# Petroleum Income and Nigerian Economy: Empirical Evidence

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## Absract

The Nigerian petroleum industry has been described as the largest among all industries in the country. The major investors in the petroleum industry are the International Oil Companies (IOCs), the principal legislation governing petroleum operations in Nigeria is the Petroleum Profit Tax Act (PPTA) of 2007. Irrespective of Nigeria's huge oil wealth, the country has remained one of the poorest in the world. The major sources of petroleum income are sale of crude oil and gas(oil revenue). Despite the huge financial resources emanating from the major sources of petroleum income which are sale of crude oil and gas(oil revenue), Petroleum Profits Tax and royalties, licensing fees and other incidentals in Nigeria, development of major sectors have not reached full capacity. Examining the relationship between petroleum income and development, the effects of petroleum income on per capita income on the Nigerian economy and the effects of petroleum income on inflation in the Nigerian economy. Growth and development in the oil rich economies could be enhanced through the market contribution from oil. Generally, as a result of oil production, refining and distribution, there is tendency for oil sector-related services to spring up. Over the years, the oil industry has made a variety of contributions to the Nigerian economy. One of the contributions of the oil industry to the Nigerian economy was the creation of employment opportunities. The gross output of the petroleum sector consists of the proceeds from oil exports, local sales of crude oil and local sales of natural gas.

**Keywords**: crude oil; development; gas; growth; international oil.

## 1. Introduction

Nigeria is situated in West African sub-region with a land mass of 923,768 sq. km and a population that is estimated to be 193,392,517 million people in 2016 (national bureau of statistics, 2019). The history of petroleum industry in Nigeria reveals that oil was discovered in Nigeria in 1956 at Oloibiri in the Niger Delta. The discovery was made by Shell-BP. Nigeria joined the ranks of oil producers in 1958 when its first oil field came on stream producing 5,100 barrels per day. After 1960, exploration rights in onshore and offshore areas adjoining the Niger Delta were extended to other foreign companies. According to the Kachukwu (2019) as at first quarter of 2019 Nigeria currently deliver 1.9 to 2 million barrels a day.

The Nigerian petroleum industry has been described as the largest among all industries in the country. This is probably due to the belief that petroleum is one of the major sources of energy worldwide. The size, international characteristic, and role assumed by the petroleum industry were noted to have originated from the notion that petroleum is versatile as it currently satisfies a wide variety of energy and related needs. Petroleum is the most vital source of energy, providing over 50 percent of all commercial energy consumption in the world. The revenues obtained from crude oil in Nigeria are of absolute advantage to expenditure commitments on various projects at the local, state, and federal levels. The Nigerian economy relies heavily on the revenue derived from petroleum products, as they provide 70 percent of government revenue and about 95 percent of foreign exchange earnings. Apart from this, the contribution of petroleum to national development is many and varied; employment generation, foreign exchange earnings, income generation, industrialisation, and improvements in other economic variables. While the major investors in the petroleum industry are the International Oil Companies (IOCs), the principal legislation governing petroleum operations in Nigeria is the Petroleum Profit Tax Act (PPTA) of 2007. Its main fiscal instrument is the Petroleum Profit Tax (PPT). Under the PPT, the tax rate was set at 67.5 percent for the first five years of operations by the oil company and 85 per cent thereafter.

The global perception of Nigeria is that of a rich oil producing nation but with a growing poverty index (Yakub, 2008). Irrespective of Nigeria's huge oil wealth, the country has remained one ofthe poorest in the world. In particular, the Niger Delta which produces the oil wealth thataccounts for the bulk of Nigeria's earnings has also emerged as one of the mostenvironmentally degraded regions in the world evidenced from the World Wildlife According to data obtained from the National Bureau of Statistics' (NBS, 2018), Foreign Trade Statistics for the Third Quarter of 2018, crude oil export in the nine-month period accounted for 81.8 per cent of total exports recorded in the Nigerian economy in 2018. Specifically, the report stated that crude oil export in the first quarter of 2018, appreciated by 51.05 per cent compared

to N2.37 trillion recorded in the first quarter of 2017; while in the second quarter of 2018, crude oil export stood at N3.77 trillion, appreciating by 55.14 per cent from N2.43 trillion recorded in the same period of 2017. Third quarter 2018 crude oil export, according to the report, appreciated by 39.17 per cent from N2.97 trillion recorded in third quarter 2017 to N4.15 trillion.

The annual budget expenditure for 2018 indicated that capital expenditure was to gulp 31.5 per cent of the total expenditure at N2.87tn, while recurrent non-debt spending was put at N3.51tn in 2018 (Punch Online, 2019). Total recurrent expenditure increased between this period as a result of increase in salaries and expansion of government ministries and agencies (Nigeria budget office, 2018). In addition to the low capital budget ratio, government ministries have been unable to deploy capital funds effectively. One of the reasons being that some of these ministries still operate an ineffective manual system which has given rise to inconsistency, lack of transparency and accountability problems. Increased unemployment, poor health facilities and lack of adequate power supply are some of the economic problems that have resulted. Available evidence in shows that the country has proven oil reserves of 36 billion barrels, condensate of 4 billion barrels, proven gas reserves of 187 trillion cubic feet and the present average daily production of oil is 2.6 million bbl./b (Egbogah, 2010).

There is the issue of subsidy, the issue of scarcity, the issue of sharing of revenues accruing from petroleum, the fuel subsidy issue, which in December 2011 generated social and political problems that paralysed economic activities nationwide, the issue of probes in the downstream petroleum sub-sector, and recently, the issue of privatization and deregulation of the Nigerian Oil Industry. It appears these problematic issues may have arisen due to some unfavourable characteristics of petroleum policies in Nigeria.

Previous studies on the Nigeria economy in the last decade show that the petroleum industry has been playing a dominant role and occupies a strategic position in the economic development of Nigeria. This is evidenced by the total oil export revenue generated into the Federation Account from 2000 to 2017 which amounted to N148. 601trillion while non-oil was N8.8012 trillion, representing 94% and 6% respectively. The mean value of oil revenue for the 18 year period is N8.23trillion compared to non-oil revenue at N488.96billion (CBN Statistical Bulletin, 2017). Further evidence was eighteen (18) year's average crude oil and condensates production of 2,273.07 Thousand Barrels Per Day from 2000 to 2017 (International Energy Data, 2018).

Despite the huge financial resources emanating from the major sources of petroleum income which are sale of crude oil and gas(oil revenue), Petroleum Profits Tax and royalties, licensing fees and other incidentals in Nigeria, development of major sectors have not reached full capacity. Economic and social development in Nigeria is crumbling, but development will be experienced when funds accruing from petroleum income are well utilized as well as

development in every sector of the economy such as health, industrial, education, agricultural, manufacturing sectors etc.

The objective of the study is to investigate the effects of petroleum income on the Nigerian economy for the period, while the specific objectives are as follows:

i. To examine the relationship between petroleum income and development.
ii. To examine the effects of petroleum income on per capita income on the Nigerian economy.
iii. To examine the effects of petroleum income on inflation in the Nigerian economy

To serve as a guide in the course of the research, this study formulates the following research hypothesis which shall be presented through the use of the Null hypothesis ($H_O$) and the Alternative Hypothesis ($H_A$)

## 2. Hypotheses

**$H_{01}$:** That there is no significant relationship between petroleum income and economic development.

**$H_{02}$:** That there is no significant relationship between petroleum income and per capita income.

**$H_{03}$:** That there is no significant relationship between inflation rate and petroleum income in Nigeria.

## 3. Theoretical perspectives on resource abundance and growth

This section provides a succinct summary of the theoretical literature on the nature of the relationship between resource abundance (which in this case is oil) and development.

The conventional wisdom before the late 80s was that natural resources had positive effect on development (Rosser, 2006). This view was shared by many development theorists and neoliberal economists until the resurgence of new view in the 80s that claimed that natural resource abundant was not a blessing to the developing countries. The basic argument of the benign perspective is that natural resource endowments would assist the developing countries to transit from the stage of underdevelopment to that of industrial 'take-off', as obtained in such countries as Britain, the United States and Australia.

The accumulation of foreign reserves can be seen as collateral which the oil producing economies can use in attracting foreign investment (Dooley et al., 2004).

Moreover, such holding can be seen as a costly self-insurance strategy to smoot the vulnerability impacts of domestic and foreign shocks and to intervene in the foreign exchange market.

Oil sector can also contribute to development in the oil rich economies through provision of intermediate inputs to the rest of the economy. These intermediate inputs include crude oil, gas and liquid feed stocks, as well as oil and gas into the refining, petrochemical and electricity and energy intensive industries respectively (Al-Moneef, 2006). This channel is critical to growth and development in the developing countries. For instance, many outputs of the petrochemical industries are crucial to the development of the manufacturing industries. Likewise, provision of electricity and other basic utilities at favourable prices is of considerable importance in the process of growing and nurturing the service and manufacturing sub sectors.

Growth and development in the oil rich economies could be enhanced through the market contribution from oil. The market contribution relates to the demand by oil sector for various inputs of goods and services provided by local sources. Generally, as a result of oil production, refining and distribution, there is tendency for oil sector-related services to spring up. These oil sector-related services will not only provide opportunity for employment but also serve as sources of earnings for the operators.

Asides from the market contribution, the foreign investment (FDI) effect is very important. Oil activity often leads to inflow of foreign resources such as FDI and portfolio investment. Indeed, the bulk of FDI into majority of the countries that export oil are concentrated in the oil sector. The various channels through which FDI impacts growth and development in the recipient countries have been extensively discussed in the literature.

Specifically, FDI inflows to developing countries not only help in increasing their stock of capital but may also assist in boosting labour productivity and incomes in the host country. Consequently, the levels of output, employment creation, and potential tax revenues are enhanced in the host countries (Ramirez, 2006).

Empirically, few studies have been have provided results in support of the benign perspective on the impact of natural resources on economic growth and development. Some of these studies not only reported that resource abundance had positive impact on growth and development but also found that resource dependence had no adverse impact on growth.

All in all, while there are strong theoretical grounds to suspect a broad correspondence between natural resource abundance especially oil and low growth, the nature of the linkage is neither direct nor simple. Empirical literature has not provided conclusive answer to whether abundant natural resource is a curse or blessing. Even among studies that claimed the curse of natural resources actually exist, there is no agreement on what exactly drives the curse of the

natural resources and on how it exactly plays out. This explains why further research should be focused on the causal link between natural resource abundance and growth in the resource rich economies.

## 4. Empirical review

Sidi, Abderrahim and Mohamed (2017) examined the interaction between oil exports' revenues and longrun economic growth in Algeria over the period 1979–2013. Advanced econometric procedures including the cointegration VARX (VAR with exogenous variables) model, over-identifying restrictions, bootstrapping, persistent profiles and Generalized Impulse Response Function are utilized in the empirical analysis. The results show a strong and positive association between oil revenue and long-run economic growth, but negative linkages between the volatility of oil revenues and growth in Algeria. The impulse response analysis also provides evidence that a positive shock in oil revenues increases the level of real output, and appreciates the real exchange rate.

On the other hand, Ibeh (2013) investigated the impact of the oil industry on the economic growth performance of Nigeria. Using ordinary least square (OLS) regression technique, she regressed Gross Domestic Product (GDP), against oil Revenue (OREV) and time appeared as repressors. A two-tailed test of 5% significant levels were conducted indicating that the two Explanatory variables did not have any significant impact on growth performance of the Nigerian economy within the same period. The researcher therefore recommends that government should formulate appropriate policy mix that would motivate the firm in the oil sector to enhance improved performance and contribution of the sector.

Akinlo (2012) assessed the importance of oil in the development of the Nigerian economy in a multivariate VAR model over the period 1960-2009. He model oil sector against other four sectors i.e. manufacturing, agriculture, trade & service and building & construction. Empirical evidence shows that the five subsectors are cointegrated and that the oil can cause other non-oil sectors to grow. However, oil had adverse effect on the manufacturing sector.

Okoh et al (2016) examined the effect of petroleum profit tax on economic growth of Nigeria. Income from petroleum taxes is the proxy for PPT while economic growth was measured using Gross Domestic Product (GDP). The study covered twelve year period (2004-2015). Time series data were analyzed using the simple linear regression. The results revealed that PPT had positive and significant effect on Nigerian GDP.

Nweze and Greg (2016) examined oil revenue and economic growth in Nigeria between 1981 to 2014. The result of the error correction mechanism (ECM) test indicates that all the variables

except lag of government expenditure exerted significant impact on economic growth in Nigeria. However, all the variables exhibited their expected sign in the shortrun but exhibited negative relationship with economic growth in the longrun except for government expenditure, which has positive relationship with economic growth both in the longrun and shortrun. The study concluded that Government should use the revenue generated from petroleum to invest in other domestic sectors such as Agriculture and manufacturing sector in order to expand the revenue source of the economy and further increase the revenue base of the economy.

Ibeh and Akinlo (2012) revealed that petroleum industry have not rely contributed significantly to Nigeria economy this owned to the fact that Nigeria government have not used her revenue generated from the sector efficiently. The industry has faced enormous challenges such as lack of infrastructures, lack of proper turn around maintenance in the oil and gas industries, high rate of corruption, militant insurgences, the recent Boko haram, bunkering, and all sorts of criminal activities.

Aregbeyen and Bashir (2015) examined the relationships among oil revenue, government spending, and economic growth in Nigeria. Time series data were analyzed using econometric techniques which included Ordinary Least Square (OLS), cointegration, Vector Error Correction Model (VECM), and Granger causality to determine the direction of causality and the magnitude of impacts of the variables. Findings from the analysis revealed that oil revenue Granger caused both of total government spending and growth, while there was no-causality between government spending and growth in the country.

Gbadebo (2015) analysed the relationship between the crude oil sector and the Nigerian economic performance. Using the Ordinary Least Square regression method, the study reveals that crude oil consumption and export have contributed to the improvement of the Nigerian economy. However, one of the recommendations of the study is that government should implement policies that would encourage the private sector to participate actively in the crude oil sector.

Khalid and Azrai (2015) investigated the impact of oil revenue and the service GDP of Sudan for the period 2000 to 2012. To achieve this goal, secondary data were collected and analyzed using regression methods. The results reveal a causal relationship between oil revenue (independent variable) and service GDP (dependent variables). Regression analysis result suggests that oil revenue affects the service GDP positively. Oil revenue is estimated to have contributed to 78.8 percent of variation in GDP between 2000 and 2012. Furthermore, a unit change in oil revenue will cause a .0246 percent change in service GDP.

Isola, et al (2015) empirically investigated the dynamic relationship between crude oil price and inflation in Nigeria. The methodology adopted by the paper is a simple regressions models

and statistical package for social sciences and annual series from 1982-2011 were used for the estimation. The estimation results that changes in crude oil price have had significant effects on inflation other findings are that inflation has been influenced by exchange rate changes and changes in broad money supply and maximum lending rate.

Okezie and Azubike (2016) evaluated the contribution of non-oil revenue to government revenue and economic growth in Nigeria from 1980 to 2014. The data was analyzed using the Ordinary Least Squares Regression. The result revealed a positive and significant contribution of non-oil revenue to economic growth and positive but slightly insignificant contribution to government revenue.

Ibeh (2013) investigated the impact of the oil industry on the economic growth performance of Nigeria. Using ordinary least square (OLS) regression technique, she regressed Gross Domestic Product (GDP), against oil Revenue (OREV) and time appeared as repressors. A two-tailed test of 5% significant levels were conducted indicating that the two Explanatory variables did not have any significant impact on growth performance of the Nigerian economy within the same period.

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Okoh et al (2016) examined the effect of petroleum profit tax on economic growth of Nigeria. Income from petroleum taxes is the proxy for PPT while economic growth was measured using Gross Domestic Product (GDP). The research adopted expos-facto research as secondary data were used for the analysis. Data were sourced from the Central Bank of Nigeria Statistical Bulletin and the Federal Statistical Bureau. The study covered twelve year period (2004-2015). Time series data were analyzed using the simple linear regression. The results revealed that PPT had positive and significant effect on Nigerian GDP. The study recommends that the government should provide the necessary human and material infrastructures that are needed to support petroleum business so they can earn more income that will boost taxation.

Nweze and Greg (2016) examined oil revenue and economic growth in Nigeria between 1981 to 2014. Secondary data on gross domestic product (GDP), used as a proxy for economic growth; oil revenue (OREV), and government expenditure (GEXP) which represented the explanatory variables were sourced mainly from CBN publications. The cointegration result indicated that there is long run relationship among the variables with three cointegrating equation(s). The result of the error correction mechanism (ECM) test indicates that all the variables except lag of

government expenditure exerted significant impact on economic growth in Nigeria. However, all the variables exhibited their expected sign in the shortrun but exhibited negative relationship with economic growth in the longrun except for government expenditure, which has positive relationship with economic growth both in the longrun and shortrun. The study concluded that Government should use the revenue generated from petroleum to invest in other domestic sectors such as Agriculture and manufacturing sector in order to expand the revenue source of the economy and further increase the revenue base of the economy.

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Aregbeyen and Bashir (2015) examined the relationships among oil revenue, government spending, and economic growth in Nigeria. By implication, it investigated whether oil revenue impacted on government spending, as well as on economic growth in the country over the period from 1980 to 2012. Time series data were analyzed using econometric techniques which included Ordinary Least Square (OLS), cointegration, Vector Error Correction Model (VECM), and Granger causality to determine the direction of causality and the magnitude of impacts of the variables. Findings from the analysis revealed that oil revenue Granger caused both of total government spending and growth, while there was no-causality between government spending and growth in the country.

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Isola, et al (2015) empirically investigated the dynamic relationship between crude oil price and inflation in Nigeria, in order to suggest appropriate domestic policies necessary to control inflation for the policy makers. The estimation results that changes in crude oil price have had significant effects on inflation other findings are that inflation has been influenced by exchange rate changes and changes in broad money supply and maximum lending rate.

Okezie and Azubike (2016) evaluated the contribution of non-oil revenue to government revenue and economic growth in Nigeria from 1980 to 2014. To achieve the research objective, relevant secondary data was sourced from the statistical bulletin of the Central bank of Nigeria and statement of accounts. The data was analyzed using the Ordinary Least Squares Regression. The result revealed a positive and significant contribution of non-oil revenue to economic growth and positive but slightly insignificant contribution to government revenue. The study recommended that efforts should be intensified by the government mostly at the Federal level in bringing to fruition the diversification of the nation's productive sector judging from the great potentials and capacity of the non-oil sector in enhancing revenue and economic growth.

## 5. Methodology

Haven gone through the research methodology in the previous chapter, this chapter embarks on data presentation and analysis of results.

The data sourced from the publications of Nigerian National Petroleum Corporation (NNPC), Petroleum Products Pricing Regulation Agency (PPPRA), Central Bank of Nigeria, and National Bureau of Statistics. The secondary data shall cover the period between 1981 and 2015.

The model that would be estimated in the course of this study is stated below:

GDP = (OR. PCI, INF)

$GDP = \beta_0 + \beta_1 OR + \beta_2 PCI + \beta_3 INF + E_t$

GDP = Gross Domestic Product, OR= Oil Revenue, PCI = Per Capita Income, INF = Inflation Rate, $E_t$= error term, $\beta_0$ = constant, $\beta_1$, $\beta_2$, $\beta_3$, $\beta_4$ = parameters

## 6. Analysis of data

The data used for analysis were collected from secondary sources. Data used for the analysis covered a period of thirty seven (37) years from 1981-2017. The time series data employed for the estimation of the empirical model specified to capture petroleum income and Nigerian economy from 1981-2018 is presented in appendix 1.

*Table 1. Result of unit root test*

| Variables | Augmented-Dickey Fuller (ADF) Test | | | |
|---|---|---|---|---|
| | ***Prob.Value (level)*** | ***Prob.Value (1st. Diff.)*** | ***Prob.Value (2nd. Diff.)*** | ***Remarks*** |
| GDP | 0.9624 | 0.3552 | 0.0000 | $I_{(2)}$ |
| INF | 0.0230 | ---------- | ---------- | $I_{(0)}$ |
| OREV | 0.2821 | 0.0007 | ---------- | $I_{(1)}$ |
| NOREV | 1.0000 | 0.9185 | 0.0000 | $I_{(2)}$ |
| PCI | 0.1987 | 0.0120 | ---------- | $I_{(1)}$ |

* Rejection of null hypothesis of unit root at 5%.

I (1) Stationarity of the variables at first order or at first difference.

I (2) Stationarity of the variables at second order or at second difference

## 7. Regression results

Dependent Variable: LNGDP

Method: Least Squares

Sample: 1981 2017

Included observations: 37

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 7.692310 | 0.261852 | 29.37652 | 0.0000 |
| LNOREV | 0.107866 | 0.012771 | 8.446208 | 0.0000 |
| LNPCI | 0.236711 | 0.036126 | 6.552372 | 0.0000 |
| EXR | 0.002081 | 0.000495 | 4.203201 | 0.0002 |
| INF | 0.002114 | 0.001212 | 1.743225 | 0.0909 |
| R-squared | 0.965810 | Mean dependent var | | 10.24503 |
| Adjusted R-squared | 0.961536 | S.D. dependent var | | 0.548966 |
| S.E. of regression | 0.107664 | Akaike info criterion | | -1.494509 |
| Sum squared resid | 0.370931 | Schwarz criterion | | -1.276817 |
| Log likelihood | 32.64841 | Hannan-Quinn criter. | | -1.417762 |
| F-statistic | 225.9858 | Durbin-Watson stat | | 0.671221 |
| Prob(F-statistic) | 0.000000 | | | |

## 8. Interpretation

The regression results above shows that for every 100% increase in oil revenue, gross domestic product increases by 10.8%; this is in line With the apriori expectation. Oil revenue was discovered to have a positive effect on economic growth in Nigeria. This conforms to the apriori expectation. Thus any endeavour that stimulates oil sector in the economy will have far-reaching positive effect on economic growth in Nigeria.

100% increases in per capita income, gross domestic product increases by 23.7%, per capita income is used to capture distribution of income in Nigeria and it has an insignificant impact on gross domestic product. The insignificance of per capita income in the model can be adduced to the fact that Nigeria over the years equal and even distribution of income does not trigger economic growth and development in Nigeria.

A 100 percent increase in Inflation will have an insignificant impact on gross domestic product. The insignificance of the inflation rate in the model can be linked to the fact that the price change in Nigeria does not significantly determine the nominal value of gross domestic product.

- **R-square** equals 0.9658 this implies 96.6%, that is contribution to the explanatory variable on the dependent variable is 96.6%. Which simply means that all other factors affecting the variables which are not accounted for in the model are explained by the remaining 3.4% stochastic term?
- **F-test**: this test measures the overall significance of the model, i.e. the reliability of the model. It should be noted however, that from the result of model one above the probability level is 0.0000, which shows that F-test is perfectly significance, i.e. the model is reliable for policymaking based on probability decision criteria.

## 9. Summary of findings

As the 13$^{th}$ largest oil producer in the world and the principal oil producer in the Sub-Saharan Africa. Nigeria is the 5$^{th}$ most important exporter of petroleum to the United States. Nigeria's economy today is heavily dependent on oil revenue which accounts for around 65 percent of government revenue, 95 percent of export revenues and over 95 percent of foreign exchange earnings Our findings from the estimation of our models indicate that oil revenue has a positive and statistically significant relation with GDP and per capita income respectively, but its relationship with inflation is negative and not statistically significant.

From the forgoing and on the basis of our model specifications, it is evident that petroleum income has a significant positive impact on the Nigerian economy for the period under review.

In other words, the findings of this study indicate that the abundance of petroleum and its associated income has been beneficial to the Nigerian economy for the period 1981 to 2012This conclusion therefore supports the opinions of previous studies (for example Yakubu (2008)) that income from a nation's natural resource (e.g. petroleum) has a positive influence on economic growth and development.

## 10. Conclusion

The study examines the impact of petroleum income on the economy of Nigeria. The regression results shows a significant relationship between oil revenue and GDP, which means that increase in oil revenue increased GDP within the period under review. Also, there is significant relationship between oil revenue and per capita income and a weak relationship between oil revenue and inflation rate; the foregoing findings are underscored by Wikipedia (2010) which states that the petroleum - based economy of Nigeria, long hobbled by political instability, corruption and poor macroeconomic management, is undergoing substantial economic reform. The economy has overdependence on the capital intensive oil sector, which provides less than 25 percent of GDP, despite providing 95 percent of foreign exchange earnings and about 65 percent of government revenues. Bawa and Mohammed (2007) assert that "Nigeria with all its oil wealth has performed poorly with GNP per capita today not higher than at independence in 1960. In view of the findings, which is based on the results of the hypotheses tested, the study conclude that oil revenue benefits few highly placed individuals to the exclusion of the majority in Nigeria, as values show insignificant relationship; that petroleum income is not fairly distributed to the people who are supposed to get it; that petroleum income is not invested in the economy to the extent that it would make significant or material difference in inflation rate, GDP and per capita income.

## 11. Recommendations

On the basis of the conclusion drawn, the following recommendations were provided:

(i) It is imperative for government to start with fair and most equitable reallocation of oil blocks on the basis that will ensure even distribution and balanced economic development.

(ii) Government should focus not only on petroleum income generation but should also re-direct its attention to proper management of the revenue and effective control of necessary expenditure.

(iii) Government should avoid budget deficit and ensure that balanced budgeting is the norm in the country.

(iv) The Nigerian government should invest petroleum income more on the economic sector that has significant and direct bearing on the economy in order to improve the value of GDP, per capita income and reduce inflation.

(v) The government should use petroleum income to diversify the economy in the critical economic sectors such as agriculture and manufacturing sectors that would impact the per capita income positively.

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**Data presentation**

| Year | EXR | OREV | NOREV | PCI | GDP | INF |
|---|---|---|---|---|---|---|
| 1981 | 0.61 | 10.7 | 0.3 | 2178.98 | 15,258.00 | 20.81 |
| 1982 | 0.67 | 8 | 0.2 | 1842.83 | 14,985.08 | 7.7 |
| 1983 | 0.72 | 7.2 | 0.3 | 1221.9 | 13,849.73 | 23.21 |
| 1984 | 0.76 | 8.8 | 0.2 | 901.674 | 13,779.26 | 17.82 |
| 1985 | 0.89 | 11.2 | 0.5 | 881.987 | 14,953.91 | 7.44 |
| 1986 | 2.02 | 8.4 | 0.6 | 638.625 | 15,237.99 | 5.72 |
| 1987 | 4.02 | 28.2 | 2.2 | 597.901 | 15,263.93 | 11.29 |
| 1988 | 4.54 | 28.4 | 2.8 | 548.903 | 16,215.37 | 54.51 |
| 1989 | 7.39 | 55 | 3 | 473.944 | 17,294.68 | 50.47 |
| 1990 | 8.04 | 106.6 | 3.3 | 567.186 | 19,305.63 | 7.36 |
| 1991 | 9.91 | 116.9 | 4.7 | 502.612 | 19,199.06 | 13.01 |
| 1992 | 17.3 | 201.4 | 4.2 | 476.893 | 19,620.19 | 44.59 |
| 1993 | 22.05 | 213.8 | 5 | 270.064 | 19,927.99 | 57.17 |
| 1994 | 21.89 | 200.7 | 5.3 | 321.131 | 19,979.12 | 57.03 |
| 1995 | 21.89 | 927.6 | 23.1 | 407.942 | 20,353.20 | 72.84 |
| 1996 | 21.89 | 1,286.20 | 23.3 | 461.252 | 21,177.92 | 29.27 |
| 1997 | 21.89 | 1,212.50 | 29.2 | 479.709 | 21,789.10 | 8.53 |
| 1998 | 21.89 | 717.8 | 34.1 | 469.164 | 22,332.87 | 10 |
| 1999 | 92.69 | 1,169.50 | 19.5 | 497.562 | 22,449.41 | 6.62 |
| 2000 | 102.11 | 1,920.90 | 24.8 | 567.614 | 23,688.28 | 6.93 |
| 2001 | 111.94 | 1,839.90 | 28 | 590.055 | 25,267.54 | 18.87 |
| 2002 | 120.97 | 1,649.40 | 94.7 | 741.34 | 28,957.71 | 12.88 |
| 2003 | 129.36 | 2,993.10 | 94.8 | 794.953 | 31,709.45 | 14.03 |
| 2004 | 133.5 | 4,489.50 | 113.3 | 1007.33 | 35,020.55 | 15 |
| 2005 | 132.15 | 7,140.60 | 106 | 1267.7 | 37,474.95 | 17.86 |
| 2006 | 128.65 | 7,191.10 | 133.6 | 1655.54 | 39,995.50 | 8.24 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 2007 | 125.83 | 8,110.50 | 199.3 | 1882.47 | 42,922.41 | 5.38 |
| 2008 | 118.57 | 9,861.80 | 525.9 | 2241.71 | 46,012.52 | 11.58 |
| 2009 | 148.88 | 8,105.50 | 500.9 | 1890.39 | 49,856.10 | 11.54 |
| 2010 | 150.3 | 11,300.50 | 711 | 2291.36 | 54,612.26 | 13.72 |
| 2011 | 153.86 | 14,323.20 | 913.5 | 2519.29 | 57,511.04 | 10.84 |
| 2012 | 157.5 | 14,260.00 | 879.3 | 2745.87 | 59,929.89 | 12.22 |
| 2013 | 157.31 | 14,131.80 | 1,130.20 | 2996.96 | 63,218.72 | 8.48 |
| 2014 | 158.55 | 12,007.00 | 953.5 | 3221.68 | 67,152.79 | 8.06 |
| 2015 | 193.28 | 8,184.50 | 660.7 | 2729.76 | 69,023.93 | 9.01 |
| 2016 | 253.49 | 8,178.80 | 656.8 | 2175.66 | 67,931.24 | 15.7 |
| 2017 | 305.7901 | 12,913.20 | 1,074.90 | 1968.43 | 68,490.98 | 16.5 |

*Source: CBN statistical Bulletins 2017(various issues) and CBN Annual Reports and Accounts 2017.*

## Graphical exposition of the variables used