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Impact of oil Revenue on Economic Development in Nigeria [1981–2012]

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Abstract: In enhancing proper and adequate economic development in Nigeria, there is a need to manage macroeconomic stability and pro-cyclical government expenditure pattern by improving non oil growth performance. It was based on this premise that, this study sought to examine the economic development and oil revenue in Nigeria. In doing this, regression analysis was carried out using SPSS. The result revealed the overdependence of Nigeria economy on oil revenue. Thus, this paper recommends policies and functional institutions to checkmate the poor transparency in the management of oil revenue that robbed the people of their potential benefits and economy diversification that will lead to improvement in revenue generation via other sources in the economy.

Keywords: *Oil revenue, economic development, Nigeria*

1. Introduction

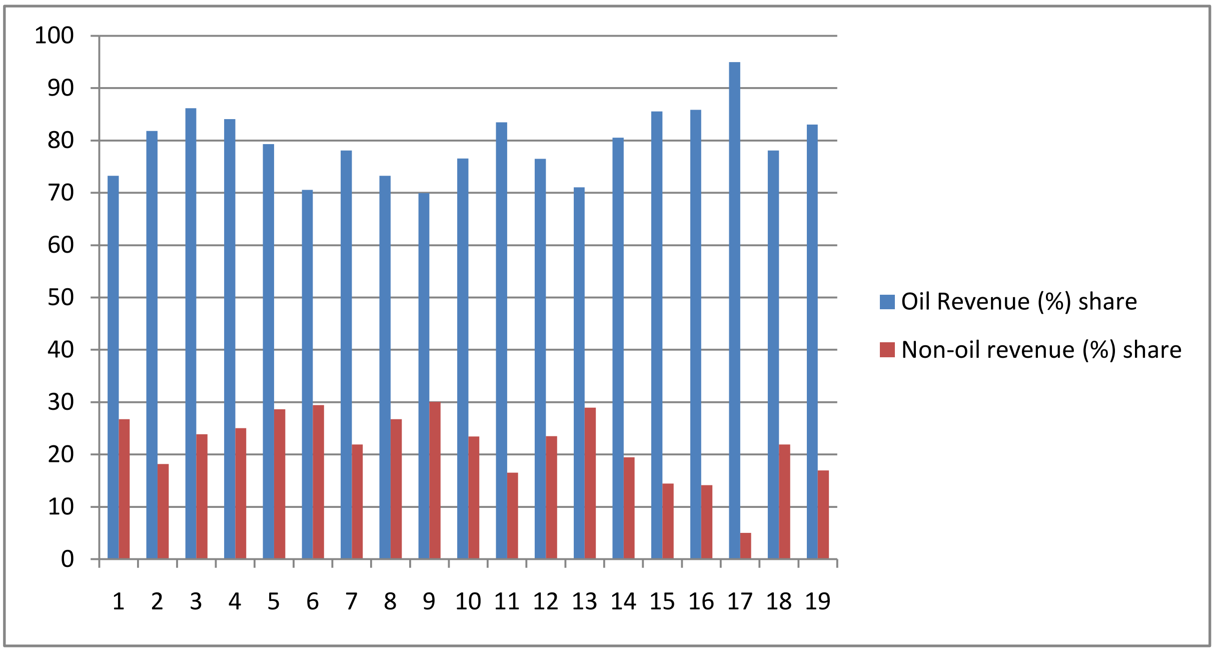
Oil is a major source of energy in Nigeria. Oil, being the mainstay of the Nigerian economy, plays a vital role in shaping the economy and political destiny of the country. Although, Nigeria oil industry was founded at the beginning of the century, it was not until the end of the Nigerian civil war (1967—1970) that oil industry began to play a prominent role in the economic life of the country (Odularu, 2008). The history of petroleum industry in Nigeria reveals that oil was discovered in Nigeria in 1958 at Olobiri 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 (Onwe, 2012). He further stated that Nigeria, in 1970 was able to reap instant riches from its oil production. The country joined the Organization of Petroleum Exporting Countries (OPEC) in 1971 and established the Nigerian National Petroleum Company (NNPC) in 1977; a state owned and controlled company which is a major player in both the upstream and downstream sectors. By the late 1960s and early 1970s, Nigeria had attained a production level of over 2 million barrels of crude oil per day. Current development strategies aim at increasing production to more than 4 million barrels per day.

Table 1: Oil Earnings and Non-Oil Earnings in Nigeria, 1990—2008 (N millions)

Year	*Total*	*Oil revenues*	*Oil Revenue (%) share*	*Non-oil revenue*	*Non-oil revenue (%) share*
1990	98,102.40	71,887.10	73.28	26,215.30	26.72
1991	100,991.60	82,666.40	81.85	18,325.20	18.15
1992	190,453.20	164,078.10	86.15	26,375.10	23.85
1993	192,769.40	162,102.40	84.09	30,667.00	25.01
1994	201,910.80	160,192,.40	79.34	41,718.40	28.66
1995	459,987.30	324,547.60	70.56	135,439.70	29.44
1996	523,597.00	408,283.00	78.07	114,814.00	21.93
1997	582,811.10	416,811.10	73.23	166,000.00	26.77
1998	463,608.80	324,311.30	69.95	139,297.60	30.05
1999	946, 187.90	724,422.50	76.56	224,765.40	23.44
2000	1,906,159.70	1,591,675.80	83.50	314,483.90	16.50
2001	2,231,600.00	1,707,562.80	76.52	903,462.30	23.48
2002	1,731,837.50	1,230,851.20	71.07	500,986.30	28.93
2003	2,575,095,90	2,074,280.60	80.55	500,815.30	19.45
2004	3,920,500.00	3,354,600.00	85.57	565,700.00	14.43
2005	5,547,500.00	4,762,400.00	85.85	785,100.00	14.15
2006	5,965,101.90	5,287,566.90	95.01	677,535.00	4.99
2007	5,715,600.00	4,462,910.00	78.08	1,200,800.00	21.92
2008	7,866,590.10	6,530,610.10	83.02	1,335,960.00	16.98

Source: Adapted from Onwe (2012). *American International Journal of Contemporary Research*. (2)5: 61.

Figure 1: Oil Earnings and Non-Oil Earnings in Nigeria, 1990—2008 (Graphical Representation)



Based on the position of the above table 1.1, petroleum industry accounts for more than 75% of federal government revenues. Statistics also shows that the industry is responsible for about 30% of real gross domestic product (GDP) in Nigeria (Onwe, 2012). He further stated that oil, as a very important source of energy and economic commodity in Nigeria, has had so many problematic issues. The abundance of natural resources and specifically oil dependence has often been associated with poor growth, poverty and underdevelopment (Ushie, Adeniyi & Akongwale, 2012). Nigeria is considered to be a classic example of the contradiction between natural resource abundance and perverse economic development outcomes. Based on their submission, Nigeria is the Africa highest oil exporter, and the world tenth largest oil producing country. But, it goes without saying that Nigeria has evidently grappled with the paradox of plenty. The negative impacts of resource abundance include; a decline in the competitiveness of other economic sectors (caused by appreciation of the real exchange rate), volatility of revenue from the natural resource sector due to exposure to global commodity market swings, government mismanagement of resources revenue, weak, ineffectual and corrupt institutions. They further explained, that the massive inflow of revenue fuels greed and jostling for resources, both of which serve as the bedrock for crises, conflicts and violence that have come to epitomize most resource-rich countries (Nigerian inclusive). However, the deleterious economic effects embedded in the foregoing perverse outcome have been argued to be muted within the ambit of well functioning institutions and their accompanying structures and mechanisms.

According to Akanbi & Du Toit (2012), The Nigerian economy has recorded a rising growth in its GDP especially over the last decades. But this has not translated into accelerated employment and reduction in poverty among its citizens. This development has also been the case for most African countries. The endowment of crude oil can be seen as the major factor fueling the economic growth. It is however expected that the oil revenue should spread to the rest of the economy leading to higher shared income for the owners of factors of production. It was further buttressed by Odularu (2008), that Nigeria oil sector is very crucial in the Nigerian economy; there is the dire need for an appropriate and desirable production and export policy for the sector. In Nigeria, though crude oil has contributed largely to the economy, the revenue has not been properly used. Considering the fact that there are other sectors in the economy, the excess revenue made from the oil sector can be invested in them to diversify and also increase the total GDP of the economy. On the part of Osuoka (2007), with growing petroleum rents, government has come to rely less on taxes from citizens and other sectors of the economy. Corruption has robbed the people of potential benefits from the oil and gas industries, as the bulk of revenues have been looted or mismanaged by public office holders at all levels of government. The huge revenue from oil, of course, presented a net wealth and thus provided opportunity for increased expenditure and investment; however, the huge revenue complicated macroeconomic management and also made the economy highly oil dependent. Asides, in spite of the huge rent from oil, the economy still grapples with many problems including high and rising unemployment rate, declining manufacturing production, high and rising level of poverty and poor infrastructural development. He further stated that the dismal performance of the Nigerian economy in the face of huge rent from oil has rekindle interest on the importance of oil in the growth and development process in Nigeria (Akinlo, 2012). Therefore, the study is to critically examine and analyzes the Nigerian oil revenue and economic development over the period of 1981—2012.

Problem Statement: The government of an oil exporting country is confronted with significant uncertainty relating to its export earning and fiscal revenue. Supply and demand in the oil market are both highly inelastic in the short run, with the result that even small shocks can have large effects on price (Rewane, 2007). He further stated that the unpredictability regarding oil revenue, which stems from uncertainties about such issues as the future trend in oil prices, the size of the oil reserves, and the cost of extractions, is problematic for both short run and long run management of the economy. It is based on the above premise that the study sought to examine how oil revenue in Nigeria enhance economic development using time series data.

Research Objective: According to Ayodele, Sabastine & Nnadozie (2013), giving the over dependence of the Nigerian economy on volatile global of oil prices, coupled with the neglect of other sectors that had hitherto sustained the Nigerian economy, it has now become imperative for the Nigerian economy to be diversified. Also there is a need to manage macroeconomic stability and pro-cyclical government expenditure pattern by improving non oil growth performance and saving Nigeria's oil revenue for future use. Therefore, the specific objective of this study is to look at the relationship that exists between oil revenue and Nigerian economic development.

Research Hypothesis
Ho: To assess the impact of oil revenue on the Nigeria economic development.
Ho: To assess the various options of revenue generation into the Nigerian economy.

2. Literature Review and Theoretical Framework

The petroleum industry is the largest and main generator of GDP in Nigeria which is the most populous in African nations (Onaolapo, Fasina & Adegbite, 2013). They further stated that the Nigerian economy relies heavily on the revenue derived from the petroleum products, as they provide 70 percent of government revenue and about 95 percent of foreign exchange earnings. He further stated that the problems with the Nigerian economy have been traced to failure of successive government to utilize oil revenue and excess crude oil income in the development of other sectors of the economy effectively and efficiently. According to Agbede (2013), since the discovery of oil in large and commercial quantity in Nigeria, oil has dominated the economy of the country. In Nigeria, oil accounts for more than 90 percent of its exports, 25 percent of its Gross Domestic Product (GDP), and 80 percent of its government total revenue. However, critics have contended that the direct effect of oil sector activity on non oil growth in Nigeria is rather limited. Akinlo (2012) stated that the oil sector being an enclave sector has very little linkage with the other sectors in the economy. The oil sector does not offer much opportunity for employment in Nigeria because it is capital than labor intensive industry. This is the reason why the significant expansion of the sector over the years has not led to a similar increase in job creation.

The interactions between oil revenue and its impact on economic development have received a lot of attention from researchers. Odularu (2008) sought to establish the impact of oil revenue on the Nigerian economy. He examined the discovery of crude oil impact on the Nigeria economy both positively and adversely. On the negative part, he posited that the surrounding communities within the oil wells are exploited. Some of these communities still suffer environmental degradation, which leads to deprivation of means of livelihood and other economic and social factors. Although large proceeds are obtained from the domestic sales and export of petroleum products, its effect on the growth of the Nigerian economy as regards returns and productivity is still questionable. In fact, based on the position of Osuoka (2007), the Nigerian case present a good example of how huge investments in export focused extraction of non-renewable resources can execrable local impoverishments and conflicts rather than promote development. Over the past decades, corruption and mismanagement have robbed the people of any real benefits from the substantial revenue and profits accruing to Nigerian government. The Nigerian economy has grossly underperformed relative to her enormous resources endowment and her peer nations. It has the 6th largest gas reserves and the 8th largest crude oil reserves in the world. Yet economic performance has been rather weak and does not reflect these endowments (Sanusi, 2010). He further stated that the available data has put the national poverty level at 54.4%. Similarly, there has been rising unemployment with the current level put at 19.7% by the National Bureau of Statistics (NBS). Furthermore, the country lags behind her peers in most human development indicators. For example, while China and Thailand are on the 5th and 22nd positions respectively, on the 2009 Global Hunger Index, Nigeria was ranked 46th. This can be traced largely to the huge infrastructural deficit, rising insecurity, mass corruption and widespread poverty.

On the part of Adeyemi (2004) cited by Bakare & Fawehinmi (2011) viewed the oil exploration as a damaging instrument rather than for it to be a contributing factors to the welfare of the residents. Whereas, activities such as flaring of natural gas and seismic surveys constitute great damages to the environment, more far reaching environmental destructions result from oil spillage. Odularu (2008) corroborated the position that crude oil discovery has had negative impact with respect to the surrounding communities within which the oil wells are exploited. Some of these communities still suffer environmental degradation, which leads to deprivation of means of livelihood and other economic and social factors. He further stated that, although large proceeds are obtained from the domestic sales and export of petroleum products, its effect on the growth of the Nigerian economy as regards returns and productivity is still questionable. Osuoka (2007), communities in the oil Niger Delta area have experienced drastic decline in food production as a result of pollution, other Nigerian communities have also suffered from the indirect impact of the oil economy. With high revenues accruing to the government from oil exports, all other sectors of the economy were neglected by the state and as economies develop, more funds are needed to meet the rapid expansion (Owolabi & Ajayi, 2013).

According to Sanusi (2010), economic progress is merely a component of development. But, development goes beyond pure economies. In an ultimate sense, development must encompass more than the material and financial side of people's lives. Development is therefore, a multidimensional process involving the reorganization and reorientation of the entire economic and social system. In addition to improvements in incomes and output, it typically involves radical changes in institutional, social and administrative structures, as well as in popular attitudes and in many cases even customs and beliefs. But Owolabi & Ajayi (2013) emphasized that, at any stages of economic developments, both the government and private sectors would require long-term finance. However, indications are that the growth in gross domestic product (GDP) recorded in the Nigerian economy and many oil exporting economies has not been utilized to improve the living standards of the citizens of these countries (Asekunowo & Olaiya, 2012). He further emphasized that, Dutch disease is the most prevalent channels of transmission that has been attributed to the poor rates of economic growth in many oil rich countries.

3. Methodology

Research Design: The time series data on the dependent variable (Economic Development) as well as the explanatory variables oil revenue based on the research work of (Asekunowo & Olaiya, 2012), (Akinlo, 2012), (Odularu, 2008) & (Akanbi & Du Toit, 2012) . Using the framework on crude oil and the Nigerian economic performance, (Odularu, 2008) specified a model as follows:

$$Total = f\left(Oil\,\mathrm{Re}v,\ NonOil\right) \qquad \ldots i$$

$$Total = a + bOil\,\mathrm{Re}v + cNonOil + \varepsilon_{ij} \qquad \ldots ii$$

Where:

Total = total revenue earning in the Nigeria economy during the period under investigation.

OilRev = oil revenue in Nigeria

NonOil = non oil earning in Nigeria

a, *b*, and *c* are parameters to be estimated respectively.

ε_{ij} = stochastic error term

However, this research adapted the model on economic development and oil revenue in Nigeria is given as follows:

$$GDP = f\left(Oil\,\mathrm{Re}v\right) \qquad \ldots iii$$

$$GDP = a + bOil\,\mathrm{Re}v + \varepsilon_{ij} \qquad \ldots iv$$

where:

GDP = gross domestic product taking as a proxy to economic development in Nigeria.

OILREV = oil revenue earning in Nigeria economy.
a and *b* are the parameters to be estimated
ε_{ij} -= random error or stochastic error term.

4. Results and Discussion

A closer examination of the regression result for the gross domestic product as a proxy to economic development and oil revenue in Nigeria shows that, the model is appropriate in determine and establish the relationship that exists between the oil revenue and economic development in Nigeria. This relationship proof through the following tests: The test for the overall significant of the model fitted is carried out using the probability of F-statistic. This shows that the probability of F-statistic (0.000) is less than the probability of the error margin (0.05) allowed in the estimation. Thus, the model is statistically significant and it is of good fit for determining the relationship that exists between the economic development and oil revenue in Nigeria. The test for the significant of the model or test for the coefficient of determination is done using the adjusted R-square. This is the proportion of variation in the response variable that can be explained by the explanatory variable. From the result of the analysis, R-square is 0.986. This implies that 98.6 percent changes in the states or levels of economic development in Nigeria are as a result of the contribution from oil revenue and the remaining 1.4 percent from all other source. The result also revealed the over-dependent on oil revenue for development in Nigeria.

The model shows that a positive linear relationship exists between the economic development and oil revenue in Nigeria. It was also discovered that one percentage increase in oil revenue leads to 255.6 percentage increases in the level of economic development in Nigeria. This result revealed the neglect of other sectors of the economy for the proper economic development expected in Nigeria. The significant of the parameter estimated was tested using the standard error test. The result showed that half of the coefficient of the oil revenue (1.278) is greater than the value standard error of oil revenue (0.055). Therefore, the parameter estimated (oil revenue) is statistically significant and serve as a desirable variable for determine the levels of economic development in Nigeria. The degree or the extent of the relationship between the economic development and the oil revenue as shown by the correlation coefficient is 0.993.This showed the high correlation or high degree of relationship that exists between the economic development and oil revenue in Nigeria.

5. Conclusion

This study investigated the oil revenue and economic development in Nigeria. The result of the investigation revealed that there exist a positive relationship between oil revenue and economic development in Nigeria. The result of the analysis showed that 1% increase in oil revenue will lead to 256% increase in the levels of economic development. The study also revealed that 98.6% changes in the states of economic development in Nigeria are as a result of the contribution of oil revenue and the remaining 1.4% is from all other source. This showed the high level of dependent of Nigeria economy on oil revenue. Therefore, the research recommended that proper and adequate improvement in the revenue generation via other sector in the economy is needed which can be achieved through diversification of the economy. Policies and functional institutions should be put in place to checkmate the corruption that robbed the people of the potential benefits of economic development.

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