# Nexus Between Government Policies and Oil Sector Performance: Evidence from Nigeria

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Abstract: This paper is an exploratory research targeted at government policies on activities of oil sector in Nigeria. The study investigated how oil revenue (GOR), oil subsidies (OS), interest rate (INTR) and exchange rate (EXR) policies of government affected performance (GDPOS) of oil sector. The study was based on ex-post-facto research using secondary data from CBN Statistical bulletin and NNPC monthly report to carry out the research. Analysis was done with the use of time series information covering a nine year - period (2010-2018). Augmented Dickey-Fuller test was conducted to test stationarity of time. The paper used E-views 8.0 to carry out Econometric tests and estimation. Findings revealed that EXR and GOR were positively significant on GDPOS while OS and INTR were negatively insignificant on GDPOS, Also, an R-squared value of 94% and 0.012011 probability of F-statistic were concluded. It was concluded that government formulate policies aim at increasing oil revenue to improve its impact on GDP. However due to the negative impact of interest rate on the oil sector's contributions to GDP, it is recommended that government should set low prime lending rates to encourage project financing and should formulate policies to further discourage independent marketers of petroleum products from importation and improve its contribution to the country's GDP.

Keywords: Contribution to GDP, Government oil revenue, Oil subsidy, Interest rate, and Exchange rate

# **1.0 INTRODUCTION**

Oil is a major source of energy in Nigeria and the world in general. Oil being the mainstay of the Nigerian economy plays a vital role in transforming the economic and political destiny of the nation. Although Nigeria's oil industry was founded at the beginning of the century, it was not until the end of the Nigeria civil war (1967 - 1970) that the oil industry began to play a prominent role in the economic life of the country. Nigeria can be categorized as a country that is primarily rural, which depends on primary product exports (especially oil products). Since the country got her independence in 1960 it has experienced ethnic, regional and religious tensions, magnified by the significant difference in economic, educational and environmental development in the south and the north. These could be partly attributed to the major discovery of oil in the country which affects and is affected by economic and social components. The discovery of crude oil has brought certain effects on the Nigeria economy both positively and adversely. On the negative side, this can be considered 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. The fact that the oil sector is a very crucial sector in the Nigeria economy demands a dire need for an appropriate and desirable government policy for the sector. As at June, 2020, Nigeria has 12 oil companies quoted on the stock exchange (NSE,2020). The industry has contributed immensely in both foreign exchange reserves and government revenues. Government share of crude oil income as a result of various joint venture agreements with the international oil producing companies is about 70 percent of income accruing from crude oil transactions (Godwin, 2005). The petroleum industry contributes significantly to growth and development of the Nigerian economy through foreign direct investment (FDI). FDI is real investment interactions of the rest of the world with a specific domestic economy( ). It may take the form of either "greenfield" investment (also referred to as "mortar and brick" investment) or merger and acquisition (M&A), involving the acquisition of existing interest rather than new investment.

Countries FDI can only achieve its objectives where there is are functional government policies to check excesses of infractions and diversion of government revenues by unscrupulous elements within and outside the government. Policies are courses of actions intended to be followed by government with a view to achieving specific objectives. Thus, a major role of government policy is to foster and sustain rapid socio-economic development and an improvement in the living standards of the population of a country. Policy is meant to balance economic and social objectives and they include: policies on oil business such as petrol import subsidy, petroleum profit tax, government oil revenue and government oil rent; policies on money and capital market such as exchange rate and interest rate; fiscal policies on government revenues and government expenditures.

The origin of Nigeria's oil policy can be traced to 1971, The policies formulated for various areas of oil industry include Nigerianisation and accelerated transfer of technology; coordinated national policy on energy; subsidy on Petroleum products; special oil price to other African countries; oil pollution and counter trade (Godwin, 2005). Therefore, the choice of oil policy in

Nigeria can be evaluated by the multi- dimensional role it is expected to play in the economy. The dimensions are internal, external and environmental.

**INTERNAL DIMENSION:** Government's initial interest in the oil industry was limited to collecting royalties and other dues which the oil companies offered to pay to it and making laws albeit rudimentary, to regulate the activities of the industry. In this era, the primary aim of government was to provide the right environment for the smooth operation and development of the industry, and the entrepreneur oil companies responded by dictating very low levels of government take for oil produced.

**EXTERNAL DIMENSION:** Nigeria became a member of organization of petroleum exporting countries in 1971 during a decade when the oil market was characterized by strong upward pressures on prices and OPEC had assumed a dominant role in production and pricing decisions. Her responsibility to OPEC has been a major determinant of Nigeria's oil production policy since 1982. Moreover, her commitment to OPEC has always been very strong inspite of the occasional enlightened self-interested Oil Policy which most member countries pursue when necessary.

**ENVIRONMENTAL DIMENSION:** In 1979, the first seminar on pollution of the Nigerian environment from oil industry activities was held in Port Harcourt and a similar seminar was also held in 1981 at Warri. Since then there has been a growing public and government concern about the pollution of the Nigerian environment and due to that, the government designed policies and measures to combat these problems.

# **1.2 STATEMENT OF PROBLEM**

The performances of oil sector remain unstable till date. The instability in contributions of oil sector to GDP makes it impossible to predict accurately the exact dimension of oil sector performance and progressive pattern.

Petroleum is main source of energy, providing over 50 percent of all commercial energy consumption in the world (Onyemaechi, 2012). 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. Onyemaechi (2012) asserts that Nigerian economy relies heavily on the revenue derived from petroleum products, as it provides above 70 percent of total government revenues and more 95 percent of foreign exchange earnings. Problems identified with Petroleum industries overtime include provision of subsidies, occasional scarcity, sharing formula for oil revenues, continuous probing of the downstream petroleum sub-sector and the privatization and deregulation of the Nigerian Oil Industry. Odularu (2008) examined the impact of crude oil on Nigerian economy; Okonkwo and Mojekwu (2018) developed on Odularu's research work by further examining the fluctuation in crude oil pricing and how it affects the Nigerian economic growth; Taghizadeh and Yoshino (2014) identified how monetary policies affected crude oil prices after the subprime mortgage crises. However, few researchers have been able to explore a robust view of implications of government policies on the performance of oil sector in Nigeria. A cursory look at how policies affect oil sector performance in Nigeria is the focus of this Paper.

# **1.3 SCOPE OF THE STUDY**

The scope of this paper is limited to Nigerian economy and its policies on oil industries

# **1.4 OBJECTIVES**

The objective of the paper is to examine the effects of government policies on the performance of oil sector in Nigeria.

# **1.4.2 SPECIFIC OBJECTIVES**

Specific objectives of this study are to:

- 1) Assess the relevance of government oil revenue on oil sector contribution to GDP
- 2) Ascertain the effect of oil subsidy on oil sector contribution to GDP
- 3) Inquire the effect of interest rate on oil sector contribution to GDP
- 4) Examine the effect of exchange rate on oil sector contribution to GDP
- 5) Investigate the joint effect of government oil revenue, oil subsidy, interest rate and exchange rate on oil sector contribution to GDP.
- 6) Test the general and specific hypotheses about the effect of government policies on the performance of sector in Nigeria.

# 1.5 HYPOTHESES OF THE STUDY

(1)  $H_0$ : Government policies (government oil revenue, oil subsidy, interest rate and exchange rate) have no significant effect on oil sector contribution to GDP.

(2) H<sub>o</sub>: Government oil revenue has no significant effect on oil sector contribution to GDP.

- (3)  $H_{o}$ : Oil subsidy has no significant effect on oil sector contribution to GDP.
- (4)  $H_0$ : Interest rate has no significant effect on oil sector contribution to GDP.

(5) H<sub>o</sub>: exchange rate has no significant effect on oil sector contribution to GDP

# 1.6 SUMMARY AND GAP IN KNOWLEDGE

The review of the paper was based on three frameworks: conceptual, theoretical and empirical. The conceptual review was used to explain the concepts and variables (independent and dependent) in the paper with reference to appropriate models, the theoretical review was used to link the research work to existing theories considered relevant to the research work which the independent and dependent variables are contingent upon such as the Resource Curse theory and the theory of linear growth. The empirical review exposed the works of other scholars in the area of interest which also provided a good direction for the work.

It was evident on the basis of conceptual review, theoretical review and empirical review that government policies represent a unique tool to explain directions of oil business in Nigeria. It was also discovered that spending on oil subsidies is a major factor for hike in oil prices. At the end of the review. Most of the earlier research works were based on the challenges of interest rates or exchange rate policies and their effects on government policies. Also, similarities between government policies and other variables such as exchange rates, interest rates, oil revenue and oil subsidies were established in other works. However, a robust investigation between government policies and oil sector performance in Nigeria is the need for this research. Therefore, this paper fills the gap in knowledge as a result of its focus on effects of government policies on the performance of oil sector in Nigeria.

# 2.0 REVIEW OF LITERATURE

### 2.1 CONCEPTUAL FRAMEWORK

### 2.1.1 GOVERNMENT POLICIES

Gbadebo (2009) asserts that government policies could be classified into four namely: economic, political, social and legal policies.

### 2.1.2 EXPLANATORY/DEPENDENT VARIABLES

#### GovernmentOil Revenue

Government revenue is the money received by government from taxes and non-tax sources to enable it to undertake government expenditure. Oil revenues are the main source of financing government expenditures and imports of goods and services, as increasing oil prices over the years has boosted public expenditures on social and economic infrastructure (Hamdi&Sbia, 2013).

#### **Oil Subsidy**

Oil subsidy could be defined as the money government pays as the differential between international price of petroleum product and the local price in Nigeria (Igbokwe, Ewuim and Agbodike, 2015). It is the difference between the regulated price of imported petrol and Expected Open Market Price EOMP, estimated by the Petroleum Product Pricing and Regulatory Agency PPPRA, as an import subsidy (Okeowo, Akeni and Akinbode, 2019).

# **Interest Rate**

The amount of money contractually promised as certain specified future dates as a proportion of the principal borrowed (Oluwatomisin, Paul and Adeyemi, 2014). In this PAPER, interest rate is operationally defined as the cost or expenditure to be incurred by a natural or artificial person for the purpose of borrowing money from firm, individual, bank and other financial institution, for a specific length of time.

#### **Exchange Rate**

Exchange rate is the quantity of local or domestic currency to be paid by an interested purchaser of foreign currency, in order to purchase one unit of foreign currencies needed to procure goods or services from the foreign country.

# 2.1.4 CLASSIFICATION OF OIL INDUSTRY IN NIGERIA

# **Oil Industry**

The Oil Industry is broadly classified into three sectors:

- Upstream
- Midstream
- Downstream

The upstream sector includes well completions and drilling operations. Some of the upstream sector organizations are: Chevron, BP, Shell, ExxonMobil, ConocoPhillips, Total and many more.

The midstream sector involves the transportation of oil or refined petroleum products to various refineries or industries for further processing or usage mainly through rail, tankers and pipelines.

The Downstream sector includes refineries that process crude oil into petroleum products such as LPG, Naphtha, Motor Spirit, High Speed Diesel, Jet Kerosene, Furnace Oil, and heavy products

# 2.2 THEORETICAL REVIEW

### The Resource Curse Theory

The resource curse theory, presupposes that nations with rich natural resources may fail to develop in other sectors ultimately bringing about financial problems. The result is that the country is also forced to a large extent to rely on other nations for a wide variety of goods and services; and may in fact end up with a net loss at the end of the year (Auty, 1993). The term resource curse was first used by Richard Auty (1998) to describe how countries rich in natural resources were unable to use that wealth to boost their economies; these countries had lower economic growth than countries without an abundance of natural resources

### **Theory of Linear Growth**

The linear stages of growth model is an economic model which is heavily inspired by the Marshall Plan which was used to revitalize Europe's economy after World War II. It assumes that economic growth can only be achieved by industrialization. Growth can be restricted by local institutions and social attitudes, especially if these aspects influence the savings rate and investments. The constraints impeding economic growth are thus considered by this model to be internal to society.

According to the linear stages of growth model, a correctly designed massive injection of capital coupled with intervention by the public sector would ultimately lead to industrialization and economic development of a developing nation.

The Rostow's stages of growth model is the most well-known example of the linear stages of growth model. Walt W. Rostow identified five stages through which developing countries had to pass to reach an advanced economy status: (1) Traditional society (2) Preconditions for take-off (3) Take-off (4) Drive to maturity (5) Age of high mass consumptionEconomic modernization theories such as Rostow's stages model have been heavily inspired by the Harrod-Domar model which explains in a mathematical way the growth rate of a country in terms of the savings rate and the productivity of capital

### Theory of Negative Externalities

The theory of negative externalities is very fundamental in the analyses of environmental Economics. This is because pollution in any form is known to result in harm to both people and the environment.

Alfred Marshall (1842) noted to have introduced the externality theory in economics, but his theory was only concerned with positive externalities accruing to the third parties outside transactions (Marshall, 2009). In the 1920's, Pigou propounded the negative externalities theory having realized that externalities contained not only benefits but also costs. According to Pigou (1920), externality theory deals with the problem of smoke emission by a factory damaging nearby businesses or residents. His solution for correcting the negative externality is to impose a per unit tax on output to the firm generating the negative externalities

# 2.3 EMPIRICAL REVIEW

Gyagri, Amarfio&Marfo (2017) carried out a study on determinant of global pricing of crude oil; A theoretical review. They opined that crude oil affects almost all activities of our modern day hydrocarbon society irrespective of the shifting trend to green energy. Esekumemu (2016) carried out a study on the politics of oil in Nigeria: Transparency and accountability for sustainable development in Niger Delta. He asserted that the discovery of crude oil in Nigeria led to the neglect of agriculture that was the mainstay of the economy

Donwa, Mgbame and Ekpulu (2015). Carried out a research study whose broad objective was to examine the contributions of oil and gas sector to economic growth. The paper gave a composition of the Nigeria oil and gas sector. The paper also gave the contribution of oil and gas sector to the Nigerian Gross Domestic Product (GDP).

Omo& 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), 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. The study therefore suggested that government should increase spending on capital projects as well as intensify efforts at increasing output in the oil sub-sector in order to boost economic growth in Nigeria.

Hamdi and Sbia (2013) empirically examined the dynamic relationships among oil revenues, government spending and economic growth in the Kingdom of Bahrain over the period from 1960 to 2010. The study investigated whether the huge government spending enhanced the pace of economic growth or not. Overall results suggested that oil revenues remained the principal source for growth, and the main channel which financed government spending.

Matthew, James and Schilat (2012) carried out an assessment of how fiscal and monetary policies influence economic growth and development in Nigeria. The paper argues that curbing the fiscal indiscipline of Governmentwill take much more than enshrining fiscal policy rules in our statute books.

Odularu (2008) analyzed the relationship between the crude oil sector and the Nigerian economic performance. Findings revealed that crude oil consumption and export have contributed to the improvement of the Nigerian economy. Thus, the study concluded that government should implement policies that would encourage active private sector participation in the crude oil sector in the country

### 3.0 METHODS AND METHODOLOGY

### **3.1 RESEARCH DESIGN**

Research design is a blue print that guides the researcher in structuring the collection, analysis and interpretation of data (Akintayo, 2019). The research design for this study is an explorative research design. Explorative research design is a type that is conducted on a research problem, when there are few or no earlier studies to refer to. The focus is on gaining insights and familiarity for later investigation or undertaken when problems are in a preliminary stage of investigation (Akintayo, 2019)

### **3.2 DATA TYPE AND SOURCE**

Annual time series data for the period 2010–2018 was used for the study since the Nigeria's oil policies and oil sector performances will be examined over time. Data on contribution of oil sector to GDP, government oil revenue, interest rate and exchange rate were taken from the Central Bank of Nigeria Statistical bulletin for various years while data on oil subsidy were taken from NNPC monthly report. The econometric tests and estimations were carried out using E-views 8.0

### 3.3 POPULATION, SAMPLE, SAMPLING AND SAMPLING TECHNIQUE

Population for this study is the oil sector in Nigeria with a population size of 54 oil companies in Nigeria as at 2018.

The sample for this study is the same as the population for the study. This is because the population size can be covered in the paper. The sampling technique adopted here is a combination of two different methods which are stratified and purposive sampling technique. This is because businesses in Nigeria were first examined on the basis of classification according to sectors and thereafter, for the purpose of examining how government policies affect the performance of oil sector in Nigeria, the oil sector and its performance measure was deliberately selected as purposive sample and generalized after findings.

# **3.4 MODEL SPECIFICATION**

The model for the study is specified as follow:

# GDPOS = f(GOR, OS, INTR, EXR)

(GOR and OS represent fiscal policy; INTR and EXR represent monetary policy).

Where: GDPOS is the contribution of oil sector to GDP (proxy for the performance of oil sector), GOR is government oil revenue, OS isoil subsidy, INTR is interest rate and EXR is real exchange rate. A linear functional specification/ regression model is given as:

(1)

# $GDPOS=b_0 + b_1 GOR + b_2 OS + b_3 INTR + b_4 EXR + U$ (2)

Where: all variables are as previously defined except U, which represents the usual error term, t, is time,  $b(i=1,2,\ldots,4)$  are the coefficients of the explanatory variables while  $b_0$  is the coefficient of the constant.

### **3.5 MEASUREMENT OF VARIABLES**

The measurement of variables was conducted along identified elements of independent variable (government policies) measured by fiscal policies and monetary policies. The dependent variable (performance of oil sector) was measured by environmental performance indicators, health and safety performance indicators, social responsibility performance indicators, economic performance indicators and normalization factors. This paper adopted economic performance indicator, using contributions of oil sector to GDP as proxy for performance of oil sector in Nigeria.

#### VARIABLES ТҮРЕ CLASSIFICATION **OPERATIONAL DEFINITION** MEASUREMENT **APRIORI EXPECTED** SIGN GDP Contribution of Dependent/ Economic Monetary value of goods and at current oil sector to explained performance services produced by oil basic price industries within a nation in a GDP indicator particular fiscal year Government Independent/ Fiscal policy It is the income accrues to the Government oil + oil revenue explanatory Federal government of Nigeria revenue. from the oil sector of the Nigeria's economy in a particular fiscal year, in form of charges paid for petroleum being shipped out of Nigeria. Independent/ Fiscal policy It is the excess of petrol import Oil subsidy Petrol import explanatory price per barrel over local subsidy legislated selling price per barrel, paid by Nigeria government to independent marketers of petroleum product who import petrol from abroad for the purpose of being sold in Nigeria, so that marketers do not sell at loss. Independent/ It is the cost or expenditure to be **Interest rate** Monetary policy Interest rate. \_ explanatory incurred by a natural or artificial person for the purpose of borrowing money from firm, bank individual, and other financial institution, for а

### **3.6 DESCRIPTION OF VARIABLES**

			specific length of time.		
Exchange rate	Independent/ explanatory	Monetary policy	It is the quantity of local or domestic currency to be paid by an interested purchaser of foreign currency, in order to purchase one unit of foreign currencies needed to procure goods or services from the foreign country.	Real exchange rate.	+

# 3.7 ESTIMATION STRATEGY AND METHOD OF DATA ANALYSIS

To obtain stationarity of the series in order to make the data reliable, since most economic time series data are not stationary at their initial state, a researcher need to perform a Unit root investigations through application of either one or all of Augmented Dickey-Fuller, Phillips-Perron or Kwiatkowski, Phillips, Schmidt, and Shin test.

Since all of these tests produce similar results, this study adopted the most commonly used Augmented Dickey-Fuller test that is practically available on E-views econometric package

# 4.0 RESULT AND DISCUSSION

### 4.1 Data Presentation

The data is presented in a time series format ranging from 2010-2018.

YEARS	GOR	OS	INTR	EXR	GDPOS
2010	5,396.09	6.67E+11	-42.31	150.298	8,402.68
2011	8,878.97	2.01E+12	5.94	153.8616	11,039.41
2012	8,025.97	1.04E+12	6.88	157.4994	11,315.03
2013	6,809.23	1.32E+12	10.25	157.3112	10,296.33
2014	6,793.82	1.22E+12	11.36	158.5526	9,616.49
2015	3,830.10	6.54E+11	13.6	192.4403	5,990.42
2016	2,693.90	2.40E+12	6.69	253.492	5,367.32
2017	4,109.80	1.45E+11	13.5	305.7901	10,355.95
2018	5,545.80	1.19E+12	14.8	306.0837	13,449.59

Source: CBN Statistical Bulletin and NNPC Monthly report

# 4.2 Summary/Descriptive Statistics

	EXR	GDPOS	GOR	INTR	OS
Mean	203.9255	9537.024	5787.075	4.523333	1.18E+12
Median	158.5526	10296.33	5545.800	10.25000	1.19E+12
Maximum	306.0837	13449.59	8878.970	14.80000	2.40E+12
Minimum	150.2980	5367.323	2693.900	-42.31000	1.45E+11
Std. Dev.	66.30489	2579.528	2032.629	17.86661	6.92E+11
Skewness	0.759084	-0.375968	0.015585	-2.316117	0.388287
Kurtosis	1.824753	2.262599	1.917723	6.677467	2.437063
Jarque-Bera	1.382264	0.415937	0.439610	13.11801	0.344987
Probability	0.501009	0.812232	0.802675	0.001417	0.841564
Sum	1835.329	85833.21	52083.68	40.71000	1.06E+13
Sum Sq. Dev.	35170.71	53231726	33052637	2553.727	3.83E+24
Observations	9	9	9	9	9

Source: Author's Computation, using E-view 8

### Interpretation of the Descriptive Statistics result

**Skewness:** It measures the degree and direction of asymmetry. An asymmetry is the inequality between the mean, median and mode of a particular distribution. Table 4.2 shows that variable INTR (Interest Rate) and GDPOS (Oil sector contribution to GDP) are negatively skewed showing a value of -2.316117 and -0.375968 respectively, i.e. the variables have longer tail to the left. EXR, GOR, and OS are positively skewed, with their skewness value showing 0.759084, 0.015585 and 0.388287 respectively, meaning that they have longer tail to the right with EXR more positively skewed than the others.

**Kurtosis:** The Kurtosis measures the extremity of the normal distribution tail, reflecting either the presence of outliers in a distribution or a distribution's propensity for producing outliers. From the descriptive analysis result in table 4.2, the kurtosis value shows that variable INTR has a heavier tail with a kurtosis value of 6.677467, followed by OS with a kurtosis value of 2.437063, GDPOS showing 2.262599, GOR showing 1.917723 and EXR showing 1.824753.

# 4.3 Unit Root Test

The Unit root test is conducted to determine the authenticity of the time series data and the decision rule is that if ADF (*p.val*) > 0.05(5%) accept H<sub>0</sub> and vice-versa.

### Table 4.3

Null Hypothesis: D(GDPOS) has a unit root Exogenous: None Lag Length: 1 (Automatic - based on SIC, maxlag=1)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-2.287802	0.0321
Test critical values:	1% level	-3.007406	
	5% level	-2.021193	
	10% level	-1.597291	

Source: Author's Computation, using E-view 8

### Interpretation of Unit root test result

The probability value in the table 4.3 above show 0.0321 which is less than 5% and therefore, the null hypothesis is rejected and the alternate hypothesis is accepted. The study therefore concluded that Oil sector contribution to GDP (GDPOS) has no unit root and that the data is stationary at first difference and can be used for the purpose of analysis.

### Table 4.4

Null Hypothesis: D(OS) has a unit root Exogenous: None Lag Length: 1 (Automatic - based on SIC, maxlag=1)

		t-Statistic	Prob.*
Augmented Dickey-Fu	ller test statistic	-4.289716	0.0017
Test critical values:	1% level	-3.007406	
	5% level	-2.021193	
	10% level	-1.597291	

Source: Author's Computation, using E-view 8

### Interpretation of Unit root test result

The probability value in the table 4.4 above shows 0.0017 being less than 5% explains that the null hypothesis is rejected and the alternate hypothesis is accepted. The study therefore concludes that Oil Subsidy (OS) has no unit root and that the data is stationary at first difference and can be used for the purpose of analysis.

### Table 4.5

Null Hypothesis: D(EXR) has a unit root Exogenous: None Lag Length: 1 (Automatic - based on SIC, maxlag=1)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.272054	0.0066
Test critical values:	1% level	-3.007406	
	5% level	-2.021193	
	10% level	-1.597291	

Source: Author's Computation, using E-view 8

#### Interpretation

The probability value in the Table 4.5 above shows 0.0066 being less than 5% explains that the null hypothesis is rejected and the alternate hypothesis is accepted. The study therefore concludes that Exchange Rate (EXR) has no unit root and that the data is stationary at first difference and can be used for the purpose of analysis.

#### Table 4.6

Null Hypothesis: D(GOR) has a unit root Exogenous: None Lag Length: 0 (Automatic - based on SIC, maxlag=1)

		t-Statistic	Prob.*
Augmented Dickey-Fu	ller test statistic	-2.899420	0.0107
Test critical values:	1% level	-2.937216	
	5% level	-2.006292	
	10% level	-1.598068	

Source: Author's Computation, using E-view 8

#### Interpretation

The probability value in the Table 4.6 above shows 0.0107 which is less than 5%, therefore the null hypothesis is rejected and the alternate hypothesis is accepted. The study therefore concludes that Government Oil Revenue (GOR) has no unit root and that the data is stationary at first difference and can be used for the purpose of analysis.

### Table 4.7

Null Hypothesis: D(INTR) has a unit root Exogenous: None Lag Length: 0 (Automatic - based on SIC, maxlag=1)

		t-Statistic	Prob.*
Augmented Dickey-Ful	ller test statistic	-11.31384	0.0001
Test critical values:	1% level	-2.937216	
	5% level	-2.006292	
	10% level	-1.598068	

Source: Author's Computation, using E-view 8

### Interpretation

The probability value in the Table 4.7 above shows 0.0001 which is less than 5%, therefore the null hypothesis is rejected and the alternate hypothesis is accepted. The paper therefore concluded that Interest Rate (INTR) has no unit root and that the data is stationary at first difference and can be used for the purpose of analysis.

# **REGRESSION ANALYSIS RESULT**

Table 4.8Dependent Variable: GDPOSMethod: Least Squares

Date: 03/18/20 Time: 22:36 Sample: 2010 2018 Included observations: 9

Variable	Coefficient	Std. Error	t-Statistic	Prob.
С	-5843.766	2580.077	-2.264958	0.0862
EXR	35.42374	7.278547	4.866870	0.0082
INTR	-19.10633	21.59402	-0.884797	0.4262
OS	-7.07E-10	4.92E-10	-1.437204	0.2240
GOR	1.568879	0.215100	7.293722	0.0019
R-squared	0.935314	Mean depende	nt var	9537.024
Adjusted R-squared	0.870628	S.D. dependen	t var	2579.528
S.E. of regression	927.8119	Akaike info criterion		16.80372
Sum squared resid	3443339.	Schwarz criterion		16.91329
Log likelihood	-70.61672	Hannan-Quinn criter.		16.56727
F-statistic	14.45933	Durbin-Watson stat		1.998282
Prob(F-statistic)	0.012011			

Source: Author's Computation, using E-view 8

### Interpretation of the Regression Analysis Result

#### **Regression Coefficient**

Estimated Coefficient value for each of the independent variables shows that EXR and GOR has a positive effect on GDPOS, i.e. a unit increase in EXR and GOR will result to an increase in GDPOS by 35.42374 units and 1.568879 units respectively. On the other hand, INTR and OS has a negative effect on GDPOS, i.e. a unit increase in INTR and OS will result to a decrease in GDPOS by -19.10633 units and -7.07E-10 units respectively.

#### **Coefficient of Multiple Determinations**

The  $R^2$  value of 0.935314 implies that approximately 94% of the variation in GDPOS is explained by all the independent variable identified in the study, the remaining 6% represent unexplained variation capable of being explained by all other independent variables not identified in the study.

#### **Test of Hypotheses**

This is conducted to determine the significant effect of each independent variable identified in the model on the dependent variable. The decision is that at 5% confidence level, if p-val> 0.05 accepts the null hypothesis and vice-versa.

#### **Hypothesis One**

#### H<sub>0</sub>: Government Oil revenue has no significant effect on Oil sector contribution to GDP

#### Discussion/Decision

From the Regression Result table (Table 4.8) the P.val of GOR is 0.0019. Therefore, since 0.0019 < 0.05, we reject the null hypothesis and accepts the alternate hypothesis that Government oil revenue has significant effect on oil sector contribution to GDP.

#### Hypothesis Two

#### H<sub>0</sub>: Oil subsidy has no significant effect on Oil sector contribution to GDP

#### Discussion/Decision

From the Regression Result table (Table 4.8) the P.val of OS is 0.2240. Therefore, since 0.2240 > 0.05, we accept the null hypothesis and reject the alternate hypothesis. The paper concluded that Oil subsidy has no significant effect on Oil sector contribution to GDP.

### **Hypothesis Three**

# H<sub>0</sub>: Interest Rate has no significant effect on Oil sector contribution to GDP

#### Discussion/Decision

From the Regression Result table (Table 4.8) the P.val of INTR is 0.4262. Therefore, since 0.4262 > 0.05, we reject the alternate hypothesis and accept the null hypothesis that Interest rate has no significant effect on Oil sector contribution to GDP.

### **Hypothesis Four**

#### H<sub>0</sub>: Exchange Rate has no significant effect on Oil sector contribution to GDP

#### Discussion/Decision

From the Regression Result table (Table 4.8) the P.val of EXR is 0.0082. Therefore, since 0.0082 < 0.05, we reject the null hypothesis and accept the alternate hypothesis that Exchange rate has significant effect on Oil sector contribution to GDP.

#### **Test of Overall Significance**

This is conducted to determine the significant effect of all the independent variables identified in the model on the dependent variable. The decision is that at 5% confidence level, if p-val (F-Stats) > 0.05 accept the null hypothesis and vice-versa.

#### H<sub>0</sub>: Government Policies have no significant effect on Oil sector contribution to GDP

#### **Discussion/Decision**

From the Regression Result table (Table 4.8) the Prob(F-statistic) is 0.012011. Therefore, since 0.012011 < 0.05, we reject the null hypothesis and accept the alternate hypothesis that Government policies have significant effect on Oil sector contribution to GDP.

# 5.0 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This research study is based on appraisal of government policies with respect to performance of oil sector in Nigeria over the periods 2010-2018 using Regression analysis approach after which all the variables in the regression model have been authenticated using Augmented Dickey fuller (ADF) test. In the model, contribution of oil sector to GDP is the dependent variable and the independent variables were oil revenue, oil subsidy, interest rate and exchange rate.

The study found a positive and significant effect of government oil revenue on the contribution of oil sector to GDP. Also, exchange rate was revealed to have a positive and significant effect on the contribution of oil sector to GDP. Interest rate has a negative and insignificant effect on the contribution of oil sector to GDP also oil subsidy has a negative and insignificant effect on the contribution of oil sector to GDP.

After the review of relevant literature and the necessary empirical analyses, it was concluded based on probability value of F-statistic and the coefficient of multiple determinations that government policies have significant effect on the performance of oil sector in Nigeria.Findings implied that increase in government oil revenue brought a significant increase in the contribution of oil sector to GDP. This finding agrees with finding by Hamdi and Sbia (2012). In the same vein, increase in exchange rate will brought a significant increase in the contribution of oil sector to GDP. Also, increase in interest rate brought insignificant decrease in the contribution of oil sector to GDP.

It is therefore recommended that government should continue to formulate policies aim at increasing oil revenue in order to be able to derive positive significant contribution from oil sector to GDP. Due to the negative impact of interest rate on the contribution of oil sector to GDP, government through the CBN should set low prime lending rates to encourage project financing and government should formulate policy that will discourage independent marketers of petroleum from importation of petroleum product into Nigeria, thereby reducing government expenditure on oil subsidy and minimizing its negative impact on the contribution of oil sector to the country's GDP.

### References

Akintayo (2019), Scientific Research Methods: Theory and Practice, Somerest Ventures, Nigeria.

- Andreas (2009), Determinants of Crude Oil Prices: supply, demand, cartel or speculation? Journals of monetary policy & the economy.
- Auty (1993). Sustaining Development in Mineral Economies: The Resource Curse Thesis, London: Routledge.

- Auty (1998). Resource abundance and economic development: Improving the Performance of Resource Rich Countries, Helsinki: UNU World Institute for Development Economics research.
- Baumol, W.J. & W. G .Oates (1988). The theory of environmental policy (2nd ed.). Cambridge: Cambridge University Press.
- Chidi, Adeniyi, Olusegun&Ekanem (2016). Overview of the performance of the Nigerian oil and gas sector (1981-2014): SCIREA Journal of Economics.
- Coase R. H. (1960). The problem of social cost. Journal of Law and Economics, 3, pp. 1-40.
- Donwa, Mgbame and Ekpulu (2015). Economic Growth: Oil and Gas Contributions ,Sci-Afric Research Journal of Accounting and Monetary Policy.
- Esekumemu (2016), The Politics of Oil in Nigeria: Transparency and Accountability for Sustainable Development in the Niger Delta". American International Journal of Contemporary Research.
- Gbadebo (2009), International Banking and Financing. Ziklag Educational publishers. Nigeria.
- Godwin (2005), Oil Policy in Nigeria: A Critical Assessment.
- Gyagri, Amarfio&Marfo (2017), Determinants of Global Pricing of Crude Oil- A theoretical review, International Journal of Petroleum and Petrochemical Engineering.
- Hamdi&Sbia (2013).Dynamic relationships between oil revenues, government spending and economic growth in an oil-dependent economy.
- http://www.yourarticlelibrary.com/microeconomics/macroeconomic-policies-3-main-types-of-government-macroeconomic-policies/32840
- https://en.wikipedia.org/wiki/Development theory
- https://en.wikipedia.org/wiki/Midstream
- https://opendevelopmentmekong.net/topics/extractive-industries/
- https://pdfs.semanticscholar.org/23de/eadb5bf5ad41ea6cbb071abbb206b75ee4b3.pdf
- https://www.dailytrust.com.ng/nigeria-spent-n9tr-on-fuel-subsidy-in-10-years-pppra.html
- https://www.economicshelp.org/macroeconomics/economic-growth/supply-side-policies/
- https://www.economicsonline.co.uk/Definitions/Supply\_side\_policy.html
- https://www.google.com/search?client=firefox-b-d&q=is+oil+and+gas+industry+example+of+extractive+industry
- https://www.historians.org/teaching-and-learning/teaching-resources-for-historians/teaching-and-learning-in-the-digitalage/through-the-lens-of-history-biafra-nigeria-the-west-and-the-world/the-republic-of-biafra/oil-revenue-in-nigeria
- https://www.investopedia.com/ask/answers/060215/what-difference-between-upstream-and-downstream-oil-and-gasoperations.asp
- https://www.legit.ng/1124983-list-industries-nigeria-produce.html
- https://www.petropedia.com/definition/7092/oil-industry
- https://www.s-cool.co.uk/a-level/economics/aggregate-demand-and-aggregate-supply/revise-it/supply-side-policies
- https://www.worldbank.org/en/topic/macroeconomics/brief/macroeconomic-policy

- Ifeanyi&Ayenajeh (2016), Impact of Crude Oil Price Volatility on Economic Growth in Nigeria. Journal of Business and Management.
- Igbokwe, Ewuim&Agbodike, (2015). Nigerian government and oil subsidy regime: A horn of dilemma, International Journal of Development and Management Review.
- Kirkpatrick, C. H., Lee, N. and Nixson, F. I. (1984). Industrial Structure and Policy in Less Developed Countries. Hemel Hempstead, United Kingdom, George Allen & Unwin (Publishers) Ltd.
- Marshall (2009). Principles of Economics (8th ed.). New York: Cosimo Inc.
- Matthew, James and Sehilat (2012)Fiscal/Monetary Policy and Economic Growth in Nigeria: A Theoretical Exploration,International Journal of Academic Research in Economics and Management Sciences
- Meade, J. (1973). The Theory of Economic Externalities. Brill Archives.
- Mgbame&Donwa (2015), Oil Pricing Factors and Nigerian Economic Development.Journal of Accounting and Financial Management.
- Odularu (2008), Crude oil and the Nigerian EconomicPerformance.Journal of Oil and Gas Business.
- Okeowo, Akeni&Akinbode, (2019). Nigeria's Petrol Subsidy Regime: Dilemma of the world's most populous black nation.
- Okonkwo (2018), Crude oil price fluctuations and Nigeria economic growth.International Journal of Research in Business, Economics and Management.
- Okwo&Marire (2012).Performance Measurement in Business Organizations: An Empirical Analysis of the Financial Performance of Some Breweries in Nigeria, Research Journal of Finance and Accounting.
- Oluwatomisin, Paul & Adeyemi (2014). Oil Price and Exchange Rate Volatility in Nigeria: Journal of Economics and Finance.
- Omo& Bashir (2015). Oil revenue, public spending and Economic growth Relationships in Nigeria: Journal of sustainable development.
- Onyemeachi (2012) Economic of Petroleum Policies in Nigeria: An overview. American International Journal of Contemporary Research.
- Oyelakun (2019), Hidden Elementary of Accounting Technician Scheme Syllabus1. Royal Instinct, Nigeria.
- Pigou, A. C. (1920). The Economics of Welfare. London: Macmillan and Co.
- Taghizadeh& Yoshino (2014), Monetary Policies and Oil price Fluctuations following the Subprime Mortgage Crisis. Journal of Institute of Energy Economics.
- Udo (2014).Nigeria Industrial Policies and Industrial Sector Performance: Analytical Exploration. Journal of Economics and Finance (IOSR-JEF)

www.cbn.gov.ng

#### APPENDIX ONE GAP ANALYSIS REPORT ON "EFFECT OF GOVERNMENT POLICIES ON THE PERFORMANCE OF OIL SECTOR IN NIGERIA (EVIDENCE FROM CENTRAL BANK OF NIGERIA AND NIGERIA NATIONAL PETROLEUM CORPORATION)

LITERATURE GAP

S/N	Author(s) & Title	Objectives & scope	Method and	Main Findings	Gap(s) identified
			Measurement	0	and Remarks
1	Odularu, G. O (2008). Crude oil and the Nigerian Economic Performance.	<ul> <li>The broad objective of the study is to assess the impact of crude oil on the Nigerian economy.</li> <li>Other specific objective include; to</li> <li>Determine the relationship between crude oil and improved growth of the Nigerian economy.</li> <li>Examine the relationship between crude oil production and economic growth in Nigeria</li> </ul>	The study adopts the quantitative research approach; data were gathered from secondary source.	The study reveals that crude oil consumption and export have contributed to the improvement of the Nigerian economy.	The research gap identified in this study is that the researcher considered other sector of the economy, in that the excess revenue generated from crude oil can be diverted to other sector in the economy.
2	Onyemaechi, J. O. (2012)Economic Implications of Petroleum Policies in Nigeria: An Overview	The study seeks to evaluate the economic implications of petroleum policies in Nigeria.	The study approach was basically descriptive in nature.	The findings reveal three major economic implications: first is observed rapid expansion of the number of economic actors in the Nigerian petroleum industry; secondly, we observed rapid development of the transport system; and, thirdly, there were improvements in the gross domestic product (GDP), foreign direct investment, and employment levels.	The study bridges research gap by providing recorded economic benefits from petroleum policies in Nigeria.
3	Esekumemu, V. C. (2016). The Politics of Oil in Nigeria: Transparency and Accountability for Sustainable Development in the Niger Delta	The study seeks to examine how process, corruption eclipsed both accountability and transparency and good governance relates to sustainable development in the Niger Delta.	The study adopts the historical research method,	Oil has been a driving force in the body politics of the Nigerian State. The urge for primitive accumulation of wealth is a factor that is pushing the power elite to undermine the development needs of the Niger Delta region had been appropriated by some of the elites. The power tussles among the elites led to several military coups and to a civil war	This study drew its conclusion from theoretical review, without the use of any statistical tool for analyzing data.
4	Okonkwo&Mojekwu	This study examined	The ex post facto	Crude oil price has a	The gap intended to

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	(2018). Crude Oil Price Fluctuations and Nigeria Economic Growth: 1997-2015	the effects of oil price fluctuations on Nigeria economic growth with a view of determining whether the Dutch disease theory applies in Nigeria.	design was adopted for this work. Data were gathered from secondary source, (Central Bank of Nigeria (CBN) statistical bulletin and annual report of National Bureau of Statistics). The estimation was based on Ordinary Least Square multiple Regression method using log mode. The e-views 7	positive but insignificant effect on gross domestic product during the period under review. The insignificant effect could be as a result of high level of corruption and mismanagement of oil revenue in the country.	fill by the researcher is to fill the knowledge gap of various researchers on the fluctuation of oil price.
5	Taghizadeh&	The research examines	for the model estimation. The study adopts	The main findings of the	The researcher in
	Yoshino (2014). Monetary Policies and Oil Prices Fluctuation following the Subprime Mortgage Crisis.	how monetary policies have affected crude oil prices after the subprime mortgage crisis.	the empirical analysis research method.	study is that the quantitative easing of US monetary policies weakened US dollar by shifting US investors to invest into oil market and other commodity markets.	the study filled a variable gap by testing another channel of monetary policy transmission not identified in other related research study which is exchange rate.

# APPENDIX TWO

List of Petroleum & Exploration Companies in Nigeria			
#	Name		
Multinationals			
1	ADDAX PETROLEUM DEVELOPMENT (NIGERIA)		
2	ADDAX PETROLEUM EXPLORATION (NIGERIA)		
3	AGIP ENERGY & NATURAL RESOURCES (NIGERIA)		
4	BRASS EXPLORATION		
5	CHEVRON NIGERIA		
6	CONOCO ENERGY NIGERIA		
7	CONOCO PETROLEUM NIGERIA		
8	ELF PETROLEUM NIGERIA (EPNL)		
9	ESSO EXPLORATION & PRODUCTION (NIGERIA) (EEPNL)		
10	HARDY OIL NIGERIA		
11	MOBIL PRODUCING NIGERIA		
12	NEXEN PETROLEUM NIGERIA		
13	NIGERIAN AGIP EXPLORATION (NAE)		
14	NIGERIAN AGIP OIL (NAOC)		
15	PETROLEO BRASILEIRO NIGERIA		
16	PHILLIPS OIL COMPANY (NIGERIA)		
17	SHELL NIGERIA EXPLORATION & PRODUCTION (SNEPCO)		

18	SHELL PETROLEUM DEVELOPMENT COMPANY OF NIGERIA	
19	STAR DEEP WATER PETROLEUM	
20	STATOIL NIGERIA	
21	SYNTROLEUM NIGERIA	
22	TEXACO NIGERIA OUTER SHELF	
23	TEXACO OVERSEAS (NIGERIA) PETROLEUM (TOPCON)	
24	TOTAL UPSTREAM NIGERIA	
Local Companies		
25	AFREN ENERGY RESOURCES	
26	ALFRED JAMES PETROLEUM	
27	ALLIED ENERGY RESOURCES (NIGERIA)	
28	AMALGAMATED OIL	
29	AMNI INTERNATIONAL PETROLEUM DEVELOPMENT	
30	ATLAS ORANTO PETROLEUM OIL	
31	CAMAC NIGERIA	
32	CONOIL PRODUCING	
33	DUBRI OIL	
34	EQUATOR EXPLORATION NIGERIA	
35	EXPRESS PETROLEUM & GAS	
36	FAMFA OIL	
37	MIDLANTIC INTERNATIONAL	
38	MILLENIUM OIL & GAS COMPANY (MOGCL)	
39	MONI PULO	
40	NIGERIAN NATIONAL PETROLEUM CORPORATION (NNPC)	
41	NIGER DELTA PETROLEUM RESOURCES	
42	NIGERIAN PETROLEUM DEVELOPMENT COMPANY (NPDC)	
43	NOREAST PETROLEUM	
44	OILWORLD	
45	OPTIMUM PETROLEUM DEV.	
46	ORIENT PETROLEUM RESOURCES LIMITED	
47	ORIENTAL ENERGY RESOURCES	
48	PAN OCEAN OIL CORP. (NIGERIA)	
49	SAHARA ENERGY FIELDS	
50	SOLGAS PETROLEUM	
51	SOUTH ATLANTIC PETROLEUM (SAPETRO)	
52	SUMMIT OIL INTERNATIONAL	
53	SUNLINK PETROLEUM	
54	YINKA FOLAWIYO PETROLEUM	
Base Logistics, Life Camp Management		
55	BRAWAL SHIPPING (NIGERIA)	
56	INTELS NIGERIA (INTEL SERVICES)	
57	LADOL – LAGOS DEEP OFFSHORE LOGISTICS BASE	
58	NEPTUNE MARITIME NIGERIA	
59	PRODECO (PROPERTY DEVELOPMENT COMPANY)	
60	SNAKE ISLAND INTEGRATED FREE ZONE	
Government, Associations		
61	DEPARTMENT OF PETROLEUM RESOURCES (DPR)	
	NATIONAL PETROLEUM INVESTMENT MANAGEMENT SERVICES	
62	(NAPIMS)	
63	NIGERIAN ASSOCIATION OF PETROLEUM EXPLORATIONISTS (NAPE)	
64	NIGERIAN NATIONAL PETROLEUM CORPORATION (NNPC)	
65	PETAN (PETROLEUM TECHNOLOGY ASSOCIATION OF NIGERIA)	
Geophysicals, Seismics, Data Processing, Geology, Geosciences		

66	COMPAGNIE GENERALE DE GEOPHYSIQUE (NIGERIA) (CGG)	
67	FIRST FOSSIL NIGERIA	
68	GLOBAL ENERGY COMPANY	
69	INTEGRATED DATA SERVICES (IDSL)	
70	LANDMARK GRAPHICS	
71	MABON GEOPHYSICAL NIGERIA	
72	MASSOIL FIELD SERVICES	
73	PETROLEUM GEO SERVICES NIGERIA (PGS)	
74	SCHLUMBERGER GECO PRAKLA NIG.	
75	SCHLUMBERGER GEOOUEST	
76	SCHLUMBERGER WESTERNGECO	
77	UNITED GEOPHYSICAL (NIGERIA)	
78	VERITAS GEOPHYSICAL (NIGERIA)	
Survey		
79	FUGRO-IGN	
80	FUGRO SURVEY NIGERIA	
81	SURVICOM SERVICES	
82	ZENITH NIGERGROUP	
Drilling Contractors		
83	CLOBAL OFFSHORF DRILLING (CSF)	
84	ENSCO DRILLING COMPANY NIGERIA	
85	EORASOL DRILLING (WEST AFRICA)	
86	KARAMAY DRILLING COMPANY / CNPC NIGERIA	
87	KARAMAT DRILLING COMI ANT / CNI C MOLKIA	
89	LONESTAR DRILLING NIGERIA	
80	NORLE DRILLING (NICERIA)	
89	NOBLE DRILLING (NIGERIA)	
70 711KUS INDUSTDIES	PARKER DRIELING (NIGERIA)	
	SAIDEM CONTRACTING NIGERIA	
02	SEDCO FOREY OF NIGERIA (TRANSOCEAN)	
03	TECON OIL SEDVICES	
75 Drilling Fluids & Chamicals	Person OIL SERVICES	
Drining Fluids & Chemicals, B	A EDICAN DETDOI EUM OII EIEL D SEDVICES (ADOS)	
05	ANA INDUCTDIES I IMITED	
95	ANA INDUSTRIES LIMITED	
90	DAKEN HUUHES NIGERIA PADOID OF NIGERIA (SUP. OF HALLIDUDTON)	
97	DEL TA DROSDECTORS	
98	ELNISELI	
100		
100	UUI INTERNATIONAL	
101	M INICEDIA	
102 Drilling & Wall Someon Direct	M-I NIGERIA	
102	ADIPOIL COMDANY	
103	ANIDOL COMPANY	
104	DAKEN NICENIA DI SEDVICES NICEDIA	
105	DJ SERVICES NICERIA CISCON NICEDIA	
107	CIEDOD WEST AEDICA	
107		
100		
109	EUUDRILL (NIUERIA)	
110	EWIVAL / KAINUUU / JD EINEKUY SEKVILES	
111	UEUDER VIUED (INIUERIA)	
112	HALLIBUKTUN ENEKGY SEKVICES (NIGEKIA)	
115	INTERDRILL NIGERIA	

114	KASOLUTE NIGERIA
115	MELVON NIGERIA
116	OILDATA WIRELINE SERVICES
117	OILSCAN
118	OILTEST SERVICES
119	PETROLOG
120	QUAD MUD LOGGING (NIGERIA)
121	ROXAR NIGERIA
122	
123	SART NIGERIA (RESERVOIR FLUIDS LABORATORY INC.)
124	SCHLUMBERGER ANADRILL (NIGERIA)
125	SCHLUMBERGER OILFIELD SERVICES
126	SCHLUMBERGER WIRELINE & TESTING
127	SEGO OILFIELD SERVICES SOWSCO WELL SERVICES (NIGERIA)
128	
129	VRMT INTERNATIONAL (NIGERIA)
130	WEAFRI WELL SERVICES NIGERIA WOG ALLIED SERVICES NIGERIA