2.943427	-2.609066	0.7382	NS	-4.11397	-3.621	-2.94343	-2.6103	0.0027	I(1)
lnoexp	-3.5569	-3.67017	-2.963972	-2.621007	0.0131	I(0)	-1.403515	-3.6702	-2.96397	-2.621	0.5673	I(1)
lnnoexp	-1.1657	-3.615588	-3.615588	-2.609066	0.6791	NS	-6.941543	-3.621	-2.94343	-2.6103	0.0000	I(1)
lnrgdp	-4.158	-3.615588	-2.941145	-2.609066	0.0024	I(0)	-10.07708	-3.621	-2.94343	-2.6103	0.0000	I(1)
lncs	-1.376	-3.615588	-2.941145	-2.609066	0.5837	I(0)	-5.046417	-3.621	-2.94343	-2.6103	0.0002	I(1)
lnfdi	-3.9334	-3.615588	-2.941145	-2.609066	0.0043	I(0)	-8.019804	-3.621	-2.94343	-2.6103	0.0000	I(1)
lninfr	-2.9156	-3.615588	-2.941145	-2.609066	0.0844	I(0)	-5.672638	-3.621	-2.94343	-2.6103	0.0000	I(1)
lntax	0.00888	-3.626784	-2.945842	-2.622989	0.9533	NS	-4.900566	-3.6268	-2.94584	-2.6115	0.0003	I(1)
lnexc	-1.8921	-3.615588	-2.941145	-2.609066	0.3323	I(0)	-7.389263	-3.621	-2.94343	-2.6103	0.0000	I(1)
lngcf	-2.1468	-3.615588	-2.941145	-2.609066	0.2284	I(0)	*-4.58398*	-3.621	-2.94343	-2.6103	0.0007	I(1)
lntrade	-1.8921	-3.615588	-2.941145	-2.609066	0.3323	I(0)	-7.389263	-3.621	-2.94343	-2.6103	0.0000	I(1)
lnsrvcs	-1.4375	-3.615588	-2.941145	-2.609066	0.5538	I(0)	-5.017049	-3.621	-2.94343	-2.6103	0.0002	I(1)

Augmented Dickey Fuller(trend and intercept)

variable	**level**					**1st difference**					
	test					test					
	statistic	critical values			probability val	Remarks	statistic	critical values			probability val	Remarks
		1%	5%	10%				1%	5%	10%		
lnorev	-0.8248	-4.219126	-3.533083	-3.198312	0.9542	NS	-5.372773	-4.235	-3.54033	-3.2024	0.0005	I(1)
lnnorev	0.40489	-4.219126	-3.533083	-3.198312	0.9985	NS	-5.486556	-4.2268	-3.5366	-3.2003	0.0004	I(1)
lnoexp	-4.1746	-4.296729	-3.568379	-3.218382	0.0133	I(0)	-1.504174	-4.2967	-3.56838	-3.2184	0.8056	NS
lnnoexp	-2.8967	-4.219126	-3.533083	-3.198312	0.1748	I(0)	-6.92237	-4.2268	-3.5366	-3.2003	0.0000	I(1)
lnrgdp	-3.9822	-4.219126	-3.533083	-3.198312	0.0179	I(0)	-10.31361	-4.2268	-3.5366	-3.2003	0.0000	I(1)
lncs	-1.9532	-4.219126	-3.533083	-3.198312	0.6073	NS	-5.531507	-4.2268	-3.5366	-3.2003	0.0003	I(1)
lnfdi	-3.8512	-4.219126	-3.533083	-3.198312	0.0244	I(0)	-7.973053	-4.2268	-3.5366	-3.2003	0.0000	I(1)
lninfr	-4.0198	-4.226815	-3.536601	-3.20032	0.0166	I(0)	-5.606727	-4.2268	-3.5366	-3.2003	0.0003	I(1)
lntax	4.37252	-4.309824	-3.574244	-3.221728	1.0000	NS	-5.575206	-4.235	-3.54033	-3.2024	0.0003	I(1)
lnexc	-1.2525	-4.219126	-3.533083	-3.198312	0.8845	NS	-5.608917	-4.2268	-3.5366	-3.2003	0.0003	I(1)
lngcf	-0.8895	-4.219126	-3.533083	-3.198312	0.9469	NS	-5.027752	-4.2268	-3.5366	-3.2003	0.0012	I(1)
lntrade	-2.0158	-4.219126	-3.533083	-3.198312	0.5742	I(0)	-7.370701	-4.2268	-3.5366	-3.2003	0.0000	I(1)
lnsrvcs	-2.5853	-4.226815	-3.536601	-3.20032	0.2887	I(0)	-4.489605	-4.2529	-3.54849	-3.2071	0.0056	I(1)

Table 4.2: Result of the phillips perron(PP) test

phillips perron(intercept only)

variable	**level**						**first difference**					
	test statistic	critical values			probability val	remarks	test statist	**critical values**			probability val	remarks
		1%	5%	10%				1%	5%	10%		
lnorev	-1.5223	-3.615588	-2.941145	-2.609066	0.5117	I(0)	-6.171975	-3.621	-2.94343	-2.6103	0.0000	I(1)
lnnorev	6.78062	-3.615588	-2.941145	-2.609066	1.0000	NS	-4.172594	-3.621	-2.94343	-2.6103	0.0023	I(1)
lnoexp	-1.7069	-3.615588	-2.941145	-2.609066	0.4198	I(0)	-7.703617	-3.621	-2.94343	-2.6103	0.0000	I(1)
lnnoexp	-2.162	-3.615588	-2.941145	-2.609066	0.2229	I(0)	-8.140045	-3.621	-2.94343	-2.6103	0.0002	I(1)
lnrgdp	-4.1721	-3.615588	-2.941145	-2.609066	0.0023	I(0)	-10.40679	-3.621	-2.94343	-2.6103	0.0000	I(1)
lncs	-1.5371	-3.615588	-2.941145	-2.609066	0.5043	I(0)	-5.035989	-3.621	-2.94343	-2.6103	0.0002	I(1)
lnfdi	-3.8587	-3.615588	-2.941145	-2.609066	0.0053	I(0)	-13.98203	-3.621	-2.94343	-2.6103	0.0000	I(1)
lninfr	-2.785	-3.615588	-2.941145	-2.609066	0.0699	NS	-9.669308	-3.621	-2.94343	-2.6103	0.0000	I(1)
lntax	2.3516	-3.615588	-2.941145	-2.609066	0.9999	NS	-4.304492	-3.621	-2.94343	-2.6103	0.0016	I(1)
lnexc	-2.2394	-3.615588	-2.941145	-2.609066	0.1964	I(0)	-5.205054	-3.621	-2.94343	-2.6103	0.0001	I(1)
lngcf	-2.1443	-3.615588	-2.941145	-2.609066	0.2293	I(0)	-4.483378	-3.621	-2.94343	-2.6103	0.001	I(1)
lntrade	-1.8921	-3.615588	-2.941145	-2.609066	0.3323	I(0)	-7.402534	-3.621	-2.94343	-2.6103	0.0000	I(1)
lnsrvcs	-1.5846	-3.615588	-2.941145	-2.609066	0.4805	I(0)	-4.972607	-3.621	-2.94343	-2.6103	0.0002	I(1)

phillips perron(trend and intercept)

variable	**level**						**1st difference**					
	test statistic	**critical values**			prob	remarks	**test statist**	**critical values**			prob	remarks
		1%	5%	10%				1%	5%	10%		
lnorev	-0.7819	-4.219126	-3.533083	-3.198312	0.9585	NS	-6.957459	-4.2268	-3.5366	-3.2003	0.0000	I(1)
lnnorev	2.76345	-4.219126	-3.533083	-3.198312	1.0000	NS	-5.821144	-4.2268	-3.5366	-3.2003	0.0001	I(1)
lnoexp	-1.1707	-4.219126	-3.533083	-3.198312	0.9023	NS	-9.026283	-4.2268	-3.5366	-3.2003	0.0000	I(1)
lnnoexp	-2.5969	-4.219126	-3.533083	-3.198312	0.2838	NS	-5.685125	-4.2268	-3.5366	-3.2003	0.0002	I(1)
lnrgdp	-3.9822	-4.219126	-3.533083	-3.198312	0.0179	I(0)	-12.11311	-4.2268	-3.5366	-3.2003	0.0000	I(1)
lncs	-1.9544	-4.219126	-3.533083	-3.198312	0.6067	NS	-5.545054	-4.2268	-3.5366	-3.2003	0.0003	I(1)
lnfdi	-3.7635	-4.219126	-3.533083	-3.198312	0.0299	I(0)	-17.98805	-4.2268	-3.5366	-3.2003	0.0000	I(1)
lninfr	-2.8675	-4.219126	-3.533083	-3.198312	0.1839	I(0)	-10.60546	-4.2268	-3.5366	-3.2003	0.0000	I(1)
lntax	-0.1946	-4.219126	-3.533083	-3.198312	0.9909	NS	-7.558353	-4.2268	-3.5366	-3.2003	0.0000	I(1)
lnexc	-1.2517	-4.219126	-3.533083	-3.198312	0.8847	NS	-5.808089	-4.2268	-3.5366	-3.2003	0.0001	I(1)
lngcf	-0.9913	-4.219126	-3.533083	-3.198312	0.9334	NS	-4.953418	-4.2268	-3.5366	-3.2003	0.0015	I(1)
lntrade	-1.9323	-4.219126	-3.533083	-3.198312	0.6182	NS	-7.434836	-4.2268	-3.5366	-3.2003	0.0000	I(1)
lnsrvcs	-1.8252	-4.219126	-3.533083	-3.198312	0.6726	NS	-4.990577	-4.2268	-3.5366	-3.2003	0.0014	I(1)

4.2 VAR Lag Order Selection Criteria

After the stationary conditions of the variables employed have been determined the study determine the lag length before the evaluation of the ARDL equations (6 and 7), it is necessary to determine the appropriate lag length so as to avoid problems of misspecification and loss of degrees of freedom. Following the literature, VAR lag order selection criteria attributed to Hannan-Quinn information criteria (HQ), Final Prediction Error (FPE), Log Likelihood (LL), Akaike information criteria (AIC) and the Schwarz information criteria (SC) were considered. The result presented in table 4.3 which shows the optimum lag structure for the VAR for objectives 2 and 3. According to Liew (2004), Final Prediction Error (FPE) and Akaike information criteria (AIC) are superior. As can be observed from table 4.3 the results show that the superior selection criteria selected the optimum lag length of 2 for ARDL model (6) and also selected the lag length of 2 for ARDL model (7). Therefore, the lag length order 2 were carefully chosen for the two models.

Table 4.3: Optimal VAR lag selection

Lag length Selection criteria for objective 2					
lag	LR	FPE	AIC	SC	HQ
0	NA	0.00014	10.98854	11.30279	11.09571
1	289.2689*	3.91E-08	2.745163	5.259169	3.602511*
2	64.77199	3.42e-08*	2.218464'	6.932224	3.825991
Lag length Selection criteria for objective 3					
lag	LR	FPE	AIC	SC	HQ
0	NA	0.00014	10.98854	11.30279	11.09571
1	289.2689*	3.91E-08	2.745163	5.259169	3.602511*
2	64.77199	3.42e-08*	2.218464'	6.932224	3.825991

* indicates lag order selected by the criterion
LR: sequential modified LR test statistic (each test at 5% level)
FPE: Final prediction error
AIC: Akaike information criterion
SC: Schwarz information criterion
HQ: Hannan-Quinn information criterion

4.3 Bound Test Approach to Co-integration

Having determined the optimal lag length, the next step is to determine the co-integration connection among the variables. The study applied bound F-statistics to equations (6) and (7) in order to establish the co-integration relationship among the variables. Due to the limitations of the conventional Wald-test F-statistics, Pesaran and Shin (1995, 1998) suggested two critical values (lower and upper bound) to examine the relationship. If the computed F-statistic is lower than the lower bound I(0) the null is not rejected, on the other hand, if the computed F-statistic is greater than the upper bound I(1) it implies that there exists a long run relationship among the variables. However, if the computed F-statistics lies between the lower bound and upper bound the long run association between the variables are inconclusive. The result of the bound test is shown in table 4.4. In objective two, the bound test evidently described that the F- statistics (4.128252) is greater than the upper bound value (3.28) at 5 percent level of significance and the presence of co-integration suggests that there is a long run relationship among the variables in the equation. In objective three, the F-statistics (2.799587) is in between the lower bound value and the upper bound value (3.28). Hence, there is a long run relationship between the variables i.e it can be positively related and negatively related. Table 4.3 and 4.4 below presents the co-integration result for the variables. Here, in table 4.4, it could be observed that the variables in the equation are co-integrated.

Table 4.4: Bound test to co-integration

Result of bound test approach to co-integration for objective 2					
Significance		Critical value bonds		computed F-statistic	
	Lower bound I(0)		Upper bound I(1)		
10%		1.99	2.94	4.128252	
5%		2.27	3.28		
2.50%		2.55	3.61		
1%		2.88	3.99		
Result of bound test approach to co-integration for objective 3					
Significance		Critical value bonds		computed F-statistic	
	Lower bound I(0)		Upper bound I(1)		
10%		1.99	2.94	2.799587	
5%		2.27	3.28		
2.50%		2.55	3.61		
1%		2.88	3.99		

4.4 Empirical Results on the Long Run and Short run Effects

The long run coefficients elasticities and short run coefficients elasticities are computed after the existence of a long run equilibrium has been established. Tables 4.5 and 4.8 show the estimated long-run dynamics of the selected ARDL (1, 0, 0, 1, 0, 0, 1) model, as well as the short-run coefficients for objective 2. In tables 4.5 and 4.6, the estimated long-run dynamics of the selected ARDL (1, 0, 0, 0, 0, 0, 0) model, as well as the short-run coefficients, are shown for objective three.

4.4.1 Empirical Results on the Long Run Effects

The empirical outcome of Objective 2's long-run effect is presented in this section, along with its interpretation. The long term association between economic growth and oil revenue is negative (-1.047285), but the link is not statistical, as evidenced by the t-statistic (-0.360304) and the prob. value in table 4.5 below (0.1163). Furthermore, the oil export coefficient is negative (0.693491) and not statistically significant, with a prob. value of 0.8352 that is bigger than 0.05 and t-statistics (-0.210031). The long-run link between economic growth and foreign direct investment is positive (0.087633), but the t-statistic (0.69072) and prob value are not statistically significant (0.9454). In particular, if all other factors remain equal, a one percent increase in foreign direct investment will raise real GDP by 0.087633 percent in the long run. Furthermore, the rate of inflation has a negative impact on economic growth, as shown by the coefficient (-0.109029), which is statistically significant with a prob. value (0.0368) less than 0.05 but a t-statistic (-2.193278) greater than 1.5. Furthermore, the link between economic growth and gross capital formation is negative (-7.291466) and statistically significant, with a t-statistic (-1.946331)

greater than 1.5 and a prob value (0.0617) better than 0.05. The long-run association between economic growth and capital stock, on the other hand, is positive (6.34625) and statistically insignificant because the t-statistic (1.559176) is more than 1.5 but the prob value (0.1302) is greater than 0.05. Panel B of table 4.5 displays the R2 (0.60052), adjusted R2 (0.47212), F-statistic (4.67685), and Durbin-Watson (1.81957) statistic for the specified model. The model's explanatory power (R2) is high, as evidenced by the results in table 4.5. (0.60052). As a result, the share of variance in oil revenue described by real GDP, oil export, foreign direct investment, inflation, gross capital formation, and capital stock is almost 60%.

In table 4.6 below, it shows that the long run relationship between economic growth and non-oil revenue is positive (2.607714) and on the other hand, the relationship between them is not statistical as the t-statistic (1.013722) is less than 1.5, but prob value (0.3191). Also, the coefficient of non-oil export is positive (0.683454) and not statistically significant with prob value (0.618) which is greater than 0.05 and t-statistics (0.504114). The long run relationship between economic growth and tax is negative (-2.705469) and it is not statistically significant as the t-statistic is (-1.110112) and prob value is (0.2761). More so, the relationship between economic growth and exchange rate is positive (0.3736) is statistically insignificant with the prob. value (0.8357) which is greater than 0.05 and the t-statistic (0.209334) is less than 1.5. Futhermore, the relationship between economic growth and trade is negative (-3.149638) and the relationship is statistically insignificant as the t-statistic is (0.874941) with prob value (0.3888). However, the long run relationship between economic growth and services is negative (-15.50281) and the relationship is statistically insignificant as the t-statistic (-1.534408) is less than 1.5 but the prob value (0.1358) is greater than 0.05. The R^2 (0.431621), the adjusted R^2 (0.294426), the F-statistic (3.146036) and the Durbin-Watson (2.246636) statistic for the selected

model is presented in panel B of table 4.6. As observed from the result presented in table 4.6 the explanatory power (R^2) of the model is high (0.431621). Hence, the proportion of variation in oil revenue measured by real GDP and jointly explained by real GDP, oil export, foreign direct investment, inflation, gross capital formation and capital stock is about 43%.

Table 4.5: Estimated Long Run Dynamics Test Results for Objective two

Regressand: D(RGDP)				
Panel A: Long Run Coefficients				
Variable	Coefficient	Std. Error	t-Statistic	Prob.*
RGDP(-1)	0.251362	0.15512	1.620459	0.1163
OREV	-1.047285	2.90667	-0.360304	0.7213
OEXP	-0.536988	2.55671	-0.210031	0.8352
FDI	0.087633	1.26873	0.069072	0.9454
FDI(-1)	2.763508	1.16323	2.375712	0.0246
INFR	-0.109029	0.04971	-2.193278	0.0368
GCF	-7.291466	3.74626	-1.946331	0.0617
CS	6.34625	4.07026	1.559176	0.1302
CS(-1)	-8.871789	3.74814	-2.366986	0.0251
C	36.81461	16.7216	2.201618	0.0361
Panel B:Goodness-of-fit Measures				
R-squared				0.60052
Adjusted R-squared				0.47212
F-statistic				4.67685
Prob(F-statistic)				0.00077
Durbin-Watson stat				1.81957

Table 4.6: Estimated Long Run Dynamics for Objective three

Regressand: D(RGDP)				
Panel A: Long Run Coefficients				
Variable	Coefficient	Std. Error	t-Statistic	Prob.*
RGDP(-1)	0.317734	0.170105	1.867868	0.0719
NOREV	2.607714	2.572416	1.013722	0.3191
NOEXP	0.683454	1.355752	0.504114	0.618
TAX	-2.705469	2.437115	-1.110112	0.2761
EXC	0.373387	1.783692	0.209334	0.8357
TRADE	-3.149638	3.59983	-0.874941	0.3888
SVRCS	-15.50281	10.10345	-1.534408	0.1358
C	122.099	74.07864	1.648236	0.1101
Panel B: Goodness-of-fit Measures				
R-squared				0.431621
Adjusted R-squared				0.294426
F-statistic				3.146036
Prob(F-statistic)				0.013417
Durbin-Watson stat				2.246636

4.4.2 Empirical Results on the Short Run effect

The short-run dynamics of the equilibrium relationship were obtained directly as the estimated coefficients of the leveled and first-differenced variables in the ARDL model (1, 0, 0, 1, 0, 0, 1) and the results were used to determine the short run effects of the variables used in equation 6 for objective two, assess the short run adjustment mechanism to equilibrium as well as the speed of adjustment. As can be seen in table 4.7, an increase in RGDP has a negative impact on economic growth (-0.101461). As a result, a 1% increase in the RDGP reduces economic growth by 10%. However, because -0.524473 is less than 1.5 and the probability value (0.6041) is more than 0.05, the effect of RGDP is statistically insignificant. Furthermore, as shown in table 4.7, an increase in OREV reduces economic growth by 39%, and the association between oil revenue and economic growth is statistically negligible because the t-statistic (-0.622636) is less than 1.5 and the prob (0.5386) is greater than 0.05. Increased foreign direct investment, on the other hand, has a favorable impact on economic growth, increasing it by 83 percent. However, because the t-statistic and prob, 0.840953 and 0.4075, respectively, do not fulfill the significance criterion, they are not statistically significant. Similarly, inflation has a positive impact on economic growth (0.023769), with an increase in INFR increasing GDP by 23%. However, because 0.519672 is less than 1.5 and 0.6074 is more than 0.05, the link between the two variables is not statistically significant. Furthermore, the link between Gross Capital Formation and 2.13 percent growth is positive, indicating that an increase in GCF leads to an increase in 2.13 percent growth. The relationship between Capital Stock and Economic Growth is negative (-2.750872) because an increase in GCF reduces economic growth by 2.75 percent.

The table also shows that there is no statistically significant relationship between them because -0.727371 is less than 1.5 and 0.473 is greater than 0.05.

The short-run dynamics of the equilibrium relationship were obtained directly as the estimated coefficients of the leveled and first-differenced variables in the ARDL model (1, 0, 0, 0, 0, 0, 0, 0) and the res. As seen in table 4.8, an increase in RGDP has a negative (-0.194577) impact on economic growth, with a one percent rise in RGDP resulting in a 19.5 percent decline in economic growth. The link between non-oil revenue and economic growth is positive (1.65459), but it is statistically insignificant (0.762854) since 0.762854 is less than 1.5 and 0.4524 is more than 0.05. Similarly, there is a positive relationship (1.084744) between non-oil export and economic growth, with a one percent increase in non-oil export increasing economic growth by 108.4 percent. However, because 0.496496 is less than 1.5 and 0.6237 is greater than 0.05, the relationship is not statistically significant. However, there is a negative association (-0.018057) between tax and economic growth, with a one percent increase in tax resulting in an 18 percent reduction in economic growth. The relationship is not statistically significant because -0.006032 is less than 1.5 and 0.9952 is more than 0.05. The exchange rate and economic growth have a positive relationship (0.548607), with a one percent increase in the exchange rate resulting in a 54.8 percent increase in economic growth. However, the relationship is not statistically significant because 0.214834 is less than 1.5 and 0.8316 is greater than 0.05. Furthermore, there is a positive (4.450482) association between trade and economic growth, with a one percent increase in trade leading to an increase in economic growth of. However, the relationship is not statistically significant because 1.398909 is less than 1.5 and 0.1737 is greater than 0.05. Similarly, services and economic growth have a positive association (14.71791), so a

one percent rise in SVRCS leads to a one percent increase in economic growth, and the link is statistically insignificant because 0.877722 is less than 1.5 and 0.3881 is more than 0.05.

Table 4.7: Short run estimates dynamics of Objective two

Regressand: DRGDP				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.251123	0.728279	-0.344817	0.7328
D(RGDP(-1))	-0.101461	0.193454	-0.524473	0.6041
D(OREV(-1))	-2.039521	3.275625	-0.622636	0.5386
D(OEXP(-1))	4.899829	3.173061	1.544196	0.1338
D(FDI(-1))	0.837233	0.995576	0.840953	0.4075
D(INFR(-1))	0.023769	0.045738	0.519672	0.6074
D(GCF(-1))	2.134892	6.485429	0.329183	0.7445
D(CS(-1))	-2.750872	3.78194	-0.727371	0.473
ECT(-1)	-0.676782	0.234811	-2.882237	0.0075
EC = RGDP-(-2.0395*OREV + 4.8998*FDI + 0.0238*INFR + 2.1349*GCF - 2.7508*CS				

Table 4.8: Short run estimates dynamics of Objective three

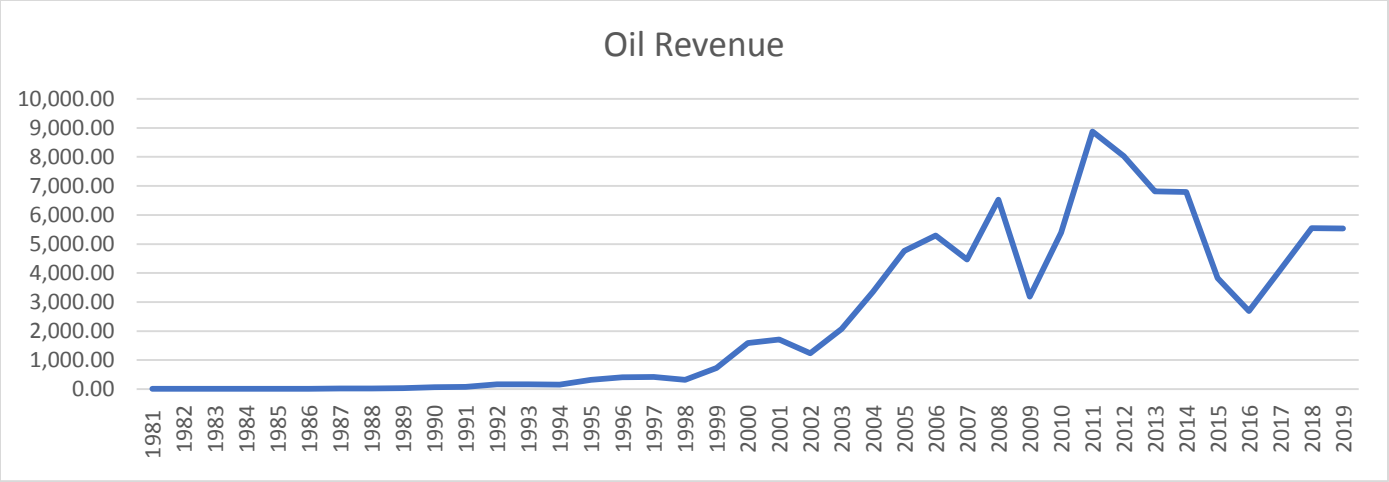
Regressand: DRGDP				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.027378	1.272548	-0.021514	0.983
D(RGDP(-1))	-0.194577	0.1942	-1.001941	0.3256
D(NOREV(-1))	1.695459	2.222521	0.762854	0.4524
D(NOEXP(-1))	1.084744	2.184798	0.496496	0.6237
D(TAX(-1))	-0.018057	2.993581	-0.006032	0.9952
D(EXC(-1))	0.548607	2.553627	0.214834	0.8316
D(TRADE(-1))	4.450482	3.181394	1.398909	0.1737
D(SVRCS(-1))	14.71791	16.76831	0.877722	0.3881
ECT(-1)	-0.511034	0.231264	-2.209741	0.0361
EC = RGDP + 1.6955*NOREV + 1.08474*NOEXP -0.0181*TAX + 0.5486*EXC + 4.4505*TRADE + 14.7179*SVRCS				

4.5 Trend Analysis

Trend analysis is the widespread practice of collecting information and attempting to spot a pattern. This section depicts the trend of oil revenue, non-oil revenue and economic growth over the period of thirty-nine (39) years. During the period of this section, the rise and fall of each of the main variables will be shown and interpreted.

4.5.1 Trend of Oil revenue in Nigeria (1981-2019)

Figure 4.7: Trend analysis of oil revenue in Nigeria from 1981 to 2019



Source: Author's computation based on data from World Development Indicator

With regard to Nigeria, it is worth noting that the oil sector has seen significant transformation over the years (Anyanwa, et al 1997). Theoretically, when managed efficiently and effectively, oil rents are expected to promote economic growth and developments of nations. But under the natural resource curse literature, however, oil revenues tend to encourage corruption and rent-seeking activities, which in turn undermines economic development.

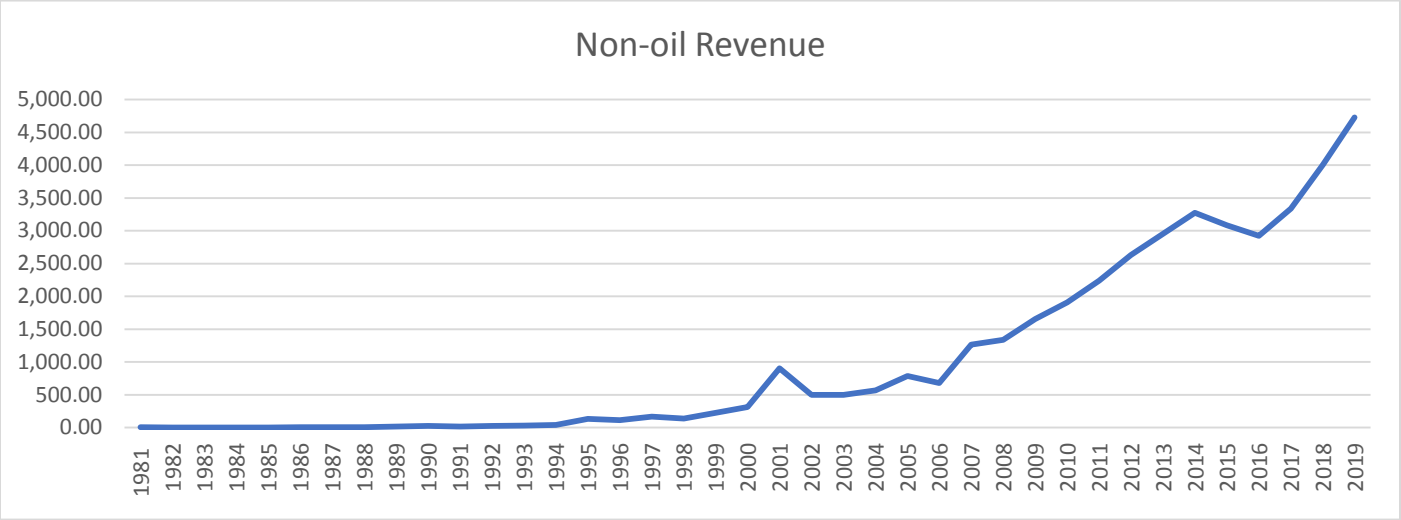
Before the 1980s era, government oil revenues accelerated from 66 million naira in 1970 to over 10 billion in 1980 showing how the oil revenue has helped the government in their expenditure. As seen in figure 4.7, the oil price has been fluctuating in the 1980s and the 1990s due to activities of the world powers in the global market. In 2014, according to International Energy Agency (IEA, 2015), Nigeria earned $77 billion from oil export. However, with the fall in oil price in 2015, Nigeria's oil revenue fell to $41.33 billion (Organisation for Petroleum Exporting Countries (OPEC) Annual Statistical Bulletin, 2016). However, the oil boom of 1973/74 changed the economic environment drastically as the windfall from oil boom around this time had a pervasive effect on the Nigerian economy even till the early 1980s. The shocks

nevertheless, slowed-down the economic activity and as a result caused severe fiscal imbalances for Nigeria and oil revenues decreased drastically (Audu, 2012).

The low oil revenue was caused by the iran-iraq war as oil prices plummeted in year 1988 causing OPEC to cut quotas. The 1990 oil price shock occurred in response to the Iraqi invasion of Kuwait on August 2, 1990. In year 2002, the revenue generated from the oil sector increased compared to the ones generated since 1981. However, in 2007, there was a sharp fall of oil revenue as a result of the 2007-2008 financial crisis which took place in Nigeria. However, the economy recovered fast from the damages caused by the crisis and it the oil revenue rose sharply again in year 2010. The oil sector reached its all-time peak in year 2011 where it recorded its highest oil revenue generated since oil was found in Nigeria and since then, it hasn't attained such height again. As depicted by the graph above, the rise and fall of the revenue generated from the oil sector shows that the oil sector cannot be solely relied upon for the major source of government revenue. Apart from the incessant drop in the price of oil in the past, the recent notable one was the drastic fall of the oil price from $112 per barrel in 2014 to almost $38 per barrel as at the end of 2015 due to the incessant and massive supply of Shale oil by the United States to the global market (British Petroleum Statistical Review of World Energy, 2017). In 2014, according to International Energy Agency (IEA, 2015), Nigeria earned $77 billion from oil export. However, with the fall in oil price in 2015, Nigeria's oil revenue fell to $41.33 billion (Organisation for Petroleum Exporting Countries (OPEC) Annual Statistical Bulletin, 2016). The 60 percent drop in oil prices between 2014 - 2016 exposed the structural vulnerabilities of oil dependent economies like ours. In July 2014, global crude oil prices began a sharp descent.

4.5.2 Trend of non-oil revenue in Nigeria (1981-2019)

Figure 4.8: Trend analysis of non-oil revenue in Nigeria from 1981-2019



Source: Author's computation based on data from World Development Indicator

Figure 4.8 showed that the trend of non-oil revenue is Nigeria has been on a sluggish rise with high degree of instability moving upward and downward. In the 1960s, prior to the discovery of oil, more than 70% of the rural population of Nigeria engaged in one type of agricultural activity or the other and between 1963 and 1964, the non-oil sector contributed as much as 65% to the Nation's Gross Domestic Product (GDP) (Yesufu, 1996). In the 1960s, agriculture was the main source of government revenue accompanied with the fact the Nigeria is rich in land and human resources. However, as the oil boom started in the 1970s, the government diverted the attention to the oil sector thereby leading to the abandonment of the non-oil sector (agriculture, manufacturing, mining, fishing, etc). The Nigerian economy has become more reliant on oil earnings since the early 1970s, which has had a negative influence on the non-oil sector, resulting in the sector's diminishing contribution to GDP despite price increases that have been

tremendous. The non-oil sector grew slowly, affecting non-oil revenue from 1981 to 1993 as a result of the non-oil sector's neglect due to the oil sector's boom, proving the dutch disease claim. It was evident that, despite the fact that Nigeria is rich in land and resources, the non-oil sector was not growing rapidly not until year 2007 in Nigeria. In year 2001, according to statistics, the non-oil sector generated a high revenue for the government due to an increase in manufacturing activities. However, there was a sudden fall in year 2002. In year 2002 and 2003, non-oil revenue was stagnant due to some policy reforms.

As depicted in figure 4.8 above, there has been a sporadic trend in the non-oil sector over the years due to unavailability of important requirement for the growth of the non-oil sector e.g; adequate infrastructure, availability of efficient plants/requirements, adequate funding, etc. However, researchers have argued for significant development of the non-oil sector as it tend to rapidly enhance economic development. In year 2009 through to year 2014, the non-oil sector experienced a steady growth which generated required revenue for the Government. However, the recession experienced in Nigeria starting from 2015-2017 affected the non-oil sector thereby reducing the revenue generated from the non-oil sector.

4.5.3 Trend Analysis of Economic Growth in Nigeria (1981-2019)

Figure 4.9: Trend analysis of economic growth in Nigeria from 1981 to 2019

Source: Author's computation based on data from World Development Index

Figure 4.9 shows the economic growth for Nigeria from 1981 through to 2019. As depicted in figure 4.9 above, it is evident that the growth rate in Nigeria has not been consistent and steady i.e there has been fluctuations over the years. The fall in economic growth in year 1981 was a result of the damages caused when the country was engulfed in a political turmoil that ushered in a regime of coups, counter coups, regime changes, political instability and a civil war between 1966 and 1979 thereby leading to a downturn in growth. Economic growth in Nigeria was positive as at year 1980 but it dropped down to a negative figure. The negative trend remains till 1996 where it attained the first positive figure since the fall.

Economic growth was negative thereby depicting low output as seen in the graph above. There was a sharp fall most importantly caused by the civil war. Nigeria's economy nearly fell apart in the 1980's due to the over dependence on oil prices thereby causing a reduction in the output level and revenue received from important sectors. The negative effect spanned to year

1983. Towards 1984, the economy recovered from the shock and the damages caused by the civil war to mention a few and the manufacturing sector expansion began thereby leading to an increase in output. As seen in figure 4.9, there was a sharp rise of economic growth in Nigeria. In year, 1985 more stringent fiscal, monetary and exchange control measures, as well as the incomes policy, were designed to arrest the deteriorating economic situations in Nigeria. Although the new approach helped to re-establish some control over the economy the problem of macroeconomic imbalance however remained unresolved which lead to a gradual fall in economic growth as depicted in figure 4.9 above. In year 1986, IMF/World Bank inspired Structural Adjustment Program (SAP), which took effect in the same year and ushered in the era of social economic reforms that have tended to create a more conducive environment for economic growth and development thereby leading to an immediate rise in economic growth as shown in figure 4.9. The various reforms and policies that have been put in place since 1986 have contributed in no small measure to the turn-around of the economy. Nigeria is currently ranked as the second largest economy in Africa, with a large and viable capital market as well as rapidly growing population. In year 1993, 1994 and 1995, Nigeria recorded a negative figure depicting a fall in output.

The trend which started from year 1996 remained positive till the year 2002. Before and after then, the trend of economic growth fluctuated. However, there was no negative figure till 2016 as a result of the occurrence of recession in that year. As depicted in figure 4.9, the trend of economic growth has not been consistent and steady over time due to decline in government revenues, insufficient electricity generation capacity and high population growth to mention a few. GDP Annual Growth Rate in Nigeria averaged 2.50 percent from 2011 until 2021, reaching an all-time high of 6.88 percent in the first quarter of 2011. Due to the recession that occurred in

year 2015-2016 and the contraction of the oil sector, the economic growth declined which almost recorded a negative growth. The fall recorded in year 2016 and 2017 was as a result of the recession that happened in the year 2016. In year 2016, Nigeria recorded a negative figure as output depleted. However, in year 2017, Nigeria was out of recession and economic growth was not negative but the output was low. In a nutshell, in terms of economic growth, there has been an irregular trend showing lack of consistency in the growth of output in Nigeria.

4.6 Summary of the Discussion of Results

This section of this research work addressed the results obtained from the econometric analysis and the trend analysis in line with the main objectives of this study. The three objectives of this empirical study are to ascertain the trend of oil revenue, non-oil revenue and economic growth, to examine the impact of oil revenue on economic growth and to know the effect of non-oil revenue on economic growth. The first objective was achieved through the use of graphs to show the trend of each of the variables. Furthermore, it shown that oil revenue has generated more revenue for the Government over years, however, Nigeria is still recording slow growth validating the recourse curse theory. On the other hand, one of the graphs showed that non-oil revenue has a low contribution to revenue, however, the non-oil sector has the higher chances of generating more employment opportunities. In terms of economic growth in Nigeria, The third graph showed that economic growth has not been consistent showing high rate of economic growth sporadically. The impact of oil revenue on economic growth showed that oil revenue has a positive and insignificant effect on economic growth. The impact of non-oil revenue on economic growth showed that it has a positive and insignificant effect on economic growth.

CHAPTER 5

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This chapter presents the summary of the findings. It outlines the policy conclusions and recommendations premised on the results of the study. The main contributions to the knowledge as well as the limitations of the study together with the suggestions for future research were also discussed.

5.1 Summary of the findings

This paper investigated the economic growth implications of oil revenue and non-oil revenue in Nigeria. The results from our analysis broadly tend to lend support to the natural resource curse literature, as the estimated coefficient of oil in all equations is either negative or positive but not statistically significant. This is not surprising as most oil exporting countries that have earned huge oil rents also tend to have high socioeconomic problems, including high poverty rates, poor health services, high rates of child mortality and poor educational system amongst others (Karl, 2007). Nigeria is therefore not an exception as, despite oil wealth, it is one of Africa‘s most impoverished nations. Clearly, the huge oil revenues Nigeria has amassed over the years have not been used for the greater good of the country as other recent studies have unearthed (Eric, 2008, Isham et al., 2005, Sala-i-Martin *et al.*, 2003). Taking Nigeria as a case study, estimating the amount that has been generated in the oil sector over the years, comparing it to economic growth in Nigeria, it validates the resource curse theory.

However, the study found that both oil revenue and non-oil revenue have sustained impact on economic growth. This study has also validated the claim that there is a long run relationship between oil revenue and economic growth, also, there is a long run relationship

between non-oil revenue and economic growth. On the other hand, there is a short run relationship between oil revenue and economic growth, also, there is a short run relationship between non-oil revenue and economic growth. The findings show that oil revenue and non-oil revenue are positively and significantly related with economic growth which is in conformity with apriori theoretical expectation. The better performance of the non-oil revenue relative to the oil revenue within the studied period could be attributed to the good governance demonstrated by past administrations in the 60s, 70s and 80s which judiciously spent the nationally generated revenue on provision of basic social amenities which translated to improved economic growth and development. After these decades, the mantle of leadership has been taken over by corrupt politicians who are not interested in the welfare of Nigerians but in looting the national treasury for selfish reason.

5.2 Conclusions

Research and statistics have shown over the years that the government should invest heavily in the non-oil sector not because it has been neglected over the years, but because it yields maximum revenue for government in terms of tax, agriculture and entertainment to mention a few. The significance of these sectors may be attributed to the attention that governments have given to these sectors over time, which in turn yields positive effect by increasing the revenue base of the government in Nigeria. The result is expected and consistent with the empirical finding of Salami, Amusa and Ojoye (2018) that non-oil sector positively and significantly contributed to economic growth in Nigeria. This therefore implies that in the short run and long run respectively, non-oil sectorial contributions positively and significantly contributed to economic growth in Nigeria. The study agreed with the empirical finding of

Kromtit, Kanadi, Ndangra and Lado (2017) that non-oil sector contributed positively and significantly to economic growth.

Furthermore, result from the co-integration test showed that the computed F-stat for objective two is in between the upper and lower bound table value which thus indicated that there is a long-run relationship among the variables, that is, the variables co-move in the long run. This result validated the empirical finding of Aladejare and Saidi (2014) that there is a long-run relationship between non-oil contributions and economic growth in Nigeria. The significance of these sectors may be attributed to the attention that governments have given to these sectors over time, which in turn yields positive effect by increasing the revenue base of the government in Nigeria. A number of factors and reasons have been advanced in this study, as in previous studies, for the lack of effective and efficient utilization of oil rent in Nigeria. Simply put, revenues earned from oil exports over the decades have been mismanaged due to corruption, rent-seeking, wastage, inefficiency and poor governance as demonstrated by lack of accountability and transparency in the affairs of the government. As a result, the bulk of the oil wealth has leaked out of the formal system instead of being channeled to productive activities that could create jobs, boost income, improve living standards, eradicate poverty, and promote overall economic growth and development. So long as these phenomena continue to exist in Nigeria, the country‘s oil wealth will continue to be squandered by the few individuals (politicians, policy makers, oil marketers and their international collaborators) to the detriment of the majority of the population. Surely, the status quo is not sustainable and efforts must be made to introduce and implement genuine reforms to allow oil to play a key beneficial role in the economic development process of Nigeria. Whether or not the ugly status quo can be changed for better by the current administration of Muhammadu Buhari is very difficult to conclude.

5.3 Recommendations

The over-dependence on crude oil which experiences fluctuations tend to affect the economy in various negative ways should be alleviated, hence, giving opportunities for other sectors to grow. Thus, private sector owners and managers that capitalized on oil businesses can increase their net worth by shifting into non-oil sectorial businesses like health, finance, trade, power, ICT unlike Agriculture and manufacturing which many people are frequently diverting into. Diversification of the economy into non-oil sector is quintessentially important at a time like this by not wholly depending on oil sector as the sole and main contributor to the government's revenue and RGDP. Thus, environmental, ICT, financial among others non-oil sectors should receive the same magnitude of fund as in the case of oil sector, i.e., the sector should be more funded and well equipped to ensure good outputs and contributions.

Based on the following results, the following recommendations are made:

- ✓ All sectors should be funded simultaneously.
- ✓ Credible and trusted people should be elected into political offices by Nigerians who would make judicious utilization of the oil revenue and non-oil revenue for the improvement of the living standard of the people and overall growth and development of the country.
- ✓ The existing refineries in the country should be well maintained to produce at full capacity and new ones be established to produce refined petroleum products that can be exported to foreign countries which would boost the nationally generated revenue for economic development.

- ✓ Loanable funds at reduced interest rates should be made available to domestic investors in the non-oil sector of the Nigerian economy especially the agricultural and manufacturing sub-sectors.
- ✓ Domestic and foreign investors should be encouraged by the government to invest in the oil and non-oil sectors through provision of basic infrastructural facilities like uninterrupted power supply, good road network, efficient and effective communication system and regular supply of drinkable water among others in order to yield more revenue.

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