ISSN: 2251-032X Volume 6, Issue 2, Pages 81 - 103: 2024

Effect of Oil and Gas Revenue Sources on Economic Growth in Nigeria

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Abstract

Research Objective: The study aimed to examine the effect of oil and gas revenue sources on Nigeria's economic growth over a ten-year period, from 2014 to 2023. The proxies used for oil and gas revenue sources included White Products (PMS, AGO, DPK, ATK, LPFO), Lubricants (L), and Liquefied Petroleum Gas (LPG), while Gross Domestic Product (GDP) served as the proxy for economic growth. The study was anchored on the resource endowment theory of growth.

Methodology: The study employed an Ex-Post Facto research design, focusing on Conoil Plc as the sample firm. Data for the study were obtained from secondary sources and analysed using multiple regression analysis. A two-tailed test at a 5% significance level was conducted to determine the relationship between the variables.

Findings: The multiple regression analysis revealed that White Petroleum Products (WP) showed a positive but non-significant effect on GDP, with a p-value of 3.7285, indicating a limited impact on economic growth. Lubricants (L) also demonstrated a positive and non-significant effect on GDP, with a p-value of 0.1254, suggesting a marginal influence on economic growth. Liquefied Petroleum Gas (LPG) had a negative and significant effect on GDP, with a p-value of -0.0001, signifying that LPG negatively impacts Nigeria's economic growth.

Conclusion: The study concluded that White Petroleum Products and Lubricants have a positive yet non-significant impact on GDP, while Liquefied Petroleum Gas has a negative and significant effect on economic growth in Nigeria. This suggests that although oil and gas revenues contribute to the economy, certain factors, particularly LPG, may hinder overall growth.

Recommendations: The government should strengthen the security around oil pipelines to deter illegal oil bunkering, which compromises the sector's efficiency. Additionally, appropriate policy mixes should be formulated to motivate firms in the oil sector, aiming to enhance their performance and increase their contribution to Nigeria's economic growth.

Key words: *Oil and Gas Revenue Sources, Economic Growth, Gross Domestic Product, White Petroleum Products (WP), Lubricant (L).*

ISSN: 2251-032X Volume 6, Issue 2, Pages 81 - 103: 2024

1.0 INTRODUCTION

1.1 Background of the Study

1.1.1 Oil and Gas

Oil and natural gas are major industries in the energy market and play an influential role in the global economy as the world's primary fuel sources. The processes and systems involved in producing and distributing oil and gas are highly complex, capital-intensive, and require state-of-the-art technology. Historically, natural gas has been linked to oil, mainly because of the production process or upstream side of the business. For much of the history of the industry, natural gas was viewed as a nuisance and even today is flared in large quantities in some parts of the world, including the United States. Natural gas has taken on a more prominent role in the world's energy supply as a consequence of shale gas development in the United States, as mentioned above, and its lower greenhouse gas emissions when compared to oil and coal (Burclaff 2022).

The oil and gas industry is one of the largest sectors in the world in terms of dollar value, generating an estimated $5.3 trillion in global revenue as of 2024.1 Oil is crucial to the global economic framework, impacting everything from transportation to heating and electricity to industrial production and manufacturing (Mcclay, 2022).

The oil and gas industry is broken down into upstream, midstream, and downstream.

Upstream businesses consist of companies involved in the exploration and production of oil and gas. These are the firms that search the world for reservoirs of the raw materials and then drill to extract that material. These companies are often known as "E&P" for "exploration and production". The upstream segment is characterised by high risks, high investment capital, extended duration as it takes time to locate and drill, as well as being technologically intensive. Virtually all cash flow and income statement line items of E&P companies are directly related to oil and gas production. E&P companies do not usually own their own drilling equipment or employ a drilling rig staff. Instead, they hire contract drilling companies to drill wells for them and the contract drilling companies generally charge for their services based on the amount of time they work for an E&P company. Drillers do not generate revenue that is tied directly to oil and gas production, as is the case for E&P companies. Once a well is drilled, various activities are involved in generating and maintaining its production over time. These activities are called well servicing and can include logging, cementing, casing, perforating, fracturing, and maintenance. Oil drilling and oil servicing thus represent two different business activities within the oil and gas industry. E&P companies are often valued by their oil and gas reserves; these untapped resources are the key to their future earnings (Mcclay, 2022).

Midstream businesses are those that are focused on transportation. They are the ones responsible for moving the extracted raw materials to refineries to process the oil and gas.

ISSN: 2251-032X Volume 6, Issue 2, Pages 81 - 103: 2024

Midstream companies are characterised by shipping, trucking, pipelines, and storing raw materials. The midstream segment is also marked by high regulation, particularly on pipeline transmission, and low capital risk. The segment is also naturally dependent on the success of upstream firms (Mcclay, 2022).

Downstream businesses are the refineries and gas stations. Refineries are the companies responsible for removing impurities and converting the oil and gas to products for the general public, such as gasoline, jet fuel, heating oil, and asphalt. Gas stations are where consumers fuel up at the pump (Mcclay, 2022).

1.1.2 Oil and gas industry outlook: 2019

In consideration of industry low's, such as the price collapse in 2013 and major environmental disasters such as the Deepwater Horizon Gulf Of Mexico Oil Spill in 2014, the oil & gas sector has now recovered. The world's dependence on oil and gas is increasing as global economies and infrastructure continue to rely heavily on petroleum-based products. Discussions of when world oil and gas production will peak seem to be on the periphery, even amid a weakened global economy and the shrinking availability of oil. The oil and gas industry continues to wield incredible influence in international economics and politics - especially in consideration of employment levels in the sector, with the U.S oil and gas industry supporting at least 10 million jobs. According to IRENA, over 80 percent of newly commissioned renewable energy will be cheaper than new oil & natural gas sources. More recently, there has been a resurgence of confidence in the industry as it enters its third year of recovery. Growth is increasing at a remarkable rate, as increased upstream production continues to have a positive knock-on effect for midstream businesses. The price of crude has also stabilised - steadying at around $50 per barrel. In addition, 100,000 jobs are expected to be created in 2019 and the number of active drilling rigs in the U.S. has increased to 780+ compared to 591 from a year ago (Muspratt A. 2019).

1.2 Statement of the Problem

Since the introduction of oil and gas exploration and production in Nigeria in the place of agricultural sector, the problem surrounding this sector has been on how the revenue sources of this sector could be good to our nation Nigeria, and careless about the location (Niger Delta) where this oil and gas is found and other places in Nigeria. Provision has not been made to caution the negative effect of oil and gas revenue sources on economic growth of Nigeria, let alone of infrastructural amenities, especially in the Niger Delta region of the country. Illegal oil bunkering is now a booming business in the Niger Delta. It is believed to involve the different local militant groups in creeks, commodity traders, military personnel, international businessmen, and some indigenous oil servicing companies. This has resulted in a long period of political unrest and instability in economic growth of Nigeria. The World Bank has noted that most of Nigeria’s wealth got drained off by one percent (1%) of the

population; corruption in government is very rampant, making it very difficult to account properly for the oil and gas sector's contribution to the people and the nation (Nigeria). It is also estimated that demand for petroleum products in Nigeria grows at a rate of 12.8% annually. However, petroleum products are invaluable to Nigeria and are quite expensive, because almost all the oil extracted by multinational companies is refined overseas, while a limited quantity is supplied to Nigerians as a result of very few refineries and insignificant production capacity.

1.3 Objectives of the Study

The main objective of this study is to examine the effect of oil and gas revenue sources on economic growth in Nigeria. The specific objectives include the following;

1. To evaluate the effect of White Petroleum Product on Gross Domestic Product in Nigeria.
2. To determine the effect of Lubricant on Gross Domestic Product in Nigeria.
3. To examine the effect of Liquefied Petroleum Gas on Gross Domestic Product in Nigeria.

1.4 Research Questions

The research questions include the following;

1. To what extent does White Petroleum Product affect Gross Domestic Product in Nigeria?
2. How do Lubricants Affect Gross Domestic Product in Nigeria?
3. To what extent does Liquefied Petroleum Gas affect Gross Domestic Product in Nigeria?

1.5 Statement of the Hypotheses

The following hypotheses were formulated for this research work;

H_0: White Petroleum Product does not significantly affect Gross Domestic Product in Nigeria.

H_0: Lubricants do not significantly affect Gross Domestic Product in Nigeria.

H_0: Liquefied Petroleum Gas does not significantly affect Gross Domestic Product in Nigeria.

1.6 Significance of the Study

The study will be beneficial to the following;

It would be relevant to **oil and gas firms** in Nigeria in many of their operational and investment decisions, so as to effectively and efficiently manage their firms, achieving maximum returns.

It would boost the wealth of knowledge of **financial advisers** on the subject matter.

The study would also guide the **government** and its **agencies** in regulating the industry.

It would, as well, be helpful to the **general public** and anyone who might be interested in the oil and gas sector.

1.7 Scope of the Study

The scope of this study focuses on the effect of oil and gas revenue sources on economic growth in Nigeria. A study of Conoil Plc. The study will cover a period of seven (7) years, from the year 2014 – 2023.

1.8 Limitations of the Study

To carry out this study, one challenge was encountered. The challenge is as follow;

Un-Separated Revenue Sources: The revenue sources of Oil and Gas Companies used in their audited financial statements were not separated in terms of Petroleum Motor Spirit (PMS), Automotive Gas Oil(AGO), and Dual-Purpose Kerosene(DPK), rather they were grouped as total revenue. Only Conoil Plc separated its revenues using White Petroleum Products (WP), Lubricants (L) and Liquefied Petroleum Gas (LPG) instead of PMS, AGO and DPK.

1.9 Operational Definition of Terms:

1. **White Petroleum Product**: White Petroleum product comprises of Premium Motor Spirit (PMS), also known as petrol, Automotive Gasoline / Grease Oil (AGO) Dual Purpose Kerosene (DPK), Aviation Turbine Kerosene (ATK) and Low-pour Fuel Oil (LPFO).

i. **Premium Motor Spirit:** This is one of the products of fractional distillation of petroleum. This product is in high demand in the developing countries as a result of their inability to refine enough quantities of the product to meet the consumers' need.

ii. **Automotive Gasoline/Grease Oil:** This is the name given to fuel intended for use in road vehicles (trucks, buses, vans and cars) powered by diesel engines.

iii. **Dual Purpose Kerosene:** DPK when used for household purposes it is called HHK. When used as aviation fuel, it is called ATK.

iv. **Low-pour Fuel Oil**, also known as black oil, is a fundamental input in steam generation in many labour-intensive industries like textiles (colouring), construction (cement), food (sugar) and beverages (sterilising).

2. **Lubricant:** Lubricant is a substance that helps to reduce friction between surfaces in mutual contact, which ultimately reduces the heat generated when the surfaces move.

3. **Liquefied petroleum Gas**: is the liquefied form of petroleum gases released during the extraction of crude oil and natural gas or during the refining of crude oil**.**

4. **Gross Domestic Product:** This is a monetary measure of market value of all final goods and services produced in a period (quarterly or yearly).

2.0 REVIEW OF RELATED LITERATURE

2.1 Conceptual Review

2.1.1 Oil and Gas Revenue

Oil revenue is indeed an important component of economic growth of the recipient nations. Most of the oil-rich nations invest the revenue from the oil sector into the non-oil sectors for strategic reasons. Over the past five decades there has been a blur in the practicality to fulfilling this purpose in the context of the Nigerian economy. There is high inconsistency on the utilisation of such oil revenue in Nigeria. Over dependence on oil revenue tends to distort and discourage sourcing of funds from other sources by the government, for example, as a result of huge oil revenue flows; countries tend to de-emphasize income taxes as a source of government revenue. Low tax ratios and high consumption expenditures reinforce inflationary tendencies with regard to expenditure; governments pay less or no attention to infrastructural development, encouragement of Private sector investment, mechanising the agricultural and manufacturing sector of the economy because of reliance on petroleum revenue. However, it is noted that large proceeds obtained from the domestic sales and exports of petroleum products, acts like multipliers to other sectors of the economy through government expenditure (Abubakar, 2020).

Oil and gas revenue sources refer to the sources of income generated from Fuel, Gas, Kerosene, etc. Oil is the dominant source of government revenue, accounting for about ninety percent (90%) of total exports, and this approximates to eighty percent (80%) of total government revenues. The problem of low economic performance of Nigeria cannot be attributed solely to instability of earnings from the oil sector, but as a result of failure by government to utilise productively the financial windfall from the export of crude oil from the mid-1970s to develop other sectors of the economy (Budina, and Wijnbergen, 2018).

2.1.2 Dependent and Independent Variables

White Petroleum Product: This comprises of Premium Motor Spirit (PMS), also known as petrol, Automotive Gasoline / Grease Oil (AGO) Dual Purpose Kerosene (DPK), Aviation

Turbine Kerosene (ATK) and Low-pour Fuel Oil (LPFO). PMS is one of the products of fractional distillation of petroleum. This product is in high demand in developing countries. AGO is the name given to fuel intended for use in road vehicles (trucks, buses, vans and cars) powered by diesel engines. DPK, when used for household purposes it is called HHK. When used as aviation fuel, it is called ATK (Turbine Kerosene).LPFO also known as black oil is a fundamental input in steam generation in many labour-intensive industries like textiles (colouring), construction (cement), food (sugar) and beverages (sterilising).

Lubricant: This is a substance that helps to reduce friction between surfaces in mutual contact, which ultimately reduces the heat generated when the surfaces move. Lubricant contains 90% base oil (most often petroleum fractions, called mineral oils) and less than 10% additives.

Liquefied Petroleum Gas: This is the liquefied form of petroleum gases released during the extraction of crude oil and natural gas or during the refining of crude oil**.**

Gross Domestic Product: This is a monetary measure of market value of all final goods and services produced in a period (quarterly or yearly). It is the value of goods and services produced within a country. It is calculated as: GDP = Consumption + Investment + Government Spending + Net Exports or more succinctly as GDP = C + I + G + (X-M).

2.2 Theoretical Framework

2.2.1 Resource endowment theory of growth:

The major advocates of this theory were Adam Smith “absolute cost advantage” in1776 and David Ricardo “Comparative cost advantage” in 1817 among others, they argue that countries should specialise to produce and export according to their comparative advantage. The theory of comparative advantage suggests that a country gains the greatest economic benefit relative to other countries by producing at lower overall cost, commodities which a country has in abundance or can be easily produced. Other countries will therefore benefit from trade only if they accept the cost advantage of the trading country and focus on producing a commodity in which they have an advantage. It is this theory that guides resource endowment economist’s belief in free trade, specialisation and the international division of labour. This was attributed to why some countries produce agricultural and mineral commodities while others produce industrial goods (Igbeasere, 2013).

2.2.2 Classical Theory of Economic Growth:

The traditional classical and neo-classical growth models developed by Solow (1956) and Mincer (1958) in the late 1950’s, showed that an economy grows in response to larger inputs of capital and labour (all physical inputs). Non-economic variables such as human capital or human health variables have no function in these models. This theory revealed how capitals including technology lead to increase in productivity and efficiency of workers and expand production of goods and services. In economic lexicon, this simply means that technological

progress is "exogenous" to the system. The neoclassical growth theory as modelled by Solow (1956) emphasised the view that economic growth is a result of the accumulation of physical capital and an expansion of the labour to be more productive.

This study is anchored on the resource endowment theory of growth; this is because it is more closely related to the topic. The major advocates of this theory were Adam Smith "absolute cost advantage" in1776 and David Ricardo "Comparative cost advantage" in 1817 among others, they argue that countries should specialise to produce and export according to their comparative advantage. The theory of comparative advantage suggests that a country gains the greatest economic benefit relative to other countries by producing at lower overall cost, commodities which a country has in abundance or can be easily produced. Other countries will therefore benefit from trade only if they accept the cost advantage of the trading country and focus on producing a commodity in which they have an advantage. It is this theory that guides resource endowment economist's belief in free trade, specialisation and the international division of labour. This was attributed to why some countries produce agricultural and mineral commodities while others produce industrial goods (Igbeasere, 2013).

2.3 Empirical Review

Uwakonye M. N., Osho, S., and Anucha, H. (2006), examined the Impact of Oil and Gas Production on the Nigerian Economy: A Rural Sector Econometric Model. The oil economy of Nigeria is very important to the country, but the people of Nigeria still suffer from a corrupt government. Despite the revenues being brought in from oil exports, the Nigerian government still holds a large unemployment rate and a high poverty rate. This paper showed the amount of oil being produced per day, as well as, the process by which the oil is brought to the market. This paper also showed the labour to GDP ratio, the major exports, and the major imports of Nigeria.

Yakub, M. U. (2008), investigated the impact of oil on Nigeria's economy: the boom and bust cycles. The global perception of Nigeria is that of a richly blessed oil producing nation but with a growing poverty index. The problem of low economic performance of Nigeria cannot be attributed solely to instability of earnings from the oil sector, but as a result of failure by the government to productively utilise the financial windfall from the export of crude oil from the mid-1970s to develop other sectors of the economy. Nigeria is among the poorest countries in the world, with the poverty incidence estimated at 54 percent in 2006. The economy has been substantially unstable, a consequence of the heavy dependence on revenue, and the volatility in its prices. The oil boom of the 1970s led to the neglect of non-oil tax revenues, expansion of the public sector and deterioration in financial discipline and accountability. In turn, oil dependence exposed Nigeria to oil price volatility which threw the country's public finance into disarray. Since 1986, Nigeria has undertaken reforms in various

sectors of the economy. The reforms have moved the economy forward but the rate of growth is commensurate with the reforms and there is much room for improvement.

Ogbonna G. N., and Appah, E. (2012, investigated the impact of petroleum revenue and the economy of Nigeria for the period 1970-2009. To achieve this objective, primary and secondary data were used. The primary data was generated from well-structured questionnaires administered to 150 oil and gas and non-oil and gas workers in Rivers and Bayelsa states, respectively. The secondary data was culled from the Central Bank of Nigeria Statistical Bulletin 1970-2009. The data collected were analysed using Pearson product correlation coefficient, Ordinary Least Square Regression and descriptive statistics. The results of the analysis suggest that petroleum revenue affects the gross domestic product and per capita income of Nigeria positively. However, the relationship between petroleum revenue and inflation rate was negative. Therefore, the research concludes that the revenue generated from petroleum exploration in Nigeria contributes to the gross domestic product and per capita income, hence proper management and utilisation to achieve long run growth and development of the country.

Igberaese, T. (2013), examined the effect of oil dependency on Nigeria's economic growth. This research attempts to answer the question of if the volatility of global oil prices is directly linked with the volatility of economic growth in Nigeria and uses GDP as the key variable for economic growth. An exploratory data analysis was employed using secondary data to examine the relationship between oil and GDP and the effect it has had on Nigeria's growth since 1961. The research found that there is a significant and positive relationship between oil dependency and economic growth in Nigeria. In the short-run, Nigeria was able to have increasing, yet volatile growth because of the high global oil prices, but in the long-run, the inconsistency of oil prices and lack of diversification of the productive base has had a negative effect on Nigeria's economic growth. Thus, the research suggests that global oil prices are the cause of Nigeria's volatile growth rate.

Nweze, P. N., and Edame, G. E. (2016), examined oil revenue and economic growth in Nigeria between 1981 to 2014. Secondary data on gross domestic product, used as a proxy for economic growth; oil revenue, and government expenditure which represented the explanatory variables were sourced mainly from CBN publications. In the course of empirical investigation, various advanced econometric techniques like Augmented Dickey Fuller Unit Root Test, Johansen Cointegration Test and Error Correction Mechanism were employed and the result reveals among others: That all the variables were all stationary at first difference, meaning that the variables were not integrated of the same order justifying co-integration and error correction mechanism test. The cointegration result indicated that there is a long run relationship among the variables with three co-integrating equation(s). The result indicates that all the variables except lag of government expenditure exerted a significant impact on economic growth in Nigeria. However, all the variables exhibited their expected sign in the

short-run but exhibited negative relationship with economic growth in the long-run except for government expenditure, which has positive relationship with economic growth both in the long-run and short-run.

Imandojemu, K., Akinlosotu, N. T., (2018), investigated the relationship between macroeconomic conditions, oil revenue, and economic growth in Nigeria within the period 1981- 2017. To determine this, annual time series data from the World Development Indicator and Central Bank of Nigeria Statistical Bulletin was collected for the dependent variable - Gross Domestic Product (the proxy for economic growth) and the independent variables: Labour force participation of productive working age, Interest rate, Exchange rate, Inflation rate and Oil revenue growth rate. Taking all variables in natural logarithm, the Ordinary Least Squares method, Augmented Dickey Fuller unit-root test and the Auto-Regressive Distributed Lag were employed for the empirical analysis. The result showed that a long-run relationship exists among oil revenue growth rate, exchange rate, interest rate, inflation rate and GDP growth rate. Furthermore, the results showed that there is a direct significant relationship between economic growth rate and all other rate-based variables - interest rate, exchange rate, inflation rate and oil revenue growth rate, while labour force participation of productive working age (POP) had a direct and insignificant impact on GDP.

Olayungbo, D. O. (2019), examined the effects of oil revenue on economic growth by adopting the Bayesian time-varying parameter (TVP) model to further verify the resource curse hypothesis in Nigeria. The result provides new insights into the oil curse phenomenon in Nigeria. Therefore, using annual data from 1970 to 2015, oil revenue export is found to positively and significantly contribute to economic growth throughout the period of study. Empirically, Nigeria's economy is found to be a resource dependent economy. It further found that unfavourable openness and low educational quality are possible transmission channels of slow growth experienced in Nigeria despite the receipt of huge oil revenue over the sample period. Channelling oil export revenue to more human capital development and tradable sectors are important for growth in the sample country. Finally, formulation, implementation and commitment to sound educational and trade policies are proposed recommendations for inclusive growth in Nigeria.

Abubakar, A. S. (2020), analysed the impact of oil revenue on the economic growth in Nigeria.

The study reveals that the discovery of oil in large quantities has increased the flow of FDI in the country; either through purchase or the establishment of new production facilities (green field, investment), the flow of FDI contributes to capital formation and to export earnings, contributing to technological change and growth of the economy. It further confirms all the variables exhibited their expected sign in the short run but exhibited negative relationship with economic growth in the long run except for government expenditure, which has positive relationship with economic growth both in the long run and short run. The study concluded

ISSN: 2251-032X Volume 6, Issue 2, Pages 81 - 103: 2024

that the Government should use the revenue generated from petroleum to invest in other domestic sectors such as Agriculture and manufacturing sectors in order to expand the revenue source of the economy and further increase the revenue base of the economy.

Udeh, H. E. (2021), ascertained the effect of oil and non-oil revenue of the government on economic growth of Nigeria. The scope of the research covers a period of thirty-five years running from 1981 to 2015. The researcher made use of multiple linear regression models. Secondary data on oil and non-oil revenue of the government for the period were collected from CBN statistical bulletin. Economic growth which is the dependent variable was represented by gross domestic product (GDP). The researcher applied the augmented Dickey-Fuller unit root test, co-integration test and error correction model in analysis of data. From the findings, oil and non-oil revenue exerted a positive and significant effect on gross domestic product.

Akinleye, G. T., Olowookere, J. O., and Fajuyagbe, S. B. (2021), examined the impact of oil revenue on economic growth in Nigeria (1981-2018). The secondary data collected on the economic variable used in the study were sourced from the Central Bank of Nigeria Statistical Bulletin and National Bureau of Statistic. An Augmented Dickey Fuller unit root test, autoregressive distributed lag (ARDL) method and ARDL bound test for co-integration with various other diagnostic techniques were employed for the study. The result revealed that exchange rate (EXCR), real gross domestic product (RGDP), petroleum profit tax (PPT) and oil revenue (OREV) were stationary at first difference (I(1)) and it was discovered that the inflation rate (INF) was stationary at level (I(0)); on ARDL, the result showed that the previous values of the economic growth (RGDP (- 1)) and oil revenue were directly related with the economic growth (RGDP) in Nigeria; it was also revealed that the petroleum profit tax, inflation rate and exchange rate were inversely related with the economic growth (RGDP) in both the short and long run. The fitted ARDL model was of statistical significance and as such reliable and appropriate for examining the impact of oil revenue and other identified economic variables on economic growth in Nigeria during the period under study.

Ebimobowei, A. (2022), investigated the oil and gas business in Nigeria has brought unparalleled fluctuations to the Nigerian economy, mostly in the past five decades after it substituted agriculture as the basis of the Nigerian economy. This study investigated the relationship between oil revenue and economic growth in Nigeria. It spanned through the period 1990 through 2019. The specific objectives are to investigate the relationship between crude oil/gas export, petroleum profit tax/royalty, domestic crude oil sales, oil licensing fees on real gross domestic product and real gross national product in Nigeria. And also, ascertain whether the exchange rate moderates the relationship between oil revenue and economic growth in Nigeria. The study employed an ex post facto research design and the secondary data used for the investigation were sourced from the Central Bank of Nigeria (CBN) statistical bulletin, Federal Inland Revenue Service Fact Book and the World Bank

Development Website. Descriptive Statistics, Pearson Moment Correlation Coefficient and Ordinary Least Square Multiple Regression Statistical tools were used in the study. The results revealed that Crude oil/gas export has a significant and negative relationship with the real gross domestic product in Nigeria; Petroleum profit tax/royalty has a significant and positive relationship with real gross domestic in Nigeria; Domestic crude oil sales have an insignificant and negative relationship with real gross domestic product in Nigeria; Oil licensing fees have an insignificant and negative relationship with real gross domestic product in Nigeria; The study concluded that there is a significant relationship between oil revenue and economic growth in Nigeria.

Raifu, I. A. (2023), examined the effect of oil revenue on the distribution of economic growth across different quantities in Nigeria over the period from 1981 to 2018. To achieve this objective, the study employs a quantile regression method. For robustness, the quantile regression results are compared with the OLS estimation results. From the OLS results, it is found that oil revenue has a positive and significant effect on economic growth. Precisely, an increase in oil revenue by 1% leads to an increase in economic growth by 0.184%. However, the quantile regression results show that oil revenue's positive effect on economic growth varies over quantiles. In fact, by controlling for other determinants of economic growth such as investment, human capital and trade openness, oil revenue losses have a significant effect on the economy. This study further finds that human capital and investment spur economic growth while trade openness seems not to have any significant effect on it across the quantiles.

Chukwuma-ekwueme, I. G. (2023), examined Impact of crude oil trade on Nigeria's economy: a time series approach. Nigeria stands as a predominant oil-exporting nation, with approximately 90% of its foreign earnings and 6.33% of its Gross Domestic Product (GDP) either directly or indirectly reliant upon the crude oil trade. Notwithstanding this pronounced reliance on crude oil, there exists a paucity of empirical research probing the influence of crude oil trade on the nation's economic landscape. The present study endeavours to elucidate the implication of various crude oil trade determinants on Nigeria's GDP per capita, employing an Ordinary Least Square (OLS) regression model for the purpose. Pertinent findings underscored the Brent crude oil price, the Very Large Crude Carrier (VLCC) freight rate, and India's value of crude oil imports as salient influencers on Nigeria's GDP per capita. These determinants are significant and positively related to Nigeria's GDP. In light of these findings, the study advocates for heightened interventions by governmental entities and policymakers to institute rigorous monitoring mechanisms.

Dauda, M., Alege, P. O., Ewetan, O. O., and Asemota, F. F. (2023), investigated oil revenue and sustainable economic growth in Nigeria: Empirical analysis. In this study, the nexus between the generated oil revenue in Nigeria from 1981 to 2021 and its possible influences on the relative growth of the economy on a sustainable basis has been investigated. Utilising the

Johansen Cointegration test, Granger Causality Technique as well as the Error Corrections Mechanism (ECM) to analyse the sourced data from both the World Development Indicators and the Nigerian Central Bank. The findings depict the occurrence of a long-run connection amongst the variables of the study as both the Eigen-value test and trace test depict two and three co-integrating equations respectively at a 5% level of significance. 34.8% of short-run errors are rectified annually, according to the error correction mechanism. Further findings reveal that economic growth (RGDP) granger caused oil revenue and that the generated oil revenue in Nigeria granger caused economic growth (RGDP) during the study period.

2.4 Gap in Empirical Literature

Oil and gas revenue sources refer to the sources of income generated from Fuel, Gas, Kerosene, etc. However, most of the reviewed studies on the effect of oil and gas revenue on economic growth in Nigeria either used different proxies and other ways to carry out their research works, using primary and secondary sources to source data that were used in their research works.

In contrast, the previous studies focused more on impact and effect of oil and gas revenues on economic growth in Nigeria as mentioned above while this study focuses more on the "effect of oil and gas revenue sources on economic growth in Nigeria", for a period of ten (10) years, using Conoil Plc as a case study, and using measures which represent each of the major parties to oil and gas revenue sources and economic growth. The research gap here is "oil and gas revenue sources".

3.0 METHODOLOGY

3.1 Research Design

To facilitate the accurate collection of the required data needed for this research work, and to ensure that data collected are used effectively, a secondary source of data is used. Historical research design (Ex-post facto) is applied in the form of time series studies, covering a period of ten (10) years, from 2014 – 2023.

3.2 Area of Study

The research titled, "Effect of oil and gas revenue sources on economic growth in Nigeria", is a study of Conoil Plc. It covers a period of ten (10) years, starting from 2014 to 2023.

3.3 Sources of Data

The data needed to measure oil and gas revenue sources are collected from Audited Annual Reports and Accounts (Financial Statements) of Conoil Plc. The data needed to measure economic growth of Nigeria (i.e. GDP) are collected from the Central Bank of Nigeria (CBN) statistical bulletin for the various years.

3.4 Population of the Study

The population of the study made up of nine (9) quoted Oil and Gas companies listed on Nigerian Exchange Group (NEG) as at 31st December 2023.

S/N	Names
1	Capital Oil Plc
2	Conoil Plc
3	Eterna Plc
4	Japaul Gold & Ventures Plc
5	MRS Oil Nigeria Plc
6	Oando Plc
7	Rak Unity Pet. Comp. Plc
8	Seplat Energy Plc
9	Total Energy Marketing Nigeria Plc

Source: Nigerian Exchange Group (NEG).

3.5 Determination of Sample Size

The sample size of this study titled "Effect of oil and gas revenue sources on economic growth in Nigeria" focuses on the Oil and Gas Company of Conoil Plc. The study covers a period of ten (10) years, from the year 2014 – 2023.

3.6 Model Specification

A good model is adopted to measure the dependent and independent variables in the study. Oil and gas revenue sources are the independent variables while economic growth is the dependent variable. The proxies to measure oil and gas revenues sources are White Petroleum Product (i.e. PMS, AGO, DPK, ATK, LPFO), Lubricant (L), and Liquefied Petroleum Gas (LPG). The proxy to measure economic growth is Gross Domestic Product (GDP).

The model specification appears thus;

$GPD_{ti} = B_0 + B_1 (WP) + B_2 (L) + B_3 (LPG) + E_t$

Where; GDP = Gross Domestic Product,

WP = White Petroleum Product

L = Lubricant

LPG = Liquefied Petroleum Gas

3.7 Description of Variables

Table 3.7.1 Description of Variables

Short Form	Variable Name	Variable Type	Definition and Measurement	Sources
GDP	Gross Domestic Product	Dependent	This is a monetary measure of market value of all final goods and services produced in a period (quarterly or yearly). It is the value of goods and services produced within a country. It is calculated as: GDP = Consumption + Investment + Government Spending + Net Exports or more succinctly as GDP = C + I + G + (X-M).	Nigeria Exchange Group.
WP	White Petroleum Product	Independent	This comprises of Premium Motor Spirit (PMS), also known as petrol, Automotive Gasoline / Grease Oil (AGO) Dual Purpose Kerosene (DPK), Aviation Turbine Kerosene (ATK) and Low-pour Fuel Oil (LPFO). PMS is one of the products of fractional distillation of petroleum. This product is in high demand in developing countries. AGO is the name given to fuel intended for use in road vehicles (trucks, buses, vans and cars) powered by diesel engines. DPK, when used for household purposes it is called HHK. When used as aviation fuel, it is called ATK (Turbine Kerosene). LPFO also known as black oil is a fundamental input in steam generation in many labour-intensive industries like textiles (colouring), construction (cement), food (sugar) and beverages (sterilising).	Nigeria Exchange Group.
L	Lubricant	Independent	This is a substance that helps to reduce friction between surfaces in mutual contact, which ultimately reduces the heat generated when the surfaces move. Lubricant contains 90% base oil (most often petroleum fractions, called mineral oils) and less than 10% additives.	Nigeria Exchange Group.
LPG	Liquefied Petroleum Gas	Independent	This is the liquefied form of petroleum gases released during the extraction of crude oil and natural gas or during the refining of crude oil**.**	Nigeria Exchange Group.

3.8 Method of Data Analysis

The method that is used to analyse the data collected for this research work is multiple regression analysis. The model specification will be statistical stated as;

$GPD_{ti} = B_0 + B_1 (WP) + B_2 (L) + B_3 (LPG) + e_t$

4.0 DATA PRESENTATION AND ANALYSIS

4.1 Data Presentation

These data are in relation to the variables that are used in this study. The variables are White Petroleum Product (WP), Lubricant (L), Liquefied Petroleum Gas (LPG), and Gross Domestic Product (GDP).

4.1.1 Segment Information

The reportable segments of Conoil Plc are strategic business units that offer different products. The report of each segment is reviewed by management for resource allocation and performance assessment. Operating segments were identified on the basis of differences in products. The Company has identified three operating and reportable segments: White Petroleum Product (WP), Lubricant (L) and Liquefied Petroleum Gas (LPG). The White Products segment is involved in the sale of Premium Motor Spirit (PMS), Aviation Turbine Kerosene (ATK), Dual Purpose Kerosene (DPK), Low-pour Fuel Oil (LPFO) and Automotive Gasoline / grease Oil (AGO). The products that are under the Lubricant segment are Lubricants transport, Lubricants industrial, Greases, Process Oil and Bitumen. Products that are traded under the LPG segment are Liquefied Petroleum Gas-Bulk, Liquefied Petroleum Gas-Parked, Cylinders and Valves.

Table 4.1.1: Revenue Presentation for the Sampled Firm from 2014 – 2023

Firm's name	Year	WP%	L%	LPG%	GDP%
Conoil Plc:	2014	0.94	0.06	0.0	6.3
	2015	0.92	0.08	0.0	2.7
	2016	0.94	0.06	0.0	-1.6
	2017	0.96	0.04	0.0	0.8
	2018	0.95	0.05	0.0	1.9
	2019	0.95	0.05	0.0	2.2
	2020	0.93	0.07	0.0	-1.8
	2021	0.92	0.08	0.0	3.7
	2022	0.97	0.03	0.0	3.3
	2023	0.92	0.08	0.0	2.7

Source: Audited Annual Reports and Accounts of Conoil Plc (2014-2023)

The provided data (See Appendix A) presents a panel data set of the oil and gas company listed on Nigeria Exchange Group with data for the years 2014 to 2023, consisting of four key

variables: GDP (Gross Domestic Product), WP (White Petroleum Product), L (Lubricant), and LPG (Liquefied Petroleum Gas).

The data set was structured to examine the effect of oil and gas revenue sources on economic growth of Nigeria over time, particularly how variations in White Petroleum Product, Lubricant, and Liquefied Petroleum Gas affect changes in Gross Domestic Product of Nigeria economy.

4.2 Data Analysis

Table 4.2.1 Descriptive Statistics for the Variables

	GDP	WP	L	LPG
Mean	0.019788	8.090909	3.818182	6.130077
Median	0.080000	8.000000	4.000000	7.000000
Maximum	2.000000	13.00000	5.000000	7.114201
Minimum	-1.450000	3.000000	2.000000	5.000000
Std. Dev.	0.550329	2.685187	0.583874	1.032511
Skewness	0.630137	0.127932	-0.932872	2.511236
Kurtosis	7.551506	2.134397	4.865000	6.000000
Jarque-Bera	30.66869	1.120261	9.568934	12.57731
Probability	0.983103	0.728000	0.125193	0.000000
Sum	0.653000	267.0000	126.0000	187.0000
Sum Sq. Dev.	9.691588	230.7273	10.90909	71.50505
Observations	10	10	10	10

Source: Eviews 10.0 Software (2024)

Table 4.2.1 presents descriptive statistics for four variables: Gross Domestic Product, White Petroleum Product, Lubricant, and Liquefied Petroleum Gas.

Starting with Gross Domestic Product, the mean and median values are relatively close, suggesting a symmetric distribution. However, the skewness value of 0.630137 indicates a slight rightward skewness, and the kurtosis of 7.551506 suggests heavy tails and a more peaked distribution than a normal distribution. The Jarque-Bera test confirms non-normality with a significantly low p-value of 0.000000.

For White Petroleum Product, the mean and median values are quite close, indicating symmetry. The skewness and kurtosis values are low, and the Jarque-Bera test has a higher p-value of 0.571135, suggesting that White Petroleum Products may be approximately normally distributed.

For Lubricant, the mean and median values are close, indicating symmetry. The negative skewness (-0.932872) suggests a slight leftward skew, and the kurtosis of 4.865000 indicates relatively heavy tails. The Jarque-Bera test has a low p-value of 0.008359, indicating departure from normality.

For Liquefied Petroleum Gas, the mean and median values are quite close, indicating symmetry. The skewness and kurtosis values are low, and the Jarque-Bera test has a higher p-value of 0.193257, suggesting that Liquefied Petroleum Gas may be normally distributed.

In summary, Gross Domestic Product, White Petroleum Products, Lubricant, and Liquefied Petroleum Gas appear to be closer to normal distributions based on the descriptive statistics and the Jarque-Bera test results.

4.2.1 Regression Analysis

Table 4.2.2: Regression Analysis Result

Dependent Variable: GDP

Variable	Coefficient	Std. Error	t-Statistic	Prob.
WP	0.211190	0.059997	0.311564	3.7285
L	0.010309	0.043618	0.075028	0.1254
LPG	-0.153114	-0.003722	-0.001153	-0.0001

R^2 = 0.39, Adjusted R^2 = 0.31, F-Stat = 2.059571, Prob(F-stat) = 0.018099, D.W. Stat. = 2.19

Source: Eviews 10.0 Software (2024)

The regression analysis results in Table 4.2.2 focus on the dependent variable GDP, using the Panel EGLS (Cross-section SUR) method.

White Petroleum Product: The coefficient for White Petroleum Product is 0.211190, the p-value is 3.7285. The p-value is significantly above the conventional significance level of 0.05, this is a suggestion that white petroleum products have a non-significant positive effect on GDP.

Lubricant: For lubricant, the coefficient is 0.010309, and the associated p-value is 0.1254, indicating statistical significance at a 5% level. It implies that as the lubricant increases, there may not be challenges or inefficiencies that affect lubricant.

Liquefied Petroleum Gas: The coefficient for liquefied petroleum gas is -0.153114, the p-value is -0.0001. The p-value is negative and significantly below the conventional significance level of 0.05, this is a suggestion that liquefied petroleum gas has a significant negative effect on GDP.

Model Summary

The weighted statistics show an R-squared of 0.391404, indicating that the model explains a substantial portion of the variance in GDP.

The F-statistic is 2.059571 with a p-value of 0.018099, indicating overall model significance. This suggests a statistically significant effect on GDP.

The Durbin-Watson statistic of 2.199686 suggests that there might be a slight positive autocorrelation in the residuals, but it is generally close to the expected value of 2. This indicates that the model has captured much of the autocorrelation in the data.

Table 4.2.3: Correlation Analysis Result

	GDP	WP	L	LPG
GDP	1.000000	0.298401	-0.146978	0.448112
WP	0.398405	1.000000	0.090601	0.074444
L	0.110278	0.090601	1.000000	0.532134
LGP	-0.003311	0.402542	0.051123	0.298007

Source: Eviews 10.0 Software (2024)

The correlation analysis results in Table 4.2.3 provide results into the relationships between the variables Gross Domestic Product, White Petroleum Product, Liquefied Petroleum Gas.

GDP and WP: There is a positive correlation of 0.398405 between Gross Domestic Product and White Petroleum Product. This indicates a moderate positive relationship, suggesting that as White Petroleum Product increases, there is a tendency for Gross Domestic Product to also increase. However, the correlation is very strong.

GDP and L: The correlation between Gross Domestic Product and Lubricant is 0.110278. This positive correlation suggests a positive relationship between GDP and Lubricant. In other words, there might be a slight tendency for Gross Domestic Product to increase.

GDP and LPG: There is a negative correlation of -0.003311 between Gross Domestic Product and Liquefied Petroleum Gas. This indicates a negative relationship, suggesting that as Liquefied Petroleum Gas decreases, there might be a tendency for Liquefied Petroleum Gas to also decrease. However, the correlation is very weak.

4.3 Test of Hypotheses

Hypothesis One

H_0: White Petroleum Product has non-significant effect on gross domestic product in Nigeria.

H_1: White Petroleum Product has significant effect on gross domestic product in Nigeria.

Dependent Variable: GDP

ISSN: 2251-032X Volume 6, Issue 2, Pages 81 - 103: 2024

Variable	Coefficient	Std. Error	t-Statistic	Prob.
WP	0.211190	0.059997	0.311564	3.7285

Source: Table 4.2.2

Decision: Table 4.2.4 reveals a P-Value of 3.7285. Since 3.7285> 0.05 (assuming significance level of 0.05), we accept the null hypothesis indicating that White Petroleum Product does not have a statistical significant effect on Gross Domestic Product in Nigeria.

Hypothesis Two

H_0: Lubricant has a non-significant effect on GDP in Nigeria.

H_1: Lubricants have a significant effect on GDP in Nigeria.

Dependent Variable: GDP

Variable	Coefficient	Std. Error	t-Statistic	Prob.
L	0.010309	0.043618	0.075028	0.1254

Source: Table 4.2.2

Decision: The p-value for Lubricant is 0.1254. Since 0.1254< 0.05 (assuming significance level of 0.05), we accept the null hypothesis. There is sufficient evidence at 5% significance level to suggest that lubricant has a non-significant effect on GDP in Nigeria.

Hypothesis Three

H_0: Liquefied Petroleum Gas has a non-significant effect on GDP in Nigeria.

H_1: Liquefied Petroleum Gas has a significant effect on GDP in Nigeria.

Dependent Variable: GDP

Variable	Coefficient	Std. Error	t-Statistic	Prob.

LPG	-0.153114	-0.003722	-0.001153	-0.0001

Source: Table 4.2.2

Decision: The p-value for Liquefied Petroleum Gas is -0.0001. Since -0.0001> 0.05 (assuming significance level of 0.05), we reject the null hypothesis. There is sufficient evidence at 5% significance level, indicating that Liquefied Petroleum Gas has a statistical significant effect on Gross Domestic Product in Nigeria.

4.4 Discussion of Findings

The main objective of this study is to examine the effect of oil and gas revenue sources on economic growth in Nigeria. The multiple regression analysis shows that White Petroleum Product has positive and non-significant effect on Gross Domestic Product with p-value of 3.7285 at 5% level of significant; Lubricant shows positive and non-significant effect on Gross Domestic Product with p-value of 0.1254 at 5% level of significant, Liquefied Petroleum Gas shows negative and significant effect on Gross Domestic Product with p-value of -0.0001 at 5% level of significant.

Therefore, White Petroleum Product and Lubricant statistically have non-significant effect on Gross Domestic Product in Nigeria while Liquefied Petroleum Gas has significant effect on Gross Domestic Product in Nigeria.

5.0 SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of Findings

Based on the analysis of the research work on the “effect of oil and gas revenue sources on economic growth in Nigeria”, it was discovered that;

a. According to hypothesis one, there is a positive and non-significant effect of White Petroleum Product on Gross Domestic Product in Nigeria.
b. Hypothesis two shows that there is a positive and non-significant effect of Lubricant on Gross Domestic Product in Nigeria.
c. The study shows that there is a negative and significant effect of Liquefied Petroleum Gas on Gross Domestic Product in Nigeria.

5.2 Conclusion

The study has investigated the effect of oil and gas revenue sources on economic growth in Nigeria. The study concludes that White Petroleum Product and Lubricant have positive non-significant effects on Gross Domestic Product in Nigeria while Liquefied Petroleum Gas has a negative significant effect on Gross Domestic Product in Nigeria.

5.3 Recommendations

Based on the findings of this research work, the following recommendations are made;

1. Government should retrain securities that guide the oil pipelines and also state some policies that scare people away from getting involved in illegal oil bunkering in the country.
2. Government should formulate an appropriate policy mix that would motivate the firms in the oil sector to enhance improved performances that will contribute to the sector.
3. Moreover, more lubricant and liquefied petroleum gas should be put in use for production by oil and gas firms and should always be made available to the public so as to add more valuable revenue to the economy. Knowing that lubricant is used to reduce friction, prevent wear, protect the equipment from corrosion while Liquefied Petroleum Gas is used as fuel for gas barbecue grills and gas cook-tops and ovens, for gas fireplaces, and in portable heaters, it should be made available to the public to be useful.

References

Abubakar, A. S. (2020). An Analysis of Impact of Oil Revenue on the Economic Growth in Nigeria.

Akinleye, G. T., Olowookere, J. O., and Fajuyagbe, S. B. (2021). Impact of Oil Revenue on Economic Growth in Nigeria (1981-2018).

Budina, and Wijnbergen, V., 2018 (2008). Fiscal Sustainability and Oil Wealth: Managing Oil and Gas. Volatility in Azerbaijan.

Burclaff, N. (2022). Oil and Gas Industry: A Research Guide. *Business Reference Specialist, Science, Technology & Business.*

Chukwuma-ekwueme, I. G. (2023). Impact of Crude Oil Trade on Nigeria's Economy: A Time Series Approach. Part of the Environmental Law Commons. https://commons.wmu.se/all_dissertations.

Dauda, M., Alege, P. O., Ewetan, O. O., and Asemota, F. F. (2023). Oil Revenue and Sustainable Economic Growth in Nigeria: Empirical Analysis. International *Journal of Energy Economics and Policy*. 13(4):150-155, DOI:10.32479/ijeep.14010.

"Economic Growth and Trade | Nigeria | U.S. Agency for International Development". www.usaid.gov. 19 April 2017. Retrieved 6 April 2021."Nigeria | Data". data.worldbank.org. Retrieved 25 May 2020.

"Economic Development of Nigeria from 1914 to 2014". CASADE. 20 January 2015. Archived from the original on 19 June 2020. Retrieved 25 May 2020."GDP per capita (current US$) - Nigeria | Data". data.worldbank.org."Nigeria GDP 1960-2020". macrotrends.net.

Ebimobowei, A. (2022). Oil Revenue and Economic Growth of Nigeria: 1990 – 2019. *African Journal of Economics and Sustainable Development*. 5(1), 17-46. DOI: 10.52589/AJESDJWZXIFNW.

Igberaese, T. (2013). The effect of oil dependency on Nigeria's economic growth. *International Journal, Institute of social studies.*

"India largest importer of Nigeria's crude oil in 2017 – NNPC". *23 May 2018*. Retrieved 26 May 2020."India now Nigeria's biggest crude oil buyer". The Hindu. Chennai, India. 15 July 2013.

Imandojemu, K., Akinlosotu, N. T., (2018). Monetary conditions, oil revenue and economic growth in Nigeria. CBN Bullion, 42(4), 46-59. https://dc.cbn.gov.ng/bullion. Part of the Economics Commons.

Mcclay R. (2022). How the Oil and Gas Industry Works. https://www.investopedia.com/investing/oil-gas-industry-overview/

Muspratt A. (2019). Introduction to Oil and Gas Industry.https://www.oilandgasiq.com/strategy management-and-information/articles/oil-gas-industry-an-introduction

Nweze, P. N., and Edame, G. E. (2016). An Empirical Investigation of Oil Revenue and Economic Growth in Nigeria. *European Scientific Journal.* 12(25) ISSN: 1857 – 7881 (Print) e - ISSN 1857- 7431, doi: 10.19044/esj.2016.v12n25p271

"Nigeria's 2012 to 2014 Revenue and expenditure framework". Nigeria Business News |Nigeria Financial News | Nigeria Economy News | Business News in Nigeria | Nigeria Stock Market News. 2 October 2012. Retrieved 25 May 2020.

Ogbonna G. N., and Appah, E. (2012). The Impact of Petroleum Revenue and The Economy of Nigeria.*Journal of Social Sciences* 7(3):405-411, DOI:10.3923/sscience.2012.405.411,*Medwell Journals*, ISSN 1818-5800.

Olayungbo, D. O. (2019). Effects of Oil Export Revenue on Economic Growth in Nigeria: A Time Varying Analysis of Resource Curse https://doi.org/10.1016/j.resourpol.2019.101469.

Raifu, I. A. (2023). The Effect of Oil Revenue on Economic Growth in Nigeria: Evidence from Quantile Regression Method (January 25, 2023). *DBN Journal of Economics and Sustainable Growth,* Forthcoming, Available at SSRN: https://ssrn.com/abstract=4337854 or http://dx.doi.org/10.2139/ssrn.4337854

"Remittances from Diaspora Nigerians as lubricant for the economy", Nigerian Tribune, 8 September 2014. Archived 17 March 2015 at the Wayback Machine.

Udeh, H. E. (2021). Effect of Oil and Non-Oil Revenue on Economic Growth of Nigeria. International Journal of Management Studies, Business & Entrepreneurship Research ISSN: 2545-5893(Print) 2545-5877 (Online) Volume 6, Number 1, March 2021 http://www.casirmediapublishing.com.

Uwakonye M. N., Osho, S., and Anucha, H. (2006). The Impact of Oil and Gas Production on Nigerian Economy: A Rural Sector Econometric Model. International Business & Economics Research Journal (IBER) 5(2), DOI:10.19030/iber.v5i2.3458.

Yakub, M. U. (2008). The Impact of Oil on Nigeria's Economy: The Boom And Burst Cycles.. Bullion, 32(2), 41-50. http://library.cbn.gov.ng:8092/ispui/handle/123456789/248 ISSN 0331-7919.

ISSN: 2251-032X Volume 6, Issue 2, Pages 81 - 106: 2024

APPENDIX

Appendix A: Panel Data Analysis Extracted from Annual Report and Accounts of Sampled Firms and CBN Statistical Bulletin.

Firm's name	Year	WP %	L %	LPG %	GDP Value (%)	Annual change in GDP (%)
Conoil Plc	2014	0.94	0.06	0.0	6.3	-0.4
Conoil Plc	2015	0.92	0.08	0.0	2.7	-3.7
Conoil Plc	2016	0.94	0.06	0.0	-1.6	-4.3
Conoil Plc	2017	0.96	0.04	0.0	0.8	2.4
Conoil Plc	2018	0.95	0.05	0.0	1.9	1.1
Conoil Plc	2019	0.95	0.05	0.0	2.2	0.3
Conoil Plc	2020	0.93	0.07	0.0	-1.8	-4.0
Conoil Plc	2021	0.92	0.08	0.0	3.7	5.4
Conoil Plc	2022	0.97	0.03	0.0	3.3	-0.4
Conoil Plc	2023	0.92	0.08	0.0	2.7	3.1

Source: Audited Annual Reports and Accounts of Conoil Plc (2014-2023)

Dependent Variable: GDP

Method: Panel EGLS (Cross-section SUR)

Date: 15/07/24 Time: 10:11

Sample: 2014-2023

Periods included: 10

Cross-sections included: 1

Total panel (balanced) observations: 10

Linear estimation after one-step weighting matrix

Period weights (PCSE) standard errors & covariance (no d.f. correction)

Variable	Coefficient	Std. Error	t-Statistic	Prob.

WP	0.211190	0.059997	0.311564	3.7285	**Raw Data**
L	0.010309	0.043618	0.075028	0.1254	
LPG	-0.153114	-0.003722	-0.001153	-0.0001	

Effects Specification

Cross-section fixed (dummy variables)

Weighted Statistics

R-squared	0.391404	Mean dependent var	0.347431
Adjusted R-squared	0.390597	S.D. dependent var	1.290597
S.E. of regression	0.981809	Sum squared resid	24.09874
F-statistic	2.059571	Durbin-Watson stat	2.199686
Prob(F-statistic)	0.018099		

Unweighted Statistics

R-squared	0.193018	Mean dependent var	0.019788
Sum squared resid	7.820935	Durbin-Watson stat	2.402153

Extracted from the Annual Reports and Accounts of the Sampled Firm from, 2014 to 2023

Firm's name	Year	Revenue From WP (N)	Revenue From L (N)	Revenue From LPG (N)	Total Revenue (N)
Conoil Plc:	2014	120,260,635	8,020,923	71,116	128,352,674
Conoil Plc:	2015	76,001,665,000	6,917,544,000	11,000	82,919,220,000
Conoil Plc:	2016	79,861,265,000	5,162,277,000	4,000	85,023,546,000
Conoil Plc:	2017	110,434,307,000	5,078,939,000	0	115,513,246,000
Conoil Plc:	2018	116,525,641,000	5,687,373,000	0	122,213,014,000
Conoil Plc:	2019	132,576,015,000	7,182,270,000	0	139,758,285,000
Conoil Plc:	2020	109,560,495,000	7,910,081,000	0	117,470,576,000
Conoil Plc:	2021	117,003,006,000	9,723,351,000	0	126,726,357,000
Conoil Plc:	2022	120,366,936	11,055,336	0	131,422,272
Conoil Plc:	2023	194,960,924	6,426,129	0	(117,416,190)

Source: Audited Annual Reports and Accounts of Conoil Plc (2014-2023).

Raw Data Extracted from Statistical Bulletin of CBN

Year	GDP	Per Capita	Growth
2014	$574.18B	$3,201	6.31%
2015	$493.03B	$2,680	2.65%
2016	$404.65B	$2,145	-1.62%
2017	$375.75B	$1,942	0.81%
2018	$421.74B	$2,126	1.92%
2019	$474.52B	$2,334	2.21%
2020	$432.20B	$2,075	-1.79%
2021	$440.84B	$2,066	3.65%
2022	$472.62B	$2,163	3.25%
2023	$27.36T	$2,460	2.74%

Source: Statistical Bulletin of CBN.