Business and Economics Journal

Usman et al., Bus Eco J 2015, 6:2
http://dx.doi.org/10.4172/2151-6219.1000149

Research Article Open Access

Evidence of Petroleum Resources on Nigerian Economic Development (2000-2009)

Abdullahi Usman[1], Madu Ikemefuna[2]* and Abdullahi Fatimah[2]

[1]Doctorial Research Candidacies, Department of Marketing, Nnamdi Azikiwe University, Awka
[2]Doctorial Research Candidacies, Department of Business Administration, Nnamdi Azikiwe University, Awka

Abstract

The Study was an Examination of the impact of Petroleum on Nigerian Economy. The sector has been the main source of foreign reserve and development capital for the country. Yet little or nothing is been done to support the sector. The study was based on secondary data. Data was sourced from the Central Bank of Nigeria Statistical Bulletin and National Bureau of Statistics. The data used was a ten years record of GDP and Oil Revenue i.e., 2000-2009. Findings show that petroleum has significant and positive impact on Nigeria economy. The researchers therefore recommend that the sector should be supported so that the country can derive the full benefits of the sector.

Keywords: Petroleum; Nigerian economy; Foreign reserve; Development capital; GDP; Oil revenue

Introduction

Petroleum or oil or crude oil also referred as oil and gas as will be used interchangeably in this study emerged from being supportive economic sector in the 1960s to the predominant source of foreign exchange, development finance and international investment opportunities in the 1980's and 1990's. The history of petroleum industry in Nigeria revealed that oil was first discovered in 1956 at Olaibiri in the Niger Delta, the discovery was made by Shell–BP and actual production and exportation started in 1958. Petroleum since then has continued to play a predominant role and account for about 90 percent of Nigeria gross earnings. This dominant role has pushed other sector especially Agriculture, the traditional main-stay of the economy, from the early 50's and 60's; to the back ground NNPC [1]. The Oil sector being a capital intensive sector provides 80 percent of the budgetary revenue, 95 percent foreign exchange earnings and contributes over 14 percent to the Gross Domestic Product. Nigeria is now heavily depending on crude oil for survival. The rise of oil price from 1999 to its pack price made Nigeria one of the fastest growing countries in the world with the International Monetary Fund projecting a growth of 9 percent in 2008 and 8.3 percent in 2009 Anthony [2]. The government used the revenue derived from oil through tax and royalties to carry out developments in the country Gbadebo [3] but little or nothing has been done to support the sector since its discovery. No effort has been made to empower the locals; not even the government–owned oil companies have received the needed empowerment to take leading role in the industry Alex and Hamisu 2013 [4]. This attitude has in the last five decades made the country to be a spectator in its own territory, leaving the production and exploration aspects of oil and gas in the hands of foreign oil majors. All the refineries built for the purpose of increasing the benefit of oil have all breakdowns and no effort is been put in place to wake them up. This study seeks to examine the impact of petroleum on economic development and growth of Nigeria. Though, many scholars have argued that petroleum have impacted so much on Nigeria economy, negatively and positively. Some advocate for shift in emphasis i.e., from oil to non-oil sector which can also have similar impact on the economy. Some other said the sector should be supported. The remaining part of this work will be arranged as follow: review of the impact of oil on Nigeria economy, methodology, results and discussion, test of hypothesis, conclusion/recommendation.

Empirical review of the impact of petroleum on Nigeria's economy

Scholars and writers have argued positively as well as negatively on the impact of petroleum on the economy of Nigeria. Anthony argued that inspite of the huge rents 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. Furthermore, dismal performance of the Nigerian economy in the face of huge rents from oil has rekindled interest on the importance of oil in the growth and development process in Nigerian. However, scholars who have written on the impact of petroleum on the economy are more on the positive side than the negative side. As posited by Azaiki and Shagari [5] that petroleum industry occupies a strategic position in the economic development of Nigeria, Gbadebo [3] clearly states that crude oil production: domestic consumption and exportation has had a positive impact on the economic growth in Nigeria. Furthermore, percentage increase in crude oil production increases economic growth of Nigeria by over 0.01. in the same view, Onyemaechi [6] adds that the contribution of petroleum to the growth and development of the Nigeria economy can be enumerated in terms of the industry impact on the economic variables responsible for economic growth in Nigeria and it share of revenue generation in the Nigerian economy. From the foregoing we analyzed the impact of petroleum on Nigeria's economy from the industry contributions to the growth and development of the economy, using the variables responsible for economic growth in Nigeria. The variables include Education, Gross Domestic Product, Employment Opportunities, Foreign exchange Reserves, and Energy Supply etc. A number of funds are been set aside from crude oil revenue to contribute to development and growth of certain sectors including the petroleum sector. For example, Petroleum Technology

***Corresponding author:** Madu Ikemefuna, Doctorial Research Candidacies, Department of Business Administration, Nnamdi Azikiwe University, Awka, Nigeria, E-mail: efunam2003@yahoo.com

Received March 20, 2015; **Accepted** April 09, 2015; **Published** April 16, 2015

Citation: Usman A, Madu I, Abdullahi F (2015) Evidence of Petroleum Resources on Nigerian Economic Development (2000-2009). Bus Eco J 6: 149. doi:10.4172/2151-6219.1000149

Development Trust Fund is made available for the purposes of training Nigerians to qualify as graduates, professionals, technicians and craft men, in the fields of engineering, geology, science and management in the petroleum industry in Nigeria and abroad. Specifically: to provide scholarships and bursaries wholly or partially in universities, colleges, institutions and in petroleum undertakings in Nigeria or aboard; to maintain, supplement, or subsidize such training or education as specified in paragraph (a) above; to make suitable endowments to faculties in Nigerian Universities, Colleges, or institutions approved by the minister; to make available suitable books and training equipment in the institutions specified in paragraph (c) above. We also understand that petroleum revenue is one of the major sources of fund to Education Trust Fund (ETF) and Tertiary Education Trust Fund (TETF). These agencies are performing wonderfully in Nigeria educational institutions from primary level to tertiary institutions in Nigeria. For example, the new created Federal Universities are being financed from TETF. Order wise, there is no way the federal government could have been able to finance these universities amidst it tight economic situation. Crude oil revenue is to a large extent the life blood of our educational institutions in Nigeria. The contribution of an industry to gross domestic product (at factor cost) during any accounting period is measured by its gross output less the cost of inputs–materials, equipment, services, etc. purchased from other industries or branches of activity, (Deduction of any taxes net of subsidiaries paid, give the gross domestic product at market prices) Gbadebo [3]. The gross output of the petroleum sector consists of the proceeds from oil exports, local sales of crude oil for local refining, and local sales of natural gas Gbadebo [3], but because of the massive involvement of foreign operators in the Nigerian petroleum industry, not all of the industry's value added is retained in the country; at the moment a substantial proportion is sent out in the form of factor payments, Profits, dividends, interest, fees, and wages and salaries paid abroad. It holds then that it is more realistic to consider the industry contribution to gross national product i.e., gross domestic product less factor payments made abroad. However, petroleum contributes 14% to the Nigerian Gross Domestic Product. There is lots of argument that this contribution is minimal compared to the impact of oil and gas revenue to the government. A key reason for the huge difference between the contribution of the oil and gas sector to government earnings and its contribution to GDP is the fact that most of the spending in that sector is on imported goods/services. Because the average direct cost of producing a barrel of crude oil in Africa is currently stands at about USD 45.32. All these thus make it difficult to actually determine the contribution of petroleum sector to the GDP. Job/employment opportunity constitutes one of the major contributions of oil sector to the Nigerian economy. Many Nigerians have benefited from the oil sector. It has created a lot of jobs for the citizens to the extent that oil sector job is one of the most payment job opportunity every Nigerians which to have. The sector accommodates all aspect of people whether highly skilled, semi-skilled even the unskilled Nigerians are being employed and trained in the petroleum sector. As a culture, Nigerian National Petroleum Corporation declares vacant positions every year for classes of Nigerians. Nigeria's external reserves are derived mainly from the proceeds of crude oil production and sales. Nigeria produces approximately 2,000,000 barrels per day of crude oil in joint venture with some international oil companies, notably shell, Mobil and Chevron. Out of this, Nigeria sells a predetermined proportion directly, while the joint partners sell the rest. The joint venture partners pay petroleum profit tax to the federal Governmental through the Federal Board of Inland Revenue. However, five categories of revenue are collected from crude oil production and sales: Direct sales (NNPC), Petroleum Profit Tax (Oil Companies), Royalties, Penalty for Gas Flaring, Rentals CBN [7]. Thus high world oil prices greatly contribute to Nigeria's currency reserves. Nigeria is well endowed with energy resources. One of the main sources of energy is petroleum which includes crude oil and gas. Being the most important commodity for national development, energy supply empowers people to work from domestic level to cottage industries. Energy supply remains the key stimulus to jump-start, the country's economy if it will to be one of the top 20 economies of the world as envisioned in the 2020 blueprint. The above review shows the brief impact of petroleum on economic development of Nigeria, especially its contribution to reducing unemployment by the rate of well-paid employment it has provided to the populist. Petroleum exploration and exportation's revenue now constitute a major source of start up for projects in Nigeria. It plays a significant role in the education sector and development of Nigerians through scholarship and sponsorship of education and research project. The social reasonability observed by foreign oil companies has also been of immense way of survival to communities. Petroleum brings over 90% of revenue generated by government and the main stay of the economy where change in price of international oil prices great have negative impact on the economy. Thus petroleum is assumed to be the life blood of Nigeria economy, except order wise, any problem with the sector can cause the breakdown of the economy.

Methodology

The main objective of this study is to examine the impact of petroleum on Nigeria's economic development. To achieve this objective, the researcher sourced the data needed secondarily from the central bank of Nigeria statistical Bulletin and National Bureau of Statistics [8]. The data from these two bodies were compared to ensure there correctness. The data used was a 10 years compilation, i.e., the period of 2000-2009. Previous researches covers between the periods of 1960–2009, but we intend to be more recent, hence using a 10 years period. The variables we measured are two i.e., crude oil Revenue and the Gross Domestic Product GDP. The tool of analysis used is simple linear regression model with the aid of Statistical Packages for Social Sciences (SPSS) using the data in table 1 bellow. Model designed for the study is GDP=βo + βoil REV + E. The table above shows the figures of Oil Revenue and Gross Domestic Product of the year 2000-2009. From the table it is obvious that as Oil Revenue increases in the year 2003 so is the Gross Domestic Product and the same trend continues to 2009. Hypothesis formulated for the study is as follows:

Hi: Petroleum has significant effect on Nigeria's Economy

Ho: Petroleum has no significant effect on Nigeria's Economy

Data Analysis and Testing of Hypothesis

In Table 1, the value of R, Coefficient of Correlation, is 0.809 which indicates a very high relationship between GDP and the independent variables (Oil Revenue) while the coefficient of determination (R^2) is 0.65 5. R^2 measures the proportion of variation that is explained by the independent variables in the regression model Berenson and Levine [9]. It lies between 0 and 1; the closer it is to 1, the better is the fit. A value of zero, on the other hand, would indicate that the model fails to accurately model the dataset Gujarati [10]. The value of the coefficient of determination is often used in deciding whether or not to continue the analysis of a particular set of data Curwin and Slate [11]. From Table 1, R^2 shows that about 65.5% of the dependent variable is accounted for by the independent variables and the remaining 34.5% is accounted for by other variables/factors. Correlation coefficient

Citation: Usman A, Madu I, Abdullahi F (2015) Evidence of Petroleum Resources on Nigerian Economic Development (2000-2009). Bus Eco J 6: 149. doi:10.4172/2151-6219.1000149

measures the strength and the direction of a linear relationship between two or more variables. A correlation between 0.81 to 0.99 is generally described as very high (almost perfect), between 0.61 to 0.80 is described as substantial/high; between 0.41 to 0.60 is moderate and between 0.21 to 0.40 is low/weak whereas a correlation less than 0.20 negligible or insignificant Adefila [12]. Table 2 shows the amount of variation in the regression model. The value of F is 15.190. F test is the ratio of the variance due to a regression divided by the error variance. It measures the overall fit of a regression. A high F-test signals that a model possesses significant explanatory power. This must be compared with a critical value to determine it highness [9,13]. The regression model is significant at 0.005. This means 0.5% significant level and 99.5% confidence level. Table 3 shows the linearity of the variables. Standardized coefficients or beta coefficients refer to the expected change in the dependent variable per standard deviation increase in the predictor variable. They are the estimates resulting from an analysis carried out on variables to answer the question of which of the independent variables have a greater effect on the dependent variable in a multiple or simple regression analysis. From Table 3 above, the value of Beta for oil Revenue is 0.809. The Unstandardized Standard Errors for oil Revenue is 0.903. Standard Error of the regression measures the fit of a regression line. A smaller standard error indicates a better Fit; if all predictions were perfect, then standard error would be zero Doanne and Seward [14]. The t-statistics for oil revenue is 3.897. To accept or reject the null hypotheses formulated for the study, t-test was used to determine the decision rule at 5% significant level. The t-test is more appropriate when the samples size of a given dataset is small (usually less than thirty) (Berenson and Levine, 1996). For a two-tail test, the actual or absolute critical value of t at 5% level of significance is ±1.96 ($t_{\alpha/2}$, = ±1.96, that is, $t_{.025}$ = ±1.96). Based on this, the decision rule would be: Reject null hypothesis (H_o) if test statistic (|t|) is greater than critical value (|t| > $t_{\alpha/2}$). In the case of a one-tail test, reject null hypothesis if test statistic (t) is greater than right tail critical value ($t>t_\alpha$) or if test statistic (t) is less than left tail critical value ($t<-t_\alpha$); otherwise, do not reject the null hypothesis (H_o). Here, t-value is based on n-1 degree of freedom.

Year	Oil Revenue	GDP
2000	1,591,675.80	4,582,127.3
2001	1,707,562.80	4,725,086.0
2002	1,230,851.20	6,912,381.3
2003	2,074,280.60	8,487,031.6
2004	3,354,800.00	11,411,066.9
2005	4,762,400.00	14,572,239.1
2006	5,287,566.90	18,564,594.7
2007	4,462,910.00	20,657,317.7
2008	6,530,630.10	24,296,329.3
2009	3,191,937/98	24,712,669.9

Table 1: Oil Revenue and Gross Domestic Product.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.809[a]	0.655	0.612	486176.89913

a. Predictors: (Constant), OILREV

Table 2: Model Summary

The simple linear model formulated for the study is:

$$GDP = \beta_o + \beta OIL_{REV} + \varepsilon$$

To test Ho: Petroleum has no significant effect on Nigeria's economy

For a two-tailed test,

H_o: βj=0

H_1: βj≠0

H_o: β=0 (Petroleum has no significant effect on Nigeria Economy)

H_1: β≠0 (Petroleum has significant effect on Nigeria Economy)

The decision rule is: Reject H_o if $|t| > t_{\alpha/2}$

The value of test statistics (|t|) is 3.897 and critical/table value is 1.960. The test statistics (|t|) of 3.897 is greater than the critical value of 1.960 (3.897>1.960). Therefore, the null hypothesis (H_o: β=0) is hereby rejected in favor of H_1: β≠0 at 5% level of significance. This means Petroleum has significant effect on the Nigeria Economy. This result validates the significant value of 0.005 in Table 3 which means petroleum has positive significant effect on the Nigerian Economy with 99.5% confidence interval (Table 4).

Conclusion and Recommendation

Petroleum has been the mainstay of Nigeria economy since it discovery. It constitutes the major source of our foreign reserves and main source of development capital. Despite the huge benefits of the sector to the economy, the sector has not received the need attention neither has the revenue derived from the sector have been used to develop other sector to second the petroleum sector. This study is an empirical analysis (study) of the impact of petroleum on Nigeria's economy. Relationship was established between petroleum and the economy using the variables that can most represent petroleum and the economy. We find out that petroleum has a direct and positive significant relationship with the economy. Earlier in our literature review, we find out that petroleum have impact on key indicators of

Mode		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	359081631923207.500	1	359081631923207.500	15.190	0.005a
	Residual	189110554941432.300	8	23638819367679.040		
	Total	**548192186864639.000**	**9**			

a. Dependent Variable: GDP

Table 3: Coefficients[a]

Model		Unstandardized Coefficients			t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1857177.21	3449467.28		0.538	0.605
	OILREV	3.520	0.903	0.809	3.897	0.005

a. Predictors: (Constant), OILREV
b. Dependent Variable

Table 4: ANOVA[b]

Citation: Usman A, Madu I, Abdullahi F (2015) Evidence of Petroleum Resources on Nigerian Economic Development (2000-2009). Bus Eco J 6: 149. doi:10.4172/2151-6219.1000149

economic development which include GDP, energy supply, foreign reserves, employment generation and the host them. Given these impacts, we recommend that those in charge of the economy should consider looking at developing the sector instead of leaving it in the hand of foreign explorers. This will enables the country to benefit more from the sector. They should also encourage local participation and also put necessary law in place to guide the operation of the sector. Also, over dependent on petroleum is not good for the country, this has been emphasized by many researchers and writers. So, they should try to develop other sectors like agriculture which was the mainstay of the economy before the discovery of petroleum. Only when this is done, Nigeria will still remain at it is now.

References

1. Azaiki Shagari (2007) Oil, Gas and Life in Nigeria. Ibadan, Y-Books, a Division of Associated Book–Makers Nigeria Limited, Nigeria.
2. Onyemaechi JO (2012) Economic Implications of Petroleum Policies in Nigeria: An Overview. American International Journal of Contemporary Research 2: 60-71.
3. Anthony EA (2012) How Important is Oil in Nigeria's Economic Growth. Journal of Sustainable Development 5: 165-179.
4. Gbadebo OO (2008) Oil and the Nigerian Economic Performance. Oil and Gas Business, Nigeria.
5. Alex B, Hamisu M (2013) Challenges and Prospects of Nigeria's Oil Sector. Nigeria.
6. Central Bank of Nigeria (2011) Statistical Bulletin, Abuja.
7. National Bureau of Statistics (2011), Nigeria.
8. Nigeria National Petroleum Corporation 2013. (1st edition), Industry History, Nigeria.
9. Adefila JJ (2008) Research Methodology in Behavioural Sciences. Aparic Publication, Kaduna.
10. Berenson ML, Levine DM (1996) Basic Business Statistics: Concept and Application. (6th edition), Practice Hall, New Jersey.
11. Curoin J, Slater R (2002) Quantitative Methods for Business Decision. (5th edition), Thomson Leaving, London.
12. Doanne DP, Seward LE (2007) Applied Statistics in Business and Economics. (3rd edition), McGraw Hill, New Delhi.
13. Gujarati DN (2003) Basic Economy (4th edition), McGraw Hill, Boston.
14. Webster AL (1998) Applied statistics for Business and Economics: An Essential version. (3rd edition) McGraw Hill, New York.

Citation: Usman A, Madu I, Abdullahi F (2015) Evidence of Petroleum Resources on Nigerian Economic Development (2000-2009). Bus Eco J 6: 149. doi:10.4172/2151-6219.1000149