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OIL PRICE VOLATILITY AND BUDGETARY PERFORMANCE: EVIDENCE FROM NIGERIA (1980 - 2019)

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Abstract

The study examined oil price volatility and budgetary performance: Evidencefrom Nigeriafrom 1980 to 2019. The specific objective of this study is to evaluate the effect of oil price volatility on budget performance in Nigeria. Budgetary performance was captured directly by GDP growth rate and indirectly by government expenditures. The study used secondary data sourced from the CBN and the WBG. Data for the study were analyzed using descriptive statistics, Stationarity tests, and other selected diagnostic tests, Ordinary least square regression, Granger-Causality and Cointegration statistical techniques at the 5% level of significance. The findings showed that oil price volatility in the short-run, had negative but significant effect on budgetary performance, measured directly using GDP growth rate, and positive and significant effect when measured indirectly using government expenditures; while in the long-run equilibrium, the effects were significant. The study concludes that oil price volatility has significant effect on budgetary performance and recommends that the federal government should put appropriate framework and infrastructures in place to revamp and restart moribund local refineries and stop importation of refined petroleum products. The government should also embark on urgent export diversification and development of non-oil foreign currency earning products.

Key Words: Oil Price, Volatility, Budget Performance, Economic Growth, Zero Base Budgeting System, Central Bank of Nigeria,

1.0 INTRODUCTION

Economic units including household and business firms in the world draw up budgets, otherwise known as estimates for their routine activities. Budgets are drawn up annually by every independent nation after due approvals by both senate and congress. Projects Budgeted for depends on the degree of funds available. Oil discovery in commercial quantities in 1967 has help to guide budget funding in Nigeria. The discovery of oil has negatively affected the focus and constitution of non-oil proceeds of agriculture in funding Nigerian budget (Sakpaide & ohwovoriole, 2017). The researchers opined that this has led to overt negative impact on private and SME sectors in Nigeria due to oil price fluctuation and has resulted to

budget under-performance and poor working environment. Developed economies with multi revenue sources are usually unperturbed by oil price fluctuations unlike countries with single major revenue source like Nigeria (Nwoba, Nwonu & Agbaeze 2017; Ayoola, 2013). In developing fiscal and monetary macroeconomic policies in Nigeria, Yusuf (2015) opined that oil is a crucial factor as it generates over 80% of government revenue and a major contributor to both foreign exchange and gross domestic product.

While Nigeria crude oil prices have increased phenomenally against budget bench marks, the impact of the excess crude has not affected budget performance. Government agencies have severally attempted to politicize crude oil price falls while failing to adequately account for periods of excess crude oil gains. The current effect of COVID-19 pandemics on social and economic lives of nations have had its attendant effects on crude oil prices and budget performances including budget reviews and cuts by the various government arms and tiers.

Considering the macroeconomic factors that subject Nigeria masses to hardship due to fallen oil prices, the need for savings during booms and enhanced budget performance is very significant (Nwoba, et al 2017). Hence, thisresearch examined the effect of oil price volatility on budgetary performance in Nigeria.

The major objective of this study is to determine whether oil price volatility affects budgetary performance in Nigeria; pertinent question arising from this will be – Does oil price volatility haveany effect on budgetary performance in Nigeria? The relevant hypothesis for this study will be;

H_0: Oil price volatility does not have significant effect on budgetary performance.

This study will be divided into; 1.0 Introduction, 2.0 Materials and Methods, 3.0 ResultsandDiscussions and 4.0 Conclusion.

1.2 Review of Related Literature.

1.2.1 Conceptual Review

1.2.1.1 Budget and the Economy

Contemporary global economic growth and development are all dependent on development plan, embedding government programmes and policies, which gives rise to budgets. Budgets are important instruments for government functioning in any evolving as well as developed state as it regulates size and scope of government revenue and expenditures (Edame, 2010).

Budgets are also necessary for a vital formulation of sustainable fiscal policy and the fabrication of economic growth (Ohanele, 2010).

The benefits of effective budget implementation are numerous ranging from cost reduction, serving as communication and co-ordination tools, a guide to action, integration, cohesion, promotion of effective and efficient management of limited available resources, to legal template for national development.

Budgets are drawn up by various government tiers and agencies to guide the attainment of macroeconomic goals and objectives of stable employment as well as infrastructural development. Types of budget development includes surplus budget, deficit budget, supplementary budget and development budget. Other types ranges from line budget, item or traditional budget, performance budgeting systems, programming budgeting systems, planning budgeting and the zero based budgeting systems [ZBBS] (Olaoye, Olaoye & Afolabi).The most important economic policy instrument of government in reflecting its social and economic policy priorities is the national budget(Ogujiuba & Ehigiamusoe, 2013).

A public budget should perform its roles through a well-articulated, effectively and efficiently employed as well as adequately supervised performance evaluation (Faleti & Myrick, 2012). This implies the setting up of a budget monitoring evaluation unit in government to monitor budget implementation progress of the respective government unit. An adequately implemented budget will translate government policies and programmes into results that have direct and positive impacts on the population including development of critical infrastructures such as schools, hospitals, roads, electricity, poverty reduction, effective transportation and employment (Olaoye et al 2017).

1.2.1.2 Performance Evaluation and Budget

In recent times, leadership styles and governance frameworks and theories are constantly changing due to changing social-cultural economic and political environment. Performance appraisal, management tools for workers' productivity evaluation has been incorporated into a broader scope of performance management.

While Salami, Ajobo and Okwuise (2013) believe that the performance management should be based on management principle of social contract, Townley (2005) on the other hand argue that it should be based on organizational future that depicts its vision, usually summarized by its annual budget. Hence, a country's budget performance will be measured by its capacity to achieve its set out annual budgets. Overall, budgeting performance is

essential to national development as it shows the result of good governance and credible leadership.

1.2.1.3 Economic Growthversus Economic Development

Budget performance helps to measure the real GDP growth of a country, which is the increase in gross domestic product in real terms (IMF, 2012). GDP growth rate is measured using the ratio of GDP to population or per capital income (Wang & Ping, 2014).

Economic growth can be stirred by intensive factors, which is when growth measures efficient use of input resources such as energy, capital and labour productivity, or by extensive factors, which involves, when growth in GDP results from input amount available for population increase (Corry, Dan, Valero, Anna, & John, 2011). The most important factor that causes increase in real per capita economic growth is increase in labour productivity (Wang & Ping, 2014),while other factors include –rate of change of underlying variables (Gordon & Robert 2016) and division of labour(Lant , Michael& Matt,2013).

Economic growth is closely interwoven with economic development, which is a crucial indicator in measuring budget performance. When there is improvements (increases) to the social and economic wellness of the population resulting to rise in living standards, per capita income, social index, education and health index, reduction in per capita poverty level, we say there is economic development.While Sullivian and Sheffrin (2003) believe that development will raise a country's social wellbeing,economic and political awareness of its population,dependency theorists in contrast argue that countries may sometimes experience economic growth with or without economic development. Both argument lines are opened for further debates.

1.2.1.4 Debt Servicing and Unemployment

One major goal of macroeconomic development is to attain high level of employment. Conversely, unemployment indicates suffering, poverty and under development, a negative vice on a developing economy, and government must exert conscious efforts to eliminate or reduce it in any economy. Some school of thought view economic growth and development as measures to generate employment and improve welfare economics in a nation [Sodipe 2008], while others view debt management as an important tool of fiscal policy (Adebiyi & Olowookere, 2013).

1.2.1.5 Oil Price Volatility and the Economy

Most researchers believe that oil production is responsible for a major share of the GDP of exporting countries with oil prices having a significant effect on its revenue performance,for instance, increase in Nigeria's revenue performance by USD 390 billion between 1971 and 2005 was a result of crude oil price growth (Sodipe,2008; Sakpaide& Ohwovoriole, 2017) . Factors affecting oil price fluctuations in Nigeria include exchange rate,demand, supply dynamics,and OPEC decisions (Mordi,2006; and,Oyetunji,2013). Other major factors that affects OPEC oil decisions include the activities of oil cabals in the middle-east using supply quotas to determine oil price direction in the global oil market. In recent times, these activities of middle- east oil cabals have caused major crude oil price drops ,affecting global revenue oflesser crude oil exporting countries such as Nigeria and Angola (mainly developing countries with single revenue source) (Maurice,2016). The resultant effect of this include fall in actual oil revenue receipts and inability to fully fund national budgets predicated on such revenue sources by the government. The unexpected occurrence of global pandemic such as the COVID-19,would also adversely affect budget performance of countries.

Similar views to Maurice(2016) were held by oriakhi (2010), who believed that oil prices can both promote and inhibit growth. He argued that while prices hike will result to higher real national income from increased export earnings for net-oil exporters, it will however , lead to rise in inflation rate,input costs, reduction in non-oil demand, drop in investment and tax revenues with an end-product of budget deficit and reduction in welfare level for net-oil importing countries. Hence, for a country such as Nigeria,that exports crude-oil and imports finished petroleum products, the gains from her export, will automatically be wiped out by corresponding losses from her finished product importation. Obioma (2006 as cited in oriakhi,2010),both shared similar views that Nigeria's economic challenges were traceable to the 1980s with the collapse of her domestic refineries, leading to importation of refined petroleum products with associated price volatilities.

1.3 Empirical Review

Several studies on subject have failed to agree on the nature of influence of crude oil price fluctuations on budget performance. For instance:

In 1999 Clarida and Gali (as cited in Nwonu, 2017) studied the sources of real exchange rate fluctuations with emphasis on nominal shocks. Sample covered include USA, Germany,

United Kingdom, Japan and Canada between 1974 and 1992, showed a significant effect of real oil price shocks on economic growth.Similarly, Amano and Norden (1998, as cited in Nwonu 2017), used real exchange rates data for Germany, Japan and USA and discovered significant effect of real oil price changes on exchange rates in the long-run.

Maku (2009, as citied in Oluwatobi & ogunrinola, 2011). In his study of the connection between aggregate government expenditure and Nigeria‘s 30 years GDP, concluded that government expenditures have no significant effect on Nigeria‘s GDP. In contrast, Oriakhi in 2010, studied oil price fluctuation outcome on Nigeria’s real GDP between 1970 – 2010 using VAR econometric technique. The result showed that oil price fluctuations directly impacted selected variables including government spending, exchange rate,money supply and CPI rate. The research concluded that oil price fluctuations affects public spending, which in turn affects Nigeria economic growth.

In a related research work, Hakan, Nildag and Nukhet (2010) studied the effect of oil fluctuations on selected economies in the Middle East and North Asian countries. The result revealed that while oil price increment had significant statistical and passive effect on the economic performance of Algeria, Iran, Iraq, Kuwait, Libya, Oman, Qatar, Syria and the UAE, it however showed a statistically insignificant effect on the GDP of Bahrain, Djibouti, Egypt, Israel, Jordan Morocco and Tunisia.

In 2013, Ogiejuba and Ehigiamuse, studied the effect of budget performance on economic development focusing on poverty reduction. The study concluded that oil price fluctuation had direct impact on budget performance and economic development

Also, Sokpaide and Ohwovoriole (2017) studied the effect of oil price variation on Nigeria entrepreneurial development using VAR model of estimation. The research concluded that there exist a negatively significant relationship between oil price variation and Nigeria entrepreneurial development. Finally, Clark (2017) studied international society and oil price politics, and found a significant relationship. The researcher encouraged major oil powers to strike a mutually agreed price balance with the developing countries to ensure price stability and peace in the international oil market.

1.4 **Theoretical Review**

The study adopts the linear relationship theory of growth and its proponents include - Hamilton (1983), Gisser (1985), Goodwin (1985), Hooker (1986) and Laser (1987). They

propounded that volatility in gross national product (GNP) growth is occasioned by oil price. They based their postulations on the uncertainties in the global oil market and how it affects the economies of the exporting and importing countries. Hooker, from his empirical works, submitted that price of oil and its attendant changes, exert influence on GDP growth rate significantly. Similarly, Laser confirmed the linear relationship between oil price fluctuations and economic growth. After her empirical study, she submitted that an increase in oil price necessitates a decrease in GDP, while the effect of an oil price decline on GDP is uncertain, because its effects varied in different countries (Oriakhi, 2010).

2.0 Materials and Methods

The study employed secondary data sourced from CBN, World Bank and the NBS and covered the period 1980 to 2019, which is 40 years period.

2.1 Data and Model Specifications

This study is patterned after the work of Oriakhi (2010) which investigated effect oil crude oil price fluctuations. This study used modified variables as in the model below;

$$RGDP = f(OPR, GEXP, EXCR, INFR) \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (1)$$

$$RGDP = \alpha_0 + \alpha_1 OPR + \alpha_2 GEXP + \alpha_3 EXCR + \alpha_4 INFR + \mu_t \ldots\ldots\ldots\ldots (2)$$

Where RGDP is real gross domestic product that measures rate of growth of the economy

OPR is average oil price for crude oil per annum

GEXP is government expenditure per annum as a ratio of gross domestic product

EXCR is Exchange rate for foreign currency (i.e the US Dollar)

INFR is Inflation rate on local currency i.e the naira.

U_t is Error term at period t

α_0 - α_4 are parameters

Apriori Expectation – RGDP, OPR and GEXP all show a negative but significant relationship.

3.0 Results and Discussions

The data in the series are first subjected to basic diagnostic tests including Descriptive statistics, Stationarity tests, Heteroskedasticity and Ramsey reset tests. The variables in the

series are then subjected to statistical econometric tests of ordinary linear regression, Granger-causality and Johansen cointegration tests.

3.1 Diagnostic Tests

3.1.1 Descriptive Statistics

Table 1 – Descriptive Statistics

	EXCR	GEXP	INFR	OPR	RGDP
Mean	104.5047	3.826588	18.89225	56.90200	3.141750
Median	98.02500	2.084200	12.15500	45.60000	4.205000
Maximum	361.0000	12.67380	72.84000	117.3000	15.33000
Minimum	0.550000	0.074900	5.380000	18.86000	-13.13000
Std. Dev.	103.0871	3.195459	16.91599	27.47691	5.410771
Skewness	1.090449	0.984888	1.823960	0.641882	-0.867654
Kurtosis	3.732173	2.852035	5.151077	2.125051	4.700998
Jarque-Bera	8.820661	6.503187	29.89076	4.022646	9.841145
Probability	0.012151	0.038712	0.000000	0.133812	0.007295
Sum	4180.186	153.0635	755.6900	2276.080	125.6700
Sum Sq. Dev.	414451.0	398.2275	11159.88	29444.24	1141.781
Observations	40	40	40	40	40

Source: Author's E-views 10 computation

The mean, median and standard deviation in table 1 shows that the series is evenly distributed and the average kurtosis is in excess of 3 showing that the series is platykurtic. The probability is significant for EXCR, GEXP, INFR and RGDP at the 5% level of significance while only OPR showed insignificance at the chosen level of significance.

3.1.2 Stationarity Tests

Table 2 – Stationarity Tests Result

Variable	ADF test Statist.	Critic. value 5%	P-value	Integration
RGDP	-7.26015	-3.7332	0.0001	I(1)
EXCR	-2.3297	-1.9525	0.0215	I(1)
INFR	-5.7224	-3.5578	0.0003	I(1)
GEXP	-2.4732	-1.9614	0.0167	I(1)
OPR	-6.0885	-1.9510	0.0000	I(1)

Source: Author's E-views 10 computation

The Stationarity test using most negative ADF statistics in table 2 shows that the p-values of all the variables in the series are all significant at the 5% level of significance being less than the chosen level of significance. All the variables are stationary at the first level of difference.

3.1.3 Heteroskedasticity Tests

Table 3 – Heteroskedasticity Result

Heteroskedasticity Test: ARCH			
F-statistic	0.824197	Prob. F(1,31)	0.3710
Obs*R-squared	0.854649	Prob. Chi-Square(1)	0.3552

Source: Author's E-views 10 computation

The null hypothesis of heteroskedasticity test requires the p-values to be greater than the 5% level of significance for an acceptance that there is no evidence of heteroskedasticity in the series represented in table 3.

3.1.4 Breusch-Godfrey Serial Correlation LM Test

Table 4 – Serial Correlation LM Test

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	0.061572	Prob. F(2,28)	0.9404
Obs*R-squared	0.153256	Prob. Chi-Square(2)	0.9262

Source: Author's E-views 10 computation

In table 4, the p-value is greater than the chosen level of significance of 5% and indicates the absence of autocorrelation in the series.

3.1.5 Ramsey Reset Tests

Table 5 – Ramsey reset output

Ramsey RESET Test				
Specification: RGDP C OPR(-1) GEXP(-1) EXCR INFR				
	Value	df	Probability	
t-statistic	1.703807	29	0.0991	
F-statistic	2.902960	(1, 29)	0.0991	
Likelihood ratio	3.339104	1	0.0677	

Source: Author's E-views 10 computation

In table 5, the variables OPR and GEXP were both lagged by one period and the probability outcomes for t-statistic and F-statistic are both greater than the chosen level of significance of 5%. We thus accept the null hypothesis that the regression model for the series is linear.

3.2 Restatement of Hypothesis

The hypothesis to be tested in this study is restated below;

H_0:Oil price volatility does not have significant effect on budgetary performance

H_1: Oil price volatility has significant effect on budgetary performance

This hypothesis will be tested in the short run using an ordinary least square (OLS) regression and granger-causality test techniques while the long-run will be tested using a Johansen Cointegration trace and maximum eigenvalue tests as shown below;

3.2.1 Short – run OLS Hypothesis Testing

Table 6 – Ordinary Least square regression results

Dependent Variable: RGDP				
Method: Least Squares				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	11.58139	2.748843	4.213187	0.0002
OPR(-1)	-0.169110	0.036223	-4.668574	0.0001
GEXP(-1)	1.664219	0.376473	4.420548	0.0001
EXCR	-0.022901	0.009165	-2.498670	0.0182
INFR	-0.129515	0.046919	-2.760422	0.0097

Source: Author's E-views 10 computation

The OLS regression test results in table 6, showed a OPR and GEXP lag of period one in the chosen series at the 5% level of significance. At lag of period one, the average oil price (OPR) had a significant but negative effect on GDP growth rate (RGDP) with a p-value of 0.0001, less than the 5% chosen level of significance. This implied that a 1% rise in oil price will result to a 0.169110% decline in GDP growth rate while for the same period lag, government expenditure, GEXP, also showed a significant but positive effect on RGDP with a p-value of 0.0001. This result shows that with a 1% increase in government expenditure, the GDP growth rate also increases by 1.664219%. This result shows that government expenditure (GEXP) rises as oil prices rises and contributes positively to GDP growth rate in Nigeria. The exchange rate (EXCR) and inflation rate (INFR) both show significant but negative effect on RGDP, implying that growth in these variables results to decline in the GDP growth rate. Hence, we reject the null to accept the alternative hypothesis that oil price volatility has significant effect on budgetary performance measured by GDP growth rate (RGDP) and government expenditure; and that the effect is negative on GDP growth rate while positive on government expenditure in the short-run equilibrium period.

3.2.2 Granger-Causality Testing

Table 7 – Result of Granger-Causality Tests

Pairwise Granger Causality Tests			
Lags: 2			
Null Hypothesis:	Obs	F-Statistic	Prob.

GEXP does not Granger Cause EXCR	34	0.61171	0.5493
EXCR does not Granger Cause GEXP		17.4414	0.1905
INFR does not Granger Cause EXCR	34	0.02614	0.9742
EXCR does not Granger Cause INFR		1.24082	0.3040
OPR does not Granger Cause EXCR	34	7.49859	0.0024
EXCR does not Granger Cause OPR		0.72136	0.4946
RGDP does not Granger Cause EXCR	33	0.16178	0.8514
EXCR does not Granger Cause RGDP		0.00249	0.9975
INFR does not Granger Cause GEXP	34	0.61656	0.5467
GEXP does not Granger Cause INFR		0.87100	0.4292
OPR does not Granger Cause GEXP	34	1.02418	0.3717
GEXP does not Granger Cause OPR		4.55348	0.0191
RGDP does not Granger Cause GEXP	33	0.41810	0.6623
GEXP does not Granger Cause RGDP		0.29793	0.7447
OPR does not Granger Cause INFR	34	1.88443	0.1701
INFR does not Granger Cause OPR		0.20515	0.8157
RGDP does not Granger Cause INFR	33	0.28045	0.7575
INFR does not Granger Cause RGDP		0.15037	0.8611
RGDP does not Granger Cause OPR	33	0.59542	0.5582
OPR does not Granger Cause RGDP		1.06669	0.3577

Source: Author's E-views 10 computation

The result in table 7, shows that apart from oil price (OPR) granger-causing exchange rate (EXCR) in the short-run in a uni-directional mode, government expenditure (GEXP) also granger-causes oil price (OPR) in short-run period also in a Uni-directional dimension. This is because intercepting probabilities of 0.0024 and 0.0191 respectively are less than the 5% chosen level of significance. The other variables in the series namely RGDP and INFR are all insignificant in relation to OPR and GEXP, their p-values being greater than 5% level of significance.

3.2.3 Johansen Cointegration Test

Table 8 – Johansen Cointegration Trace Test

Unrestricted Cointegration Rank Test (Trace)				
Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.702923	99.80459	69.81889	0.0000
At most 1 *	0.584898	59.75037	47.85613	0.0026
At most 2 *	0.446040	30.73577	29.79707	0.0389
At most 3	0.251076	11.24390	15.49471	0.1969

At most 4	0.050298	1.703019	3.841466	0.1919

Source: Author's E-views 10 computation

Table 8 shows the cointegration trace test and indicates the existence of 3 cointegrating vectors of p-values – 0.0000, 0.0026, 0.0389 at the 5% level of significance. The result thus indicates a significant effect of oil price on real GDP in the long-run equilibrium position.

Table 9 – Johansen Cointegration Maximum Eigenvalue Test

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
Hypothesized		Max-Eigen	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.702923	40.05422	33.87687	0.0081
At most 1 *	0.584898	29.01460	27.58434	0.0326
At most 2	0.446040	19.49187	21.13162	0.0835
At most 3	0.251076	9.540877	14.26460	0.2439
At most 4	0.050298	1.703019	3.841466	0.1919

Source: Author's E-views 10 computation

Table 9 shows a confirmatory cointegration results using the maximum Eigenvalue further confirms the existence of 2 Cointegrating equations with p-values (p-values 0.0081 and 0.0326 respectively), indicating that a long-run equilibrium relationship exists between OPR, GEXP and RGDP. We thus conclude that there is a cointegration between the variables in the long-run equilibrium period. Again, we reject the null hypothesis to accept the alternative hypothesis that oil price volatility measured by OPR, has significant effect on budgetary performance measured by GDP growth rate and government expenditures in the long-run equilibrium period.

3.3 Discussions

The study examined whether oil price volatility had any effect on budget performance measured by government expenditure (GEXP) and GDP growth rate (RGDP). One hypothesis was established and tested using the OLS, granger-causality and Cointegration econometric techniques.

The ordinary least square (OLS) regression technique showed that oil price proxy by OPR had significant but negative effect on real GDP while it had a significant but positive effect on government expenditure (GEXP) in the short-run equilibrium period. The cointegration tests to determine whether a long-run equilibrium relationship exist between oil price volatility and budget performance showed a significant relationship between the concerned variables. Budget performance is measured in terms of GDP growth rate achieved during the

budget period and indirectly by the percentage of government expenditure incurred during the budget cycle. This research outcome aligns with the theoretical studies as propounded by Hooker (1986) and Laser (1987) of a negative but significant effect of oil price volatility on real GDP, and further corroborated by the empirical findings from the work of Oriakhi, (2010). The implication of this finding is that oil price increase, will lead to significant decline in GDP growth rate in the short-run and long-run equilibrium periods. This will at the same time positively and significantly raise the level of government expenditure.

4.0 Conclusion

The study set out to determine the effect of oil price volatility on budget performance and it covered a 40 year period from 1980 to 2019. The result of the work showed that oil price volatility measured by OPR had negative but significant effect on real GDP, which directly measures the growth impact of budget while, an increase in oil price in the international market, stirs up government expenditure which is an indirect growth catalyst. Hence, we conclude from this study that oil price volatility has a significant but negative effect on real GDP in the short-run equilibrium period and significant in the long-run equilibrium period.

Based on the outcome of this study, we recommend as follows;

1. The federal government is admonished to develop and implement necessary framework and infrastructures required to revamp and restart local refining of crude oil and petroleum products. This will result to blockage of foreign currency leakages from the economy and employment generation. This measure will strengthen the nation's oil price bargaining power in the international oil market and assist cushion adverse oil price fluctuation effect on the economy.

2. The federal government is advised to embark on urgent export diversification and development, to grow non-oil export for foreign exchange earnings. Such diversification will cover agricultural exports of cocoa, groundnut, palm produce, cassava etc; Development and commercialization of solid mineral base for gold, brass, copper, bitumen etc; as well as development of the maritime and tourism subsector, which has been a high foreign currency spinner for other developed and developing countries.

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APPENDIX

1. Ordinary least Square regression result

Table 6 – OLS regression result

Dependent Variable: RGDP				
Method: Least Squares				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	11.58139	2.748843	4.213187	0.0002
OPR(-1)	-0.169110	0.036223	-4.668574	0.0001
GEXP(-1)	1.664219	0.376473	4.420548	0.0001
EXCR	-0.022901	0.009165	-2.498670	0.0182
INFR	-0.129515	0.046919	-2.760422	0.0097
R-squared	0.494382	Mean dependent var		2.703143
Adjusted R-squared	0.426966	S.D. dependent var		5.334528
S.E. of regression	4.038186	Akaike info criterion		5.761032
Sum squared resid	489.2083	Schwarz criterion		5.983224
Log likelihood	-95.81805	Hannan-Quinn criter.		5.837733
F-statistic	7.333318	Durbin-Watson stat		1.890483
Prob(F-statistic)	0.000304			

Source: Author's E-views 10 computation