Foreign Direct Investments, Oil Revenue and Economic Prosperity in Nigeria

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Abstract
Nigeria as a country is supposed to be overflowing with God-giving resources, yet the economy is motionless and faced with numerous problems such as rise in poverty level, unemployment rate, dwindling inflation and interest rates, lack of infrastructural development and a host of others. Countries like Nigeria blessed with natural resources is meant to flourish given the fact that there is little or no expertise in the creation of such wealth. Thus, this paper empirically dissect the relationship between foreign direct investment, oil revenue and economic prosperity in Nigeria. However, secondary data of GDP, Oil Revenue and Foreign Direct Investments were obtained from the Central Bank of Nigeria Statistical Bulletin for the period of 1981-2015. Using the Ordinary Least Square estimation technique, the study indicated that GDP is negatively influenced by oil revenue and foreign direct investment. On this note, it was recommended that suitable measures that ensures accountability and transparency in the industry should be put in place by the government in order to withstand the revenue generated from oil and foreign investment in Nigeria. By putting these measures in place, funds generated from oil and foreign investments may be invested in the agricultural industry as a means of diversification such that it will sustain and harness economic growth.
Keywords: Economic Prosperity; Oil Revenue; Foreign Direct Investments; Oil and Gas Sector; Manufacturing Industry; Dutch Disease Syndrome

1.   Introduction

In 1956, oil was discovered in marketable magnitude in Nigeria and from that time onward, oil has been the stronghold of the Nigerian economy (Okoro, 2014). Crude oil provides about 90 percents of the country's exports, 25 percent of GDP and 80 percent of the total revenues of Nigerian government (Adebiyi, Adenuga, Abeng & Omanukwue, 2012). Since the discovery of oil *inter-alia*, the Nigerian economy spin around crude oil prices such that the prices of crude oil forms the basis for government budgetary allocation. Inspite of this, rising countries like Nigeria with plentiful resources underperformed contrast with those that are short of natural resources (see Ranis, 1991; Lal & Myint, 1996; Sachs & Warner, 2001).

Nigeria as a country is supposed to be overflowing with God-giving resources (natural resources), yet the economy is motionless and faced with numerous problems such as rise in poverty level, unemployment rate, dwindling inflation and interest rates, lack of infrastructural development and a host of others. Countries like Nigeria blessed with natural resources are meant to flourish given the fact that there is little or no expertise in the creation of such wealth. We believe that Nigeria should have become one of the most leading economies of the world, given the outsized natural resources. Using certain parameters such as revenue and foreign direct investments from the oil and gas industry, we tested their association with economic prosperity (growth) so as to see if truly, foreign direct investment as well as oil revenue really matters for Nigerian's economic prosperity or not. The lingering part of this paper is divided into theoretical and empirical review, methodology, empirical results, conclusion and recommendations.

2.   Theoretical & Empirical Review

The theoretical framework of this paper is premised on the Dutch Disease Theory (DDT) which holds that natural resources may cause a nation's exchange rate to appreciate as well as making its manufacturing exports less competitive (Larsen, 2004; Egbon, 2013). One of the probable advantages of oil booms is that of foreign direct investment and crude oil revenues appreciating which in turn leaves may leave other industries such as agriculture and manufacturing (i.e. conglomerate, consumer goods and automobile) less competitive. As opined by Deacon (2011), if manufacturing exports are the engine of economic growth and resource exports are not, then Dutch disease adherents believed that resource boom that crowds out manufacturing industry will slow down economic prosperity. The Dutch disease theory has petite empirical support; however, the terms of trade effects generally are not significant in economic prosperity. However there is vast empirical evidence on the relationship between oil prices and economic prosperity in Nigeria and the world over. Most of these studies in

Nigeria and the world over dealt with certain time frame. This study extends data on whether or not oil discovery account for the level of economic prosperity in Nigeria. Furthermore, some studies believed that other industries such as education, transportation, health, agriculture and a host of others do account for the level of economic prosperity while other studies disapproves this assumption.

The works by Donwa, Mgbame & Ekpulu (2015) supports that in order to harness economic growth, adequate measures should be put in place by government so as to sustain the revenue generation from the oil and gas industry. The revenues generated are for the sustainability of the economy, it thus follows that economic growth can be sustained where all resources are effectively and efficiently utilized by all and sundry. Abdulrasheed (2011) observed that education, transportation and health industries formidably influence the level of economic growth except that agricultural industry negatively does. We believe that all these industries rely heavily on the oil and gas industry where huge revenues are generated to fund education, transportation and health industries as well as the agricultural industry that has underperformed negatively. Ogbonna & Appah (2012) studies holds that revenues from the oil and gas industry as well as petroleum profits have intensified economic growth. This is an indication that much of the revenues are spawned from the oil industry when compared to other industries.

3. Methodology

The thrust of this paper is to empirically dissect the relationship between foreign direct investment, oil revenue and economic prosperity so as to see if these variables *inter-alia* really matter for Nigerian's economic prosperity or not. A multiple linear regression estimation technique was adopted in the analysis of data. GDP accounts for the level of economic growth in any country; oil revenue (OREV) and foreign direct investments from oil (FDIL) accounts the period prior to the discovery of oil in Nigeria. Based on the above, we have however adopted the below model:

$$GDP = F(OREV, FDIL) \qquad \text{eq. 1}$$
$$GDP = \alpha + \beta_1 OREV_{it} + \beta_2 FDIL_{it} + \mu_t \qquad \text{eq. 2}$$

Where:

GDP = Proxy for economic prosperity

OREV = Total Revenue from the Oil industry at time "t"

FDIL = Foreign Direct Investment in the oil industry at time "t"

α = Intercept

β_1, β_2 = Unknown coefficients

μ_t = Error Term

In this paper, secondary data was obtained. Data of Gross Domestic Product (GDP), Oil Revenue (OREV) and Foreign Direct Investments from oil (FDIL) were obtained from the Central Bank of Nigeria Statistical Bulletin for the period of 1981 to 2015 (i.e. a period of 35years). The data obtained was analyzed via the Statistical Package for Social Sciences (SPSS, 21.0).

4. Empirical Results

This section reports the detailed analysis of results obtained in the study. The results are presented in tables 1-3 below:

Table 1: Descriptive Statistics for Dependent and Independent Variables

Variable	Mean	Std. Dev.	Min. Value	Max. Value
GDP	10966177.7	14341049.5	94,325.02	47,151,923.61
OREV	2100438.7	3001021.4	6,566.03	9,875,833.48
FDILS	4465750.1	6181625.0	7,372.8	19,274,331.4

Source: SPSS Output, 2016

Table 1 presents the summary of the two independent variables (OREV: Oil Revenue and FDILS: Foreign Direct Investments) and Gross Domestic Product (GDP) over 34years. The overall average of GDP is ₦10,966,177.7 with standard deviation of approximately 14.3%. This implies that GDP can deviate from mean to both sides by 14.3%. The highest reported GDP during the period under review was ₦47,151,923.61 in 2014 and minimum GDP value is ₦94,325.02 which occurred in 1981. The overall average of OREV is ₦2,100,438.7 with standard deviation of approximately 30%. This suggests high dispersion of OREV values during the period under review. The highest OREV value for the period is ₦9,875,833.48 in 2014 and minimum value ₦6,566.03 in 1984. Furthermore, the overall mean of FDILS is ₦4,465,750.1 with standard deviation of 61.8%. This means that FDILS deviated from mean to both sides by 61.8%. The highest FDILS recorded during the period is ₦19,274,331.4 in 2014 while the minimum FDILS is ₦7,372.8 in 1983.

Table 2: Correlation Matrix for GDP, OREV and FDILS

	GDP	OREV	FDILS
GDP	1.00	.779	.795
OREV	.779	1.00	.784
FDILS	.795	.784	1.00

Source: SPSS Output, 2016

Table 2 above shows the correlation matrix for GDP, OREV and FDILS. Pearson's correlation matrix shows the degree of association between variables as well as multicollinearity between independent variables. As suggested by Van, Shahnaz & Nurasyikin (2008), the Pearson's R between each pair of independent variables should not exceed 0.80; otherwise, independent variables with a coefficient in excess of 0.80 may be suspected of exhibiting multicollinearity. The highest association in the table above is between foreign direct investments (FDILS) and Gross Domestic Product (GDP) showing a value of .795. This confirms that there is no multicollinearity among the variables.

Table 3: Model Summary and Regression Coefficients

R^2	Adjusted R^2	Std. Error of the Estimate	F-Change	DW	Sig. F-Change
.989	.984	1525785.22795	42.169	1.503	.000
t-Ratio	OREV: -.053 (.000)	FDILS: -9.550(.000)			

Values in parenthesis are the level of significance; **Source: SPSS, Output, 2016**

Table 3 shows the model summary and regression coefficients between the dependent (GDP) and independent variables (OREV & FDILS). As shown above, both R^2 and adjusted R^2 measure the fitness of the model i.e. they measure the proportion of the variation in dependent variable explained by the model. But since adjusted R^2 is the modification for the limitation of R^2, the value of the adjusted R^2 is considered to measure the fitness of the model. Thus, as it is shown above, the value of adjusted R^2 is .984, indicating that the independent variables in the model are explaining 98.4% variation on the dependent variables while the unexplained variation 1.6%. The unexplained variation of 1.6% accounts for the error term in the model. Testing the statistical significance of the overall model, the f-ratio was used. It can be observed that the independent variables give a significant effect on the dependent variable, where f-value (42.169) (p-value=.000). The test of autocorrelation using Durbin Watson (DW) test shows that the DW value of 1.503 falls within the inconclusive region of DW partition curve. Hence, it can clearly be concluded that there exists no degree of autocorrelation in the model. In addition, the t-ratios for OREV and FDILS suggest that the estimated coefficients of the regression parameters are carrying the right signs (negative signs) which conforms to a-priori expectation. The reason for the sign is that GDP is negatively influenced by OREV and FDILS. This implies that a decrease in OREV and FDILS will bring about a decrease in GDP. Going by the results, we found that GDP is negatively influenced by oil revenue and foreign direct investments in Nigeria. This means that oil revenue and foreign direct investments has negatively influenced economic prosperity in Nigeria. This may have caused the shift to agriculture.

5.   Conclusion & Recommendations

This study has extensively ascertained whether or not, foreign direct investments and oil revenue really matters for Nigerian economic prosperity. The theoretical framework was anchored on the Dutch Disease Theory. This theory suggests that natural resources causes a country's economy to appreciate as well as making its manufacturing exports less competitive. It is thus expected that natural resources should have positively influenced economic prosperity in Nigeria. In this study, the findings indicated that GDP is negatively influenced by OREV and FDILS and the results are contrary to the proposition *inter-alia*. The findings of our study is in agreement with prior studies conducted by Okoro, (2014a & 2014b); Ejuvbekpokpo & Okoro (2013); that the oil industry does not matter for Nigerian's economic prosperity. Based on the results, suitable measures that ensures accountability and transparency in the industry should be put in place by the government in order to withstand the revenue generated from oil and foreign investment in Nigeria. By putting these measures in place, funds generated from oil and foreign investments may be invested in the agricultural industry as a means of diversification such that it will sustain and harness economic growth.

6.   References

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Appendix I
Detailed Output of Regression Results

[DataSet]

Descriptive Statistics

	Mean	Std. Deviation	N
GDP	10966177.7406	14341049.46919	35
OREV	2100438.7132	3001021.41863	35
FDILS	4465750.0559	6181625.00286	35

Correlations

		GDP	OREV	FDILS
Pearson Correlation	GDP	1.000	.779	.795
	OREV	.779	1.000	.784
	FDILS	.795	.784	1.000
Sig. (1-tailed)	GDP	.	.000	.000
	OREV	.000	.	.000
	FDILS	.000	.000	.
N	GDP	34	34	34
	OREV	34	34	34
	FDILS	34	34	34

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	FDILS, OREV[b]	.	Enter

a. Dependent Variable: GDP

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.995[a]	.989	.984	1525785.22795	.984	42.169	2	31	.000	1.503

a. Predictors: (Constant), FDILS, OREV

b. Dependent Variable: GDP

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6714799458546189.000	2	3357399729273094.500	42.169	.000[b]
	Residual	72168637417156.890	31	2328020561843.771		
	Total	6786968095963346.000	33			

a. Dependent Variable: GDP

b. Predictors: (Constant), FDILS, OREV

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
		B	Std. Error	Beta			Zero-order	Partial	Part
1	(Constant)	660221.891	324912.525		2.032	.051			
	OREV	-.026	.500	-.006	-.053	.000	.979	-.009	-.001
	FDILS	2.320	.243	1.000	-9.550	.000	.995	.864	.177

a. Dependent Variable: GDP

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	677136.6875	45119676.0000	10966177.7406	14264598.53873	34
Residual	-4397855.00000	3551998.50000	.00000	1478826.69931	34
Std. Predicted Value	-.721	2.394	.000	1.000	34
Std. Residual	-2.882	2.328	.000	.969	34

a. Dependent Variable: GDP