# Impact of Non- Oil Revenue on the Growth of the Nigerian Economy

Ifeoma Maria .Ihegboro Ph.D[1],Vitalis Chukwuma Onah Ph.D[2,] Nnenna Georgina Nwonye Ph.D[3], Ojiako Ijeoma Ph.D[4]

[1,3]Department of Banking and Finance,[2] Department of Forensic Accounting and Audit,[4]Department of Accontancy,[1,3,4] University of Nigeria, Enugu Campus,[2]Charisma University West Indies, Turks and Caicos Islands Britain

## Abstract
*The study examines the impact of non-oil revenue on the growth of the Nigerian economy. Non-oil revenue is the income or proceeds generated from the commodities that are sold in the international market excluding crude oil (petroleum product). Non-oil exports on the other hand are those commodities (excluding crude oil) that are sold abroad in order to generate revenue. These non-oil exports include agricultural products or crops, manufactured goods, tourist services/receipts, solid minerals, telecommunication services and other exports. The objectives of the study were to examine causality relationship between Agricultural output (GDPA) and nonoil sector of Nigeria economy, to evaluate causality relationship between Industrial sector output (GDPI) and nonoil sector of Nigeria economy, to examine causality relationship between commercial sector output (GDPC) and nonoil sector of Nigeria economy and to examine causality relationship between aggregate economic growth (GDPTOT) and nonoil sector of Nigeria economy. The design adopted for this research work was the ex-post facto research design which was empirical in nature. The data for this research work was basically secondary data. The time series data was from 1985 to 2018 which was sourced from the following: Central Bank of Nigeria Statistical Bulletin. The study employed Ordinary Least Squares (OLS) technique of regression analysis based on principle of best linear unbiased estimate (blue). The study found that GDPA had a bidirectional causal relationship with no-oil sector of Nigeria Economy, GDPI had bi-directional causal relationship with nonoil sector of Nigeria economy, GDPC had no causal relationship with the nonoil sector of Nigeria economy and GDPTOT had no causal relationship with the nonoil sector of Nigeria economy while concluding that the continuing decline in international crude oil prices, the hostility of militants in Nigeria's oil-producing area, the Nigerian Government's profligate spending, the global health pandemic, among other factors, are undermining Nigeria's economic development. Therefore the researcher recommended that federal government should encourage more exportation of agricultural output as this in turn will enhance external foreign exchange earnings and improve the competitiveness of Nigerian agricultural produce in the international markets*

*Keywords:  external foreign exchange earnings, global health pandemic, militant*

-------------------------------------------------------------------------------------------------------------------------
-------------------------------------------------------------------------------------------------------------------------

## I.    Introduction

Crude oil has become Nigeria's most crucial non-renewable energy source. Currently, the sector accounts for more than 90% of the country's foreign exchange earnings and about 80% of recurrent and capital expenditure (Adewusi, 1998; The World Bank, 2017). Hence, this sector's revenues are significant for the country's economic development. "Nigeria has about 37 billion barrels of condensate reserve and produces about 2 million barrels of quality crude oil per day" (Miller and Sorrell, 2006). The oil reserves and development are too short of development envisaged in the 20:2020 visions set by the Government. There are a substantial 183 trillion cubic feet of the country's natural gas reserves, representing 3 percent of the world. Approximately 50 percent of the 8 billion cubic feet of gas produced every day goes to export, while 13 percent is flared. Although the vision and purpose of the Government continue to pursue economic diversification, the oil sector continues to be the primary source of revenue for this, as well as sustaining the country for the foreseeable future (Adewusi, 1998; Bentley, Mannan and Wheeler, 2007). Hence, Nigeria's budget's most important source of income is from oil revenue. Those include, though not limited to, revenue from the export of crude oil, petroleum income tax receipts, and revenue from the domestic sale of crude oil.

---

In a market economy such as Nigeria, the justification for revenue generation stems from policy responsibilities, including but are not limited to economic stability, income redistribution, and service delivery in the form of public goods (William, 2006). The Government needs to leverage all revenue sources at the national and international levels to fulfill these obligations (Bohanon, Horowitz, and McClure, 2014). For optimum results, revenues generated from these different sources have to be used efficiently. The purpose of revenue generation is to enhance the welfare of a country's citizens, emphasizing promoting economic development by providing necessary facilities for improved public services through appropriate administrative and structural systems. Revenue generation as a revenue stream for Nigeria's development activities was a challenging problem mainly due to various insurgency forms, including evasion, neglect, and unethical activities. These activities are considered sabotaging the economy and are readily presented as reasons for the country (Algoni and Agrawwal, 2017). A daunting issue was the collection of taxes as a means of funding for development activities in Nigeria, mainly due to different forms of evasion, including resistance, fraud, and unethical practices. The Federal Government's over-reliance on the oil sector is harmful to the economy as oil revenues decline. The Government must, therefore, diversify the economy and concentrate on the non-oil industry. The Government expressed this frustration and therefore promised to increase the non-oil revenue (Abata, 2014). The Government has used taxation as one of the income-generating tools. The well-designed tax system can help developing countries prioritize their spending, build stable institutions, and enhance democratic accountability (Braütigam and Knack, 2004). The success or failure in any taxation scheme depends on how well it is handled. Despite the remarkable achievement recorded in the collection of revenues, it has not been fully utilized by the Government in developing economic activities. With this persistence variation, the location of the revenue base, the real gross domestic product and its subsequent rate of development, cannot be mistaken, in the light of global economic uncertainties (IMF, 2015) and, more recently, the fluctuation in the international crude oil price due to the effects of COVID-19 pandemic with its devastating impact on revenue generation (El-Erian, 2020). Good economic policy is vital for achieving sustainable economic development and increased revenue generation (Irfan, 2020).

The Government of Nigeria has abandoned the agricultural sector, and power sector neglect has adverse effects on manufacturing. The proliferation of tax evasion in the Nigerian tax system has also decreased the income from tax revenue, which eventually affects government spending (Ojijo and Oluwatosin, 2018). The number of people classified as unemployed increased from 17.6 million in the fourth quarter of 2017 to 20.9 million in the third quarter of 2018 (National Bureau of Statistics, 2018). This situation concerns Nigeria's contribution to economic development from the generation of oil and non-oil revenues. While there have also been reports on the contribution of revenue generation to the Nigerian economy's development, the majority have often differentiated the oil and non-oil revenue components. Therefore, this study aims to analyze the contributions of oil and non-oil revenue generation to economic development in Nigeria. It also addresses the following objectives of examining the impact of revenues generated through oil and non-oil on economic development in Nigeria and identified deficiency factors in Nigeria's depleting economic development.

## II. Literature Review

Salami, Amusa & Ojoye (2018), studied impact of non-oil revenue on the economic growth of Nigeria. The study covered the period 1981-2016 and gross domestic product was adopted as the proxy for economic growth and it was also used as the dependent variable. On the other hand, the study adopted non-oil revenue as the independent variable. The study made use of the Ordinary Least Squares (OLS) regression analysis to analyze the data collected from the Central Bank of Nigeria (CBN) Statistical Bulletin. Findings from the study revealed that non-oil revenue exerted a positive and significant impact on economic growth in Nigeria. The study therefore concluded that non-oil revenue exerted a significant impact on the economic growth of Nigeria.

Likita, Idisi & Nakah (2018), carried out an investigation on impact of non-oil revenue on economic growth in Nigeria. The study covered the period 1981 to 2016 and agricultural revenue, manufacturing revenue, solid minerals contributions, services revenue contribution, company income tax, and custom and excise duties tax were adopted as proxies for non-oil revenue and they were used as the independent variables. On the other hand, the study made use of gross domestic product (GDP) as proxy for economic growth and it served as the dependent variable. Unit root test was carried out to determine the stationarity of the variables while the cointegration test was carried out to ascertain the existence of long run equilibrium relationship among the variables. Thereafter, the Ordinary Least Squares (OLS) and error correction mechanism (ECM) techniques were used to analyze the data collected. Findings from the study showed that agricultural revenue, manufacturing revenue and services revenue exerted positive and significant impact on economic growth. On the other hand, the study showed that company income tax revenue exerted a negative and significant impact on

economic growth in Nigeria. The study further revealed that solid minerals revenue exerted a negative and insignificant relationship with economic growth while custom and excise duties tax exerted a positive but insignificant impact on economic growth in Nigeria using the Ordinary Least Squares (OLS) estimation method. Using the error correction mechanism (ECM) model, the study revealed that agricultural revenue and services revenue exerted a positive and significant impact on economic growth of Nigeria whereas manufacturing revenue, solid minerals revenue and customs and excise duties tax exerted a positive but insignificant impact on economic growth of Nigeria. The study further revealed that company income tax revenue exerted a negative and significant impact on economic growth of Nigeria.

Kromiti, Kanadi, Ndangra & Lado (2017), carried out an investigation into the contribution of non-oil exports to economic growth in Nigeria. The study covered the period 1986 to 2015 and gross domestic product was used as a proxy for economic growth as well as the dependent variable. On the other hand, the study made use of non-oil export and exchange rate as the independent variables. Unit root test was carried out to determine the stationarity of the variables and the Autoregressive Distributed Lag (ARDL) methodology was used to determine impact of the independent variables on the dependent variable. Findings of the study revealed that non-oil revenue exerted a positive and significant impact on economic growth of Nigeria while exchange rate exerted a negative and weak significant impact on economic growth of Nigeria. The study concluded that non-oil exports made significant contribution to the Nigerian economic growth.

Kawai (2017), studied impact of non-oil exports on Nigerian economic growth. The study covered the 1980 to 2016 and real gross domestic product was adopted as proxy for economic growth and it was used as the dependent variable. On the other hand, non-oil export and exchange rate were used as the independent variables. Unit root test was carried out to determine the stationarity of the variables used in the study and Engel-Granger cointegration test was carried out to ascertain the existence of long run equilibrium relationship among the variables. Findings of the study showed that non-oil export exerted a positive and significant impact on economic growth of Nigeria whereas exchange rate exerted a negative and significant impact on economic growth of Nigeria. The study argued that non-oil exports exerted a significant impact on economic growth

Okezie & Azubuike (2016), studied the contributions of non-oil revenue to economic growth in Nigeria. The study covered the period 1980 to 2014 and gross domestic product and total revenue were used as dependent variables. On the other hand, the study used oil revenue and non-oil revenue as independent variables. The Ordinary Least Squares (OLS) multiple regression method was used to analyze the data collected for the study. Findings from the study showed that oil revenue contributed positively to economic growth in Nigeria. Conversely, the study showed that non-oil revenue contributed positively and weakly to economic growth in Nigeria. In addition, the study revealed that oil revenue and non-oil revenue made positive and significant contribution to total government revenue in Nigeria. Thus, the study concluded that non-oil revenue had made significant contribution to economic growth in Nigeria.

Riti, Gubak & Madina (2016), examined the exploration of the growth of non-oil sectors in Nigeria and how such growth had impacted on economic performance and diversification exercise of the Nigerian government. In the study, gross domestic product was used as a measure for economic performance and it served as the dependent variable. On the other hand, agriculture sector, manufacturing sector and telecommunication sector were used as proxies for non-oil sector and they served as the independent variables. The study made use of the autoregressive distributed lag model (ARDL) and vector error correction mechanism (VECM) methods as tools for analyzing the data collected. Findings of the study revealed that agriculture sector and telecommunication sector exerted positive and significant impact on Nigerian economic performance. The study also showed that manufacturing sector exerted a negative and significant impact on Nigerian economic performance.

Ojong, Ogar & Arikpo (2016) carried out an assessment of effect of tax revenue on the Nigerian economy. The study covered the period 1993 to 2012 and the gross domestic product was used as a measure for Nigerian economy and it served as the dependent variable. On the other hand, petroleum profit tax, company income tax and non-oil revenue were used as measures of tax revenue and they served as independent variables. The study made use of the Ordinary Least Squares (OLS) method to analyze the data collected. Findings from the study revealed that petroleum profit tax exerted a negative and insignificant effect on the Nigerian economy while company income tax exerted a positive and insignificant effect on the Nigerian economy. The study further showed that non-oil revenue exerted a positive and significant effect on Nigerian economy.

Kawai (2017), carried out an analysis of effects of oil and non-oil export on economic growth in Nigeria. The study covered the period 1981 to 2015 and the gross domestic product was used as proxy for economic growth and gross domestic product served as the dependent variable. The study made use of oil revenue and non-oil revenue as proxies for oil and non-oil exports respectively and they were used as the independent variables. The study carried out the unit root test to test for stationarity of the variables and the

cointegration test was also carried out to determine the existence of long run equilibrium relationship among the variables. Thereafter, the Granger-causality test was carried out to ascertain the flow of causation among the variables and cointegrating regression technique was used to determine effect of the independent variables on the dependent variable. Findings from the study revealed that oil export exerted a negative and significant effect on economic growth whereas non-oil export revenue exerted a positive and significant effect on economic growth in Nigeria. The granger-causality test showed that there existed a bidirectional causality relationship between non-oil revenue and gross domestic product. The implication of the granger causality test was that non-oil revenue determined the level of economic growth in Nigeria and economic growth in Nigeria also determined the non-oil revenue.

Igwe, Edeh & Ukpere (2015) examined impact of non-oil sector on economic growth in Nigeria for the period 1981 to 2012. The study adopted gross domestic product as a proxy for economic growth and it served as the dependent variable while net export, capital stock and labour were adopted as independent variables. The study employed Johansen cointegration test, vector error correction mechanism (VECM) and Granger-causality test as analytical tools. Findings from the study showed that non-oil export had a positive and significant impact on economic growth in Nigeria in both the short run and long run. The Granger causality test revealed that there was no causality between non-oil export and economic growth in Nigeria. The study further showed that both capital stock and labour had positive impact on economic growth of Nigeria.

Mohsen (2015), studied how non-oil trade and gross domestic product are related especially in petroleum exporting countries. The study covered the period 1975 to 2010 and gross domestic product was used as a measure for economic growth and thus served as the dependent variable. On the other hand, oil exports revenue and non-oil export revenue were used as independent variables. Granger-causality test was carried out to determine the flow of causation among the variables; cointegration test was carried out to determine existence of long run equilibrium relationship among the variables and thereafter the panel data analysis was carried out to ascertain impact of the independent variables on the dependent variable using the data collected. Findings from the study revealed that both oil export revenue and non-oil sector revenue had positive and significant relationship with gross domestic product. From the Granger-causality test, it was revealed that a bidirectional relationship existed between nonoil export revenue and gross domestic product. This indicated that non-oil export revenue drove gross domestic product while gross domestic product also drove non-oil export revenue in petroleum exporting countries. On the other hand, the study revealed that there was unidirectional relationship between oil export revenue and gross domestic product. This indicated that oil export revenue determined the growth of gross domestic product and not otherwise.

Onwuchekwa & Aruwa (2014) investigated impact of tax on the economic growth in Nigeria and used ex-post facto research method to articulate their position. They employed Ordinary Least Square technique to analyze their data. They discovered that VAT contributed significantly to total revenue of government and growth of Nigeria, though the increase was not explosive. They were of the opinion in their recommendation that to boost tax revenue, government needed to boost revenue collected from VAT, not by increasing VAT rate of 5%, but by closing every VAT revenue leakage, sensitizing the management of companies on the need to remit VAT revenue collection and adequate training of staff of Federal Inland Revenue Service (FIRS).

Ifeacho, Omoniyi & Olufemi (2014), studied relationship between non-oil exports and economic development of Nigeria. The study made use of per capita income as a measure for economic development and it stood as the dependent variable. The study made use of inflation rate, exchange rate, non-oil export, trade openness and capital formation as the explanatory variables. The study employed the Ordinary Least Squares (OLS) multiple regression method in order to analyze the data collected in the study. Findings from the study revealed that non-oil export had a positive and significant relationship with economic development in Nigeria. On the other hand, inflation rate, exchange rate and capital formation had positive and insignificant relationship with economic growth in Nigeria. Finally, the study showed that trade openness had a negative and insignificant relationship with economic growth in Nigeria. The study concluded that non-oil exports had significant relationship with economic development in Nigeria.

Aladejare & Saidi (2014), investigated the factors that determine economic growth in Nigeria. The study covered the period 1970 to 2012. Real gross domestic product was used as a measure of economic growth and it stood as the dependent variable. On the other hand, non-oil export revenue, real exchange rate, consumer price index and real interest rate were used as determining factors and the independent variables. Unit root test was used to test for stationarity of the variables and the cointegration test was used to determine existence of long run equilibrium relationship among the variables. The autoregressive distributed lag (ARDL) bound test was used as the analytical tool for analyzing the data collected. Findings from the study revealed that non-oil export revenue and consumer price index were positive and significant determinants of economic growth in the long run while real exchange rate was a negative and significant determinant of economic growth in the long run. On the other hand, the study revealed that interest rate was a positive and insignificant determinant of economic growth in the long run. But in the short run, the study showed that non-oil export and consumer price index were

positive and significant determinants of economic growth whereas exchange rate was a positive and insignificant determinant of economic growth. In addition, the study showed that interest rate was a negative and weak significant determinant of economic growth in the short run.

## III.    Methodology

The research design employed by the researcher is *ex post* facto research which aims at determining or establishing or measuring the relationship between one variable and another or the impact of one variable on another. This is a form of analyses based on already completed events and seeks to draw inference from the causal interaction of the reported series.

The nature of data for analysis of this study is secondary and was obtained from the Central Bank of Nigeria Statistical Bulletin, 2018.

Granger test of causality is used to check the likelihood of bidirectional, unidirectional or no causation between the disaggregated values of economic growth (sectors of agriculture – GDPA, Industry – GDPI and Commerce - GDPC) and the nonoil sector revenue of the Nigerian economy. The Granger causality model for the hypotheses appears thus:

$$EG_t = \sum_{i=1}^{n} \delta_i NONOIL_{t-1} + \sum_{i=j}^{n} \propto_i EG_{t-j} + \varepsilon_t$$

$$NONOIL_t = \sum_{i=1}^{n} \delta_i EG_{t-1} + \sum_{i=j}^{n} \propto_i NONOIL_{t-j} + \varepsilon_t$$

where:

$EG_t$ and $NONOIL_t$ are tested for direct and reverse causation in a pairwise manner

$\varepsilon_t$ = error term.

The specific models for the hypotheses are:

**Hypothesis One**

There is no causal relationship exist between GDPA and nonoil sector of Nigeria economy.

$$GDPA_t = \sum_{i=1}^{n} \delta_i NONOIL_{t-1} + \sum_{i=j}^{n} \propto_i GDPA_{t-j} + \varepsilon_t$$

$$NONOIL_t = \sum_{i=1}^{n} \delta_i GDPA_{t-1} + \sum_{i=j}^{n} \propto_i NONOIL_{t-j} + \varepsilon_t$$

**Hypothesis Two**

There is no causal relationship exist between GDPI and nonoil sector of Nigeria economy.

$$EG_t = \sum_{i=1}^{n} \delta_i NONOIL_{t-1} + \sum_{i=j}^{n} \propto_i GDPI_{t-j} + \varepsilon_t$$

$$NONOIL_t = \sum_{i=1}^{n} \delta_i GDPI_{t-1} + \sum_{i=j}^{n} \propto_i NONOIL_{t-j} + \varepsilon_t$$

**Hypothesis Three**

There is no causal relationship exist between GDPC and nonoil sector of Nigeria economy.

$$GDPC_t = \sum_{i=1}^{n} \delta_i NONOIL_{t-1} + \sum_{i=j}^{n} \propto_i GDPC_{t-j} + \varepsilon_t$$

$$NONOIL_t = \sum_{i=1}^{n} \delta_i GDPC_{t-1} + \sum_{i=j}^{n} \propto_i NONOIL_{t-j} + \varepsilon_t$$

**Hypothesis Four**

There is no causal relationship exist between GDPTOT and nonoil sector of Nigeria economy.

$$GDPTOT_t = \sum_{i=1}^{n} \delta_i NONOIL_{t-1} + \sum_{i=j}^{n} \propto_i GDPTOT_{t-j} + \varepsilon_t$$

$$NONOIL_t = \sum_{i=1}^{n} \delta_i GDPTOT_{t-1} + \sum_{i=j}^{n} \propto_i NONOIL_{t-j} + \varepsilon_t$$

# IV. Results and Discussion

## 4.1. Data Description

The descriptive statistics was performed to describe the variables of study using some descriptive measures such as mean, standard deviation, skewness and kurtosis. The results of the descriptive analysis were presented in table 4.2.

### Table 4.2 Summary of Descriptive Statistics

| Variables | Media | Median | Maximum | Std.Dev | Skewness | Kurtosis | Prob | Ob |
|---|---|---|---|---|---|---|---|---|
| GDPtot | 307942 | 9733.2 | 12772.5 | 38667.7 | 1.125 | 2.936 | 0.02 | 34 |
| GDPA | 7018.2 | 3133.5 | 27371.3 | 8169.5 | 0.98 | 2.71 | 0.06 | 34 |
| GDPI | 6204.2 | 2139.5 | 26129.9 | 7448.9 | 1.085 | 2.935 | 0.06 | 34 |
| GDPC | 5452.3 | 1368.7 | 21918.4 | 7078.15 | 1.2051 | 3.106 | 0.01 | 34 |
| NONOIL | 1053.2 | 500.9 | 4006.0 | 1249.9 | 0.96 | 2.47 | 0.05 | 34 |

*Source: Author's2021*

The descriptive statistics in Table 4.2 presents the measures of central tendency as well as spread of the variables under study. The Skewness which measures symmetry or departure from symmetry and Kurtosis which is a measure of peakedness or flatness of the distribution or series are also shown. The series which is reported platykurtosis because in normally distributed. Jarque – Bera which is a test for normality is also reported. All variables (GDPtot, GDPA, GDPI, GDPC and NONOIL) were positively skewed except GFCF. Examining the kurtosis, all variables (GDPtot, GDPA, GDPI, GDPC and NONOIL) had their kurtosis coefficient greater than zero which indicates that they are all leptokurtic. The Jarque-Bera statistics tested the null hypothesis that a series is normally distributed. The null hypothesis is rejected when the probability value is not significant at 5 percent. Using the probability values as computed in Table 4.2, the variables, GDPtot, GDPA, GDPI, GDPC and NONOIL are not normally distributed except for GDPA which is normally distributed as their respective probability values are not significant at 5 percent.

## 4.2 Correlation Matrix

To further show the properties of the series under study, the degree of linear association is shown by table 4.3 below:

### Table 4.2 Summary of Descriptive Statistics

| Variables | GDPTOT | GDPA | GDPI | GDPC | NONOIL |
|---|---|---|---|---|---|
| GDPTOT | - | - | - | - | - |
| GDPA | 0.995719<br>60.93596<br>0.0000 | - | - | - | - |
| GDPI | 0.980026<br>27.87686<br>0.0000 | 0.97844<br>26.79668<br>0.0000 | - | - | - |
| GDPC | 0.995947<br>62.64170<br>0.0000 | 0.989171<br>38.12489<br>0.0000 | 0.959541<br>19.27763<br>0.0000 | - | - |
| NONOIL | 0.988353<br>36.73962<br>0.0000 | 0.985327<br>32.65675<br>0.0000 | 0.984165<br>31.40847<br>0.0000 | 0.976576<br>25.67384<br>0.0000 | - |

*Source: Author's 2021*

From the result in table 4.3, all the series share bivariate positive and significant correlation one with another. More so, all share positive and significant relationship with related variables.

## 4.3 Unit Root Analysis

Stationarity test was performed on the time series data using Augmented Dickey Fuller (ADF) test. Times series data tend to have stationarity problem hence the need to carry out this test. If the critical value is less than the ADF statistics, the null hypothesis that states that the variable has no unit root will be rejected at the particular level of significance which is usually 5 percent level of significance.

### Table 4.3: Unit Root Test Results

| Variable | ADF | At 5% Levels | Probability | Difference |
|---|---|---|---|---|
| GDPTOT | -3.34 | -2.95 | 0.02 | 1(1) |
| LGDPA | -3.68 | -3.55 | 0.03 | 1(1) |
| GDPI | -6.71 | -3.58 | 0.0000 | 1(1) |
| LGDPC | -3.38 | -2.95 | 0.01 | 1(1) |
| NONOIL | -4.67 | -2.95 | 0.0007 | 1(1) |

*\* Stationary at 1% significance level \*\* Stationary at 5% significance level Source: Author's Compilation from E-views 10.0 See Appendix 3 extracted from E-views 10.0*

Table 4.3 shows that all the variables were integrated of order one. The variables tested as seen in table 4.3, had ADF statistics that was higher than the critical values at 5 percent level of significance.

### 4.4    Hypotheses Testing

Granger causality (Granger, 1969) analyses to what extent the change of past values of one variable accounts for later variation of other variables. Therefore, Granger causality exists between variables $y_t$ and $x_t$ , if by using the past values of variable $y_t$ , the variable $x_t$ can be predicted with a better accuracy, and relating to a case when past values of variables $y_t$ are not being used, with an assumption that other variables stay unchanged. Granger causality test usually analyses two variables together, testing their interaction. All of the possible permutations of the two variables are:
1.       Unidirectional Granger causality from variables $x_t$ to variables $y_t$,
2.       Bi-directional casualty,
3.       No causality.

In all possible cases, a common assumption is that the data are stationary. Stationarity in a Random Process implies that its statistical characteristics do not change with time. If not the Granger causality on non-stationary time data can lead to false casual relation (Cheng, 1996). Economic and energetic time series usually have the problem of non stationarity series. The reason most often lies in constant change of legal and technical regulations and rules, and is making changes in the economic relations, which influences the change of time series. The change of regulations can affect the stationary time series, but in that case the relation between variables before and after the changes is stable. Non-stationary time series are trying stationarity with certain mathematic procedures, for example differentiation of variables.

### 4.5.1 Granger Causality Test

1. There is no causal relationship exist between GDPA and nonoil sector of Nigeria economy.
2. There is no causal relationship exist between GDPI and nonoil sector of Nigeria economy.
3. There is no causal relationship exist between GDPC and nonoil sector of Nigeria economy.
4. There is no causal relationship exist between GDPTOT and nonoil sector of Nigeria economy

**Table 4.5 : Granger Causality Test**

| Null Hypothesis: | Obs | F-Statistic | Prob. |
|---|---|---|---|
| GDPA does not Granger Cause LOGGDPTOT | 32 | 0.53205 | 0.5934 |
| LOGGDPTOT does not Granger Cause GDPA | | 0.63567 | 0.5373 |
| GDPI does not Granger Cause LOGGDPTOT | 32 | 0.54599 | 0.5855 |
| LOGGDPTOT does not Granger Cause GDPI | | 0.97355 | 0.3906 |
| LOGGDPC does not Granger Cause LOGGDPTOT | 32 | 0.29023 | 0.7504 |
| LOGGDPTOT does not Granger Cause LOGGDPC | | 4.44560 | 0.0214 |
| NONOIL does not Granger Cause LOGGDPTOT | 32 | 1.33656 | 0.2796 |
| LOGGDPTOT does not Granger Cause NONOIL | | 1.25607 | 0.3009 |
| GDPI does not Granger Cause GDPA | 32 | 1.69973 | 0.2017 |
| GDPA does not Granger Cause GDPI | | 22.6815 | 2.E-06 |
| LOGGDPC does not Granger Cause GDPA | 32 | 0.65966 | 0.5252 |
| GDPA does not Granger Cause LOGGDPC | | 0.05924 | 0.9426 |
| NONOIL does not Granger Cause GDPA | 32 | 5.47742 | 0.0101 |
| GDPA does not Granger Cause NONOIL | | 10.4540 | 0.0004 |
| LOGGDPC does not Granger Cause GDPI | 32 | 0.79334 | 0.4626 |
| GDPI does not Granger Cause LOGGDPC | | 0.01087 | 0.9892 |
| NONOIL does not Granger Cause GDPI | 32 | 4.84950 | 0.0159 |
| GDPI does not Granger Cause NONOIL | | 10.3738 | 0.0005 |
| NONOIL does not Granger Cause LOGGDPC | 32 | 0.04064 | 0.9602 |
| LOGGDPC does not Granger Cause NONOIL | | 1.21765 | 0.3117 |

# V. Conclusion and Recommendations

This study investigated impact of non-oil export on economic growth in Nigeria using a time series data for the period 1985-2018. The ARDL bounds test confirms existence of cointegration among the variables. While exchange rate (EXR) has a negative statistically insignificant relationship with economic growth in the shortrun, its long run relationship shows a positive relationship with economic growth. However, non-oil export (NOE) has a statistically positive significant impact on economic growth. In the short run, the relationship between inflation (INF) and economic growth is negative and statistically insignificant. Similarly, both in the short run and lung run trade openness (TOP) and economic growth has a negative and statistically insignificant relationship. The Granger causality test signifies there is no causality relationship between RGDP, NOE, 1NF and EXR and uni-directional causality relationship that runs from RGDP to TOP meaning that trade openness (TOP) granger causes economic growth in Nigeria within the period under the study. The study concludes that the continuing decline in international crude oil prices, the hostility of militants in Nigeria's oil-producing area, the Nigerian Government's profligate spending, the global health pandemic, among other factors, are undermining Nigeria's economic development.

**It is recommended that:**

1.      Government should encourage more exportation of agricultural output as this in turn will enhance external foreign exchange earnings and improve the competitiveness of Nigerian agricultural produce in the international markets.

2.      Nigeria Government should strengthen the current policy on non-oil export to ensure proper implementation and monitoring. They should ensure that implementation plans were strictly adhered to and monitoring agencies were empowered and are actually doing their job properly.

3.      Nigeria Government should include all products that can be produced locally in the list of banned imported goods to promote massive production. This would push down prices of goods and services and inflation rate to 2-3%.

4.      There is need for government to ensure that the business environment is friendly with steady power supply and enough security for industry.

# Reference

[1].    Abalu E.R. (1975). The prospect of made-in-Nigeria Goods in world markt. *The Journal of*
[2].    *Management Sciences,* pp. 23-27.Abaa, M.A. (2014). The Impact of Tax Revenue on the Nigerian Economy (Case of federal Board of Inland Revenue). *Journal of Policy and Development Studies*, Vol. 9, No. 1, 109 –121.
[3].    Abogan, O.P., Akinola, E.B. & Baruwa, O.I. (2014). Non-oil export and Economic growth in         Nigeria          (1980-2011), Journal of Research in Economics and International Finance, 3 (1),     1-11.

[4].    Adereti, S. A., Sanni, M. R. & Adesina, J. A. (2011); "Value Added Tax and economic Growth of Nigeria". European Journal of Humanities and Social Science. 10(1); 456-471.
[5].    Adewusi, V.A. (1998). Development of Petroleum Resources in Nigeria -Advances, Challenges, and Opportunities. *Petroleum Science and Technology*, Vol. 16, Issue 7-8, Pages 685-695.
[6].    Adeyemi, O.T. (2004). Economic Integration of Non-Oil Exports on Nigerian Economic Development. (Unpublished) Submitted In Partial Fulfillment of The Requirements For The Degree of M.Sc. Economics, Lagos State University, Lagos, Nigeria. 11-18.
[7].    Ajakaiye D.O (1987). Economic Development. Nigeria Institute of Social and Economic Research (NISER) Ibadan.
[8].    Akinlo, E. A. (2012). How important is oil in Nigeria's economic growth. Journal of Sustainable         Development, 5(4), 11-34
[9].    Algoni, U.S. and Agrawwal, P.K (2017). An Assessment of the Contribution of Taxon Nigeria's Economic Development and its Effects on Companies' Performance in Nigeria. *International Journal of Scientific and Research Publications*, Volume 7, Issue 7, 476 –484.
[10].   Alm, J. & El-Ganainy, A. (2012); "Value-added Taxation and Consumption. Tulane Economics, Working Paper Series. Available online from http://econ.tulane.edu/RePEc/pdf/tul.pdf. Accessed on 3rd May, 2016.
[11].   Amsden, J.C. (1989). Official Debt Rescheduling. *External Debt Management* edited by Mehran, Hassanali, International Monetary Fund, Washington D.C.
[12].   Anyanwu, J. C. & Oaikhenan, H. E. (1995); "Modern Macroeconomics: Theory and Application in Nigeria"; Joanee Educational Publishers Ltd, Onitsha, Nigeria.
[13].   Anyanwu, J. C. (1997); Nigeria's Public Finance.Onitsha, Joance Education Publishers.
[14].   Ariyo, A (1997); Productivity of the Nigerian Tax System: 1970-1990. Department of Economics, University of Ibadan.
[15].   Asogwa, F. O. & Nkolika, O. M. (2013); "Value Added Tax and Investment Growth in Nigeria: Time Series Analysis".IOSR Journal of Humanities and Social Science (IOSR-JHSS).18(1); 28-31.
[16].   Bakare, A.S. (2013); Value added tax and output growth in Nigeria. Proceeding of 8th Annual London Business Besearch Conference Imperial College, London, UK, .8-9 July, 2013. 1-11.
[17].   Bird, R. M. (2005); "Value-Added Taxes in Developing and Transitional Countries: Lessons and Questions", Paper Prepared for the First Global International Tax Dialogue Conference on VAT, Rome, March 15-16.
[18].   Bogetic, Z. & Hassan, F. (1993); "Determinants of Value Added Tax Revenue: A Cross Sectional Analysis". Working Paper Series no 1203, World Bank, Washington D.C.
[19].   Bohanon, C.E., Horowitz, J.B., and McClure, J.E.  (2014). Saying Too Little, Too Late:  Public Finance Textbooks and the Excess Burdens of Taxation, *Econ Journal Watch*. 11(3): 277–296.
[20].   Braütigam, D., and Knack, S. (2004). Foreign Aid, Institutions, and Governance in Sub-Saharan Africa, *Economic Development and Cultural Change*, Vol. 52 No. 2, pp. 255-86.

[21]. Cheng, B.S. (1996). An Investigation of Cointegration and Causality between Energy Consumption and Economic Growth", Journal of Energy and Development, 21(2), 73-84

[22]. Chigbu, E. C. & Ali, P. I. (2014); "Econometric Analysis of the Impact of Value Added Tax on Economic Growth in Nigeria. European Journal of Business and Management.6 (18); 31- 36.

[23]. Chigbu, E. E. (2014); "A Cointegration of Value Added Tax and Economic Growth in Nigeria: 1994- 2012". International Journal of Management Sciences and Business Research.3(2); 95-103.

[24]. Claus, I. Haugh, D. Scobies, G. & Tornquist, J. (2001); "Savings and Growth in an Open Economy". Treasury Working Paper, Available from http//11.treasury.gov.pdf. Accessed: 23 April, 2016.

[25]. Denis, B. (2010); "Investigating the Relationship Between VAT and GDP in Nigerian Economy". Journal of Management and Corporate Governance, 2.

[26]. Ehui, S. and M. Tsigas, (2006), "Identifying agricultural investment opportunities in sub-Saharan Africa: A global, economy-wide analysis," African Journal of Agricultural and Resource Economics, 1(1):1-19, December.

[27]. Ekpo, K and Egwaikhide, O. (1994). The Ijaws and the Niger Delta: The Challenge of Leadership, Keynote Address at the 1994 Boro Day Observance and 6th Annual INAA Service And Devotion Award Ceremony, Newark, New Jersey, U.S.A., May 22.

[28]. Everhart,G and,Duval-Hernandez, D.(2001). "Avoiding the Oil Curse: What Norway can teach Iraq" in Slate's "Moneybox" column 10/29/2004.

[29]. Falana, A. (1979). Nigeria's oil Wealth: The Challenges of Sustainable Development in an Economy Dependent on Non-Renewable Natural Resources, Ibadan: Postgraduate School, University of Ibadan.

[30]. Geroid, A., (2006). Real Exchange Rate Misalignments and Economic Performance. *Working Paper 315. Central Bank of Chile, Economic Research Division*.

[31]. Granger, C. W.J. (1969). Testing for Causality and Feedback, In Econometrica, 37(1), 424-38.

[32]. Granger, C.W.J. (1969); "Investigating Causal Relations by Econometric and Cross-spectral Method, Econometrical, 37(3), 424-438.

[33]. Gujarati, D. N. (2005); Basic Econometrics(Fifth Reprint).Tata MacGraw Hill, New Delhi.

[34]. Hertel, T., editor, (1997): Global Trade Analysis: Modeling and Applications, Cambridge Univ. Press, January.

[35]. IMF (2015). The Staff Report on Fiscal Policy and Long-Term Growth, IMF Policy Paper prepared by IMF staff and completed on April 20, 2015, for the Executive Board's consideration on June 3, 2015.

[36]. Irfan Mahar (2020). Impact of Covid-19 on Global Economy Structure, Media Report on Modern Diplomacy. Available at: https://moderndiplomacy.eu/2020/04/22/impact-of-covid-19-on-global-economy-structure/

[37]. Izedonmi, F.I.O. & Okunbor, J.A. (2014); "The roles of value added tax in the economic growth of Nigeria". British Journal of Economics, Management &Trade. 4(12); 1999-2007.

[38]. Javad, N.A, Abbsi, G and Baseri, B (2014). Relationship between Exports and Economic Growth in the industrial sectors in Iran. Kuwait Chapter of Arabian Journal of Business and Management Review, 3(8), 105-117.

[39]. Jhingan, M.L. (1997); Macroeconomic Theory, Vrinda Publication Ltd.Delhi.

[40]. Langley, O. C. (1968). The Precarious Place of Labour Rights and Movements in Nigeria's Dual Economic and Political Transition. *Journal of African Law*, 51: 68-94.

[41]. Leonidon, T. and Katsikeas, S., (1996). A theoretical Macroeconomics: A critique *Journal of Monetary Economics* 66, 25-30.

[42]. Levine, R and Loayza, N.; (2000). Beck, T. Financial intermediation and growth: Causality and causes. J. Monet. Econ. 46(1), 18–41.

[43]. Levine, R and Zervos, S. (1996). Stock market development and long-run growth. World Bank Econ. 10, 323–339.

[44]. Miller, R.G., and Sorrell, S.R. (2006).The Future of Oil Supply. Philos Trans A Math Phys Eng Sci., 372.

[45]. Muhammed, A. 0. (2004). The Contribution of Nigerian Export-Import (NEXIM) bank towards Export (non-oil) Growth in Nigeria (1990-2005)", International Business Management 2(3), 85-90.

[46]. National Bureau of Statistics (2018). Retrieved from the website of NBS of the Federal Republic of Nigeria. https://www.nigerianstat.gov.ng/Nwachukwu,

[47]. Noula, A.G, Sama, G.L and Gwah, M.D (2013). Impact of Agricultural Export on Economic Growth in Cameroon: Case of Banana, Coffee and Cocoa. International Journal of Business and Management Review, 1(1), 44-71.

[48]. Nwanchukwu, P. O. (2014). The impact of non-oil export strategies on economic growth in Nigeria (1970-2013). Journal of Economic and Sustainable Development, 5(24), 34-45

[49]. Ochei, O.O (2010); Nigerian Tax Reform: Challenges & Prospects, Assessed from http://www.org/others/nigeria-tax reforms. PDF on May 4, 2016.

[50]. Ogunkola, R., and Oyejide, H.(2001). Sub-Saharan Africa's Debt Crisis: Analysis and Forecast based on Nigeria. *Emerald Managerial Finance* Vol. 32 No. 7, pp. 606-620.

[51]. Ojijo Odhiambo and Oluwatosin Olushola (2018). Taxation and Economic Growth in a Resource-Rich Country: The Case of Nigeria, Taxes and Taxation Trends, Jolanta Irwin-Garzyska.

[52]. Ojo, E.O. (1989). Export Marketing for Nigerians' Economic Transformation. *Management in Nigeria*, Vol. 34, No. 2-4, April-December pp. 20-25.

[53]. Okoli, M.N., & Matthew, A.S. (2015); "Correlation between values added tax and national revenue in Nigeria: An ECM Model". Research Journal ofFinance and Accounting. 6(6); 230-238

[54]. Okunnu, M.A (2008). Non-Oil Export Development and Promotion as a Vital Strategy for Increasing Foreign Exchange Earning in an Economy. *Dimension Consult Limited* Lagos.

[55]. Oladipo, N.E.. (1998). Evaluation of Nigeria's Debt Relief Experience (1985-1990). Research Programme on Financial Policies for the global dissemination of Economic Growth. *Technical Paper No. 55*.

[56]. Olaoye, C.O (2009); A Review of Value Added Tax (VAT) Administration in Nigeria. Assessed frommedwelljournals.com on May 4, 2016.

[57]. Olatunji, O.C. (2009); "A Review of Value Added Tax (VAT) Administration in Nigeria". Medwell Journals. 3(4);61-68.

[58]. Olomola, O. (1998). Civil Society and Conflict Management in the Niger Delta: Scoping Gaps for Policy and Advocacy, Lagos: CLEEN Foundation.

[59]. Onaolapo, A.A., Aworemi, R.J., & Ajala, O.A. (2013); "Assessment of Value Added Tax and its Effects on Revenue Generation in Nigeria. Internal Journal of Business and Social Science. 4(1); 220-225.

[60]. Onwucheka, J. C. & Aruwa, S. A. S. (2014); "Value Added Tax and Economic Growth in Nigeria". European Journal of Accounting, Auditing and Finance Research, 2(8); 62-69.

[61]. Opara, B.C, (2010). Nigerian Firms' Non-Oil Export involvement: An Economic Transformation Paradigm. *European Journal of Scientific Research*. Vol. 40 No. 4 pp 547-556.

[62]. Oyedeji, A.P (1986). The structure and growth of the Non-oil sector since 1990's. Central Bank of Nigeria (CBN) Central Bank of Nigeria Reports (various).

[63]. Salvatore, D., (1983). A Simultaneous equations model of trade and development with dynamic policy simulation. *Kyklos* 36, 66-90.

[64]. Sasore, R. J., (2004). Government Spending in a Simple Endogenous Growth Model. *Journal of Political Economy*, Vol. 98, 103–125.

[65]. Squire, H. and Waters, B.M (1995). Trade Laws and Institutions. Goods Practices and the World Trade organization. World Bank Discussion papers No. 282.

[66]. Terpstra, H and Sarathy, P. (200). Turning Oil Wealth into Development: Comparison of Angola and Nigeria. Draft. Center on Democracy, Development, and the Rule of Law.

[67]. Usman, O.A. (2010). Non-Oil Export Determinant and Economic Growth Nigeria (1988-2008), European Journal of Business and Management, 3 (3), 56-78

[68]. William McIver (2006). Community Informatics and Human Development –Chapter 38 Springer Science and Business Media, LLC.

[69]. Zinkota, F. (1994). OPEC & the struggle to control Oil Prices. *Columbia University Journal of International Affairs*.