

Examination Of The Relationship Between Oil Price Shock And Macroeconomic Variables In Nigeria

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Abstract

The price of oil is one of the important macroeconomic indicators because of the extreme importance of supplying oil to different countries of the world to meet their energy needs. As Nigeria's economy depends on oil prices, the country remains vulnerable to fluctuations in world oil prices. During periods of rising oil prices caused by macroeconomic and political conditions in the international market, the state usually has a positive trade balance, there is an increase in foreign exchange reserves and the revaluation of the national currency. The purpose of the article is to evaluate the relationship between oil price change and Nigeria's economic growth rate using regression analysis. The source of statistical information is data from the National Bureau of Statistics, the Nigerian National Petroleum Corporation and the Nigerian Energy Commission. By checking the time series for steady-state using the advanced Dickie-Fuller test, a regression equation is constructed where the dependent variable is represented as the price of oil and the independent variables are key macroeconomic indicators. The econometric model constructed is adequate because the determination coefficient and the adjusted determination coefficient are 0.97 and 0.96 respectively. The Darbin-Watson statistic in the model is 1.98, meaning the model is reliable. Oil price fluctuations have been found to be related to investment, economic growth and exchange rates, as well as to inflation. The paper argues that the use of the shock of oil prices should be supported, as it promotes economic growth and is not inflationary. Therefore, the authors believe that the government, which is the main beneficiary of cash, should also implement strategies that counterbalance the propensity for economic downturn. Based on the analysis, a set of priority measures was proposed: enhancing financial liberalization, combating corruption, transparency of government activities, creating an open currency market, and developing non-inflationary monetary and fiscal strategies.

Keywords: oil price, macroeconomic variables, energy needs, Organization of Petroleum Exporting Countries, Dickie-Fuller Extended Test, Petroleum Exporters.

JEL Classification: E41.



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1. Introduction

Unrefined petroleum oil is one of the principal indicators of economic activity around the world, because of its extraordinary significance in the supply of energy demands worldwide. The centrality of raw petroleum as the principle wellspring of energy has melted away to some degree, because of the presence of elective types of energy, (for example, wind, water, and sun solar power). Despite this, the centrality of oil surpasses



economic viewpoints and influences public activity as a rule. Consequently, the overall view among policy makers and financial specialists is that there is a solid connection between the development pace of a nation and oil-price changes. Decisively what structure this relationship takes, and how it may be changed, and other such questions are issues of exceptional worth.

Nigeria is a major oil exporter and a member of the Organizational of Petroleum Exporting Country (OPEC). Oil was found in commercial amounts in 1956 and generation started in 1958. The internal war of the late 1960s, disturbed its commercial productionand other financial activities. The administration of the assets has since been the duty of the government, and its distribution among the states and regions of the country has brought up exceptionally sensitive political issues (Adam, 2001). Before the primary oil blast of the mid 1970s, the nation's economy was vigorously subject to farming, as the significant contributor of GDP and source of export earnings. In 1960, agricultural sector represented around 64 percent of GDP. Oil exports now represent more than 95 percent of all export income in Nigeria (Olaniyi, 2001). For the most part, oil is alluded to as the engine of growth and development of present day economy because of its massive usefulness in each cutting edge economy today. Oil is the fundamental material for a wide range of items, for example, oils, black-top, tars, tires, solvents, plastics, froths, bubble gum, antiperspirants, pastels, and so on. Bacon and Kojima (2008) observeed that the measure of oil and determined items an economy consumes relies upon various elements, for example, the degree of Gross Domestic Product (GDP), the structure of the economy's industrial sector, the accessibility of decisions among energizes that grant substitution, and level of key macroeconomic factors.

Regardless of the tremendous value of oil items, figures show that oil costs have fluctuated extraordinarily over the years. Oil price have expanded by and large from US\$28.88 per barrel in 2002, to US\$49.67 in 2005. In 2008, the expansion in oil value hit a high ostensible record of US\$101.02 per barrel; yet dropped strongly to US\$63.90 per barrel towards the end of that year (2008). Once more, oil price hit a high record of US\$113.44 per barrel in 2012 and breakdown to US\$43.75 in 2016, US\$50.84, US\$64.90 for 2017 and 2018 respectively (National Bureau of Statistics, 2019). Following this collapse of oil price, Nigeria experienced rising inflation, capital flight, rising joblessness levels and debt crisis. This circumstance ignited significance concern among financial analysts and money related specialists about the ramifications of the oil cost on some key macroeconomic factors in the nation (Ugbaka, 2018). Many have contended that one of the most extreme shocks hitting world economies since World War II is sharp increment in the price of oil and other energy items. Oil price shocks have extremely serious implications on macroeconomic factors; essentially among them is exchange rate, inflation, joblessness, capacity utilization and cash supply (Taiwo and Patrick, 2011).

An enormous collection of research proposes that oil price volatilities have impressive implications on economic action. These suggestions are relied upon to be distinctive in oil importing and oil exporting nations. Though an oil price increment should be viewed as great news in oil exporting nations and awful news in oil importing nations, the turnaround should be normal when the oil price diminishes. Studies on the effect of oil price shocks on economic performance in Nigeria are replete in the literature. In any case, as far as we could possibly know, we are not mindful of any investigation that has examined the macroeconomic of oil price shocks on key macroeconomic variables like GDP, exchange rate, inflation and investment.

The investigation is inspired by the main fact that Nigeria depends intensely on unrefined petroleum export incomes, representing about 90 percent of absolute export earnings and by and large around 70 percent of government incomes in yearly spending budgets. This has extreme ramifications for the Nigerian economy given the wide swings in oil prices in the international market. What are the implications of oil price unpredictability on key macroeconomic factors in Nigeria? We pose this inquiry since oil cost have been, and keep on being exceptionally critical in Nigeria, yet the unpredictability of the cost has serious effect in the economy. The motivation behind this paper is to analyze the impact of oil value stuns on chosen macroeconomic factors in Nigeria. The paper is partitioned into five segments. After the presentation, section 2 is the literature review. Section 3 contains the methodology; section 4 is the results and discussion while sections 5 concludes the paper and make recommendations.

2. Literature Review

The writing on the effect of oil value stuns on developing oil producing countries is sparse. The main focus of research has been on net oil importers and developed countries. Some limited ponders have been led on the



impacts of oil value changes on the full scale economy of developing countries. In these studies, net oil exporters are the centre of focus.

According to Mathew and Harold (2017) examined Oil Price Shocks and Economic Performance in Africa's Oil Exporting Countries for 1980-2015. This study applied recently developed Panel Structural Vector Autoregressives (P-SVAR) estimating technique to empirically assess the transmission processes of oil price shocks and how it impacts economic performance of Africa's net oil exporting economies. The study considered, among other variables; inflation, money supply, bank rate, exchange rate, gross domestic product, unemployment and oil price shocks which is treated as exogenous while other variables as endogenous variables. The result of the study showed that oil price shocks have large impact on the economic performance of Africa's oil exporting countries and also that transmission of oil price ensues monetary medium.

Olayungbo (2019) investigated the relative Granger causal effects of oil price on exchange rate, trade balance, and foreign reserve in Nigeria. The study used seasonally adjusted quarterly data from 1986Q4 to 2018Q1 to remove predictable changes in the series. The Granger causality result showed that oil price strongly Granger caused foreign reserve in the short period. However, no Granger causal relationships were found between oil price and trade balance and for oil price and exchange rate.

Lukman (2019) investigated the linear and nonlinear effects of oil price movement on certain macroeconomic variables (output, price and exchange rate) in Nigeria using ARDL modeling approach. The study applied ARDL modeling techniques that inherently allowed for asymmetric effect. The results from linear and nonlinear estimations indicated that oil price movement has statistical significant effects on the selected macroeconomic variables in Nigeria (output, price and exchange rate) both in the short-run and long-run but there is evidence of asymmetric effect for output and exchange rate only.

Adeleke (2019) investigated the influence of crude oil price shocks on the macroeconomic performance of Africa's oil-producing countries (Algeria, Nigeria, Egypt, Angola, Gabon, Equatorial Guinea and Congo Republic). The study covers the period between 1980 and 2016, used Panel Structural Vector Auto-Regression model is adopted for analysis. The results showed that the reaction of output to sharp increases and declines in oil prices differ. It is also observed that structural inflation accompanies sharp declines in oil prices more than monetary inflation, since both outputs and investment decline significantly.

Nawasi and Umut (2019) examined the relationship between oil price shocks and selected macroeconomic variables in Nigeria. The macroeconomic variables used are Real Gross Domestic Product, inflation, short-term interest rate, money supply, and real effective exchange as the domestic variables, while oil price is included as global variable. Quarterly data were used spanning the period 1979Q2 to 2013Q1 applied a Global Vector Autoregressive (GVAR) model. The findings of the study revealed that an upsurge in oil price leads to increase in real output, money supply as well as a mild increase in the real effective exchange rates of Nigeria while inflation and short-term interest rate fall.

Joseph, Benson and Chikeziem (2019) examined impact of oil price shocks on exchange rate and economic output in Nigeria from 1981-2016. The study employed local projection impulse response function (LPIRF) to determine the response of exchange rate and economic output to oil price shocks in Nigeria. The LPIRF results suggest that exchange rate and GDP responded significantly to oil price shocks and that there is a higher persistence level of oil price shocks in exchange rate than GDP.

Silvius (2019) the study investigated the impact of oil price changes on selected variables in Nigeria within the period, 1981-2016. Ex-post facto research design with annual time series and and Autoregressive Distributed Lag (ARDL) model also applied. The results revealed that the change in oil price had a positive and significant impact on government revenue and government expenditure, but had no positive and significant impact on the domestic price level.

Charles, Felicia, Jonathan, Okoro, Aja and Kenneth (2019) investigated the impact of oil price fluctuation and oil revenue on well-being in Nigeria using annual time series datafrom 1981–2014 and multiple regression techniques, The findings suggest that oil price fluctuations have no significant impact on well-being, while oil revenue is observed to have a significant and positive impact on well-being. Notwithstanding the insignificant impact of oil price fluctuation, further investigation using Johanson cointegration test shows the existence of long run relationship in the series. This implies that, as oil prices increases/ decreases, so does



well-being of the people. In like manner, we also found that, as the oil revenue increases/decreases, so does the well-being of the people.

Alhassan and Kilishi (2016) examined oil price- macroeconomic volatility in Nigeria employed GARCH model and its variants (GARCH-M, EGARCH and TGARCH) with daily, monthly and quarterly data. According to the findings revealed that; all the macroeconomic variables considered (real gross domestic product, interest rate, exchange rate and oil price) are highly volatile; the asymmetric models (TGARCH and EGARCH) outperform the symmetric models (GARCH (1 1) and GARCH – M); and oil price is a major source of macroeconomic volatility in Nigeria.

According to Ogunbunmi, Abiola, Akeredolu and Isiaka (2019) investigated the impact of oil price movement on key macroeconomic performance variables in Nigerian economy adopted VECM as multivariate technique based on the outcome of the pre-estimation test. The study showed a negative impact of oil price fluctuations on the key macroeconomic variables used. Nagmi (2016) studied the effects of fluctuations of oil price on economic growth of Libya. The study applied the use of (VAR) modal and co-integration techniques for 2000 to 2015 data. The results indicated a long-term relationship between crude oil price and growth.

Eltony and Al-Awadi (2001) in an examination on Kuwait find that direct oil price shocks are critical in clarifying fluctuations in large scale macroeconomic factors in Kuwait. The outcomes show the importance of oil price shocks in government consumptions which are the significant determinants of the degree of economic activity in Kuwait. Raguindin and Reyes (2005) analyzed the effects of oil value stuns on the Philippine economy over the period 1981 to 2003. Their motivation reaction functions for the symmetric change of oil costs demonstrated that an oil value stun prompts a drawn out decrease in the genuine GDP of the Philippines. Then again,in their unbalanced VAR model, oil cost diminishes assume a more noteworthy job in every variable's changes than oil cost increments.

In a related report, Anshasy et al. (2005) surveyed the effects of oil value stuns on Venezuela's economic performance over a longer period (1950 to 2001). The examination received a general to explicit displaying VAR and VECM strategy to explore the connection between oil costs, governmental revenues, government consumption spending, GDP and investment. The outcomes reveal two long run connections consistent with economic growth and fiscal balance. Besides, they found that this relationship is significant not only for the long-run execution yet in addition for momentary variances.

Olomola (2006) researched the impact of oil cost shocks on aggregate economic activity (output, inflation, the real exchange rate and money supply) in Nigeria using quarterly data from 1970 to 2003. The findings showed that as opposed to past observational findings, oil price shocks do not influence output and inflation in Nigeria altogether. Notwithstanding, oil price shocks were found to altogether impact on the exchange rate significantly. The paper contends that oil price shocks may offer ascent to riches impact that acknowledges the real exchange rate and may press the tradable part, giving rise to "Dutch-Disease". What's more, Nigeria is an import dependent nation inferring that oil price shocks do have suggestions for imports and government consumption in Nigeria. It additionally, it also uses industrial output as a measure of output as against GDP.

Gummi, Buhari and Muhammad (2017) examined the connection between oil price and economic growth in Nigeria utilizing yearly data for the period 1974-2014. The investigation concentrated on exactly deciding how changes in oil value influences chosen key macroeconomic variables. Vector autoregressive (VAR) model was utilized to build up the short-run relationship and the course of setback on the effect of oil cost on economic growth utilizing the selected key macroeconomic variable. Results showed that oil cost increment displays a positive connection to economic growth.

Alley, Mobolaji and Adeniran (2014) in their investigation of oil price shocks and economic growth in Nigeria; they utilized the general method of moment (GMM) to examine the effect of oil price shock, on the nation from 1981-2012 utilizing data from EIA, CBN statistical bulletin. Their exploration showed that the shocks of oil price insignificantly hold back or slowdown economic growth while oil price itself significantly improves it.

Hazarika, (2015) researched the effect of variance cost of oil of OPEC nations from 2001-2014, information were gathered from annual bulletin of OPEC. The unrefined petroleum spot cost of Brent FOB (barrel per dollar) was utilized as autonomous variable and Gross Domestic Product (GDP), exports account and exchange rate as the dependent variables. The findings uncovered that variance in the costs of oil do not altogether affect the economic



indicators of OPEC economies as low oil costs reduce energy cost and importation costs. The ascents in costs of oil have been trailed by rising inflation and downturn in many nations.

Ebele, (2015) examined the oil price volatility and economic growth in Nigeria from 1970 to 2014. The examination researched the effect of unrefined petroleum value instability on economic growth. The paper aimed at broadening the frontier of knowledgeby evaluating the effect of oil price volatility on economic growth utilizing aggregate demand framework that hypothetically link analytical variables, as opposed to simply clarifying output conduct by oil cost and host of arbitrarily variables as done by previous works. The paper used Engel-Granger co-integration test and granger representation theorem in testing the long run and short run relationships between crude oil volatility and economic growth respectively. The study reveal that, oil value unpredictability has negative effect on the financial development while factors, for example, unrefined petroleum value, oil income and oil saves have positive effect on the Nigeria economy. Based on the findings, the paper submits that-the nation ought to expand its export incomes as a method for lessening dependence on unrefined petroleum yields.

Adamu, (2015) researched the effect of worldwide fall in oil costs on the Nigeria National Petroleum Corporation (NNPC) utilizing CBN statistical bulletin. The employing the conventional least square (OLS) regression technique and the results showed that international financial breakdown significantly affect the revenue fortune of unrefined oil and their prices in the country which prominently were emphatically identified with each other; likewise, small shift in oil price causes increased sensitivity to the revenue of crude oil. Omo. and Bashir (2015) assessed oil income public spending and economic growth relationship in Nigeria from the 1980-2012. The study used examination OLS technique, the test of cointegration, Vector Error correction (VEC) and Granger causality test to find out the method for causality and the degree of the impact of the factors. Their results reveal that the oil revenue Granger caused both absolute government spending and development, while there was no causality among the Government spending and monetary in Nigeria.

Roll and Uzor (2015) in their investigation endeavors to confirm the immediate and aberrant effect of unpredictability of oil value sway on the economy assessed the effect of the instability of the oil cost on chose macroeconomic variable through public expenditure while the immediate effect forecasting tied the equivalent chose macroeconomic variables directly on oil volatility. The study utilized the methodology of Vector Auto Regression (VAR), dynamic simulations error variance decomposition and the pairwise Granger causality test. Their discoveries uncovers that oil unpredictability essentially animate the vast majority of the macroeconomic factors and Nigeria public expenditure, likewise public expenditure on a large portion of the macroeconomic factors.

Ani, Oliver & Eneje (2014) surveyed the oil price volatility and macroeconomic indicators utilizing annual time series data from 1980-2012. The examination recognizes oil costs and macroeconomic variables and furthermore the effect of oil costs on macroeconomic indicators. The examination utilized the Granger Causality test and Ordinary least Square (OLS) relapse strategy. The outcome uncovered that there are certain however unimportant connections between oil cost and the nation GDP.

Ogundipe, Ojeaga, and Ogundipe (2014) assessed the relationship between cost of oil and the progressions of exchange rate in Nigeria 1970-2011. Their data were sourced from BP measurable audit of Energy 2011 and the Central Bank of Nigeria (CBN) statistical bulletin 2011. They embraced the econometrics strategies which depended on the Johansen most extreme probability estimation methods and conduction the Augmented Dickey Fuller (ADF) and Philips Perron test. The authors noticed that equivalent change in oil value prompts a more than equivalent change in exchange rate instability in Nigeria which suggests that exchange rate is vulnerable to change in oil costs.

Oluwatoyin and Adegboye (2014) led a work on examination of the Effect of Oil Price Shock and Exchange Rate Instability on Economic Growth in Nigeria. The examination was to assess the impact of oil esteem stun and genuine swapping scale insecurity on genuine monetary development in Nigeria based on quarterly information from 1986 to 2012. Time arrangement information was utilized to look at the idea of causality among the factors. The Johansen Vector Autoregressive (VAR) based co-coordination procedure was applied to analyze the affectability of real economic growth to changes in oil costs and real exchange rate unpredictability over the long haul while the short run to changes in oil expenses and real exchange rate unsteadiness as time goes on while the short run elements was checked utilizing a Vector Error Correction Model (ECM). Results from Augmented Dickey-Fuller (ADE) and PP tests show proof of unit root the



information and Granger pairwise causality test uncovered unidirectional causality from oil costs to real Gross Domestic Product (RGDP). Discoveries of the investigation shows that oil value stun appreciate in the degree of exchange rate apply positive effect on real financial development in Nigeria. It suggests more prominent broadening of the economy through interest in key profitable areas of the economy to prepare for the change of oil value stun and exchange rate instability.

Oriakhi, & Osaze (2013) examined the results of oil value instability on the development of the Nigerian economy inside the period 1970 to 2010. Utilizing quarterly information and utilizing the VAR philosophy. Their investigation found that, of the six factors utilized, oil value instability affected legitimately on real government consumption, real exchange rate and real import, while affecting on real GDP, real money supply and inflation through different factors, strikingly real government expenditure. This suggested oil value changes decide government' expenditure level, which thusly decides the development of the Nigerian economy.

3. Methodology and Empirical Analysis

3.1 Methodology

In this section, we present the methodology and empirical analysis. Nigeria is a member of the Organization of Petroleum Exporting Country (OPEC), distinguished to be vigorously depending on unrefined petroleum trade incomes, speaking to around 90 percent of absolute fare profit and by and large around 70 percent of government incomes in annual budgets for investment, economic growth and prosperity. In rundown a common least square (OLS) is utilized to investigate how varieties in oil cost are related with macroeconomic variables, such as GDP, investment, exchange rate and inflation rate. The control variables were tried for multi-collinearity and remedied. Where multi-collinearity represented an issue irritating variables were dropped as well as supplanted. Also, a stationary test was directed to channel the information of blunders. Since this study deals with time series macroeconomic variables, there is need to test for unit root in each of the variables employed. Similarly, a stationary test was conducted to filter the data of errors. The significance of this gets from the way that estimation within the sight of non-stationarity in variables as a rule prompts one-sided and conflicting assessments of the standard mistakes of the coefficients and this could prompt deceiving derivation if suitable method isn't applied to conquer the issue. The unit root tests are completed utilizing the Augmented Dickey-Fuller (ADF). All the control variables were tried for importance. The specified equation passed through the multiple determination test (R-square) and was also subjected to the Durbin-Watson (DW) test for auto-correlation. In this regard, the model is to decide the connection between oil value stun and chose macroeconomic factors in Nigeria. Consequently, a model is specified following the conjecture of (Sloman and Hinde, 2008; Blanchard, 2004). The model is specified as follows:

$$OPS = \beta_0 + \beta_1 GDP + \beta_2 EXCHR + \beta_3 INFL + \beta_4 INV + \mu$$

Where OPS is the oil price volatility, EXCHR is official exchange rate, INFL is representing inflation i.e. the annual consumer price index growth rate in the economy and INV is the gross capital formation which is domestic investment. β is the regression coefficients or parameters to be estimated and μ is white noise or stochastic error term.

Equation one postulates (hypothesis) that oil price shock is positively related to GDP, exchange rate, investment and inflation rate. The justification for the specification draws from the literature discussed see (Olomola, 2006; Adamu, 2015, and Ani et al. 2014). The annual time series data covering the 1986 to 2017 for the estimation were sourced from CBN Statistical Bulletin and National Bureau of Statistics.



Table 1. Augmented Dickey-Fuller Unit Root Test

Variables	Intercept	Trend	ADF	Order
GDP	-5.99**(1)	-5.915**(1)	-1.671	1
EXCHR	-3.143**(1)	-3.648**(1)	-0.662	1
INLF	-3.463**(1)	-3.356**(1)	-0.357	0
INV	-6.871**(1)	-6.907**(1)	-1.513	1

Source: Authors' computation from E-View version (8.1).

The results of the unit root test in table 1 show that only inflation (INFL) is found to accept the null hypothesis, which implies the variable not stable or non-stationary at levels but stable at first difference. This was confirmed by the test and consequently, the data were considered well enough for estimation purpose.

Table 2. Estimates for Oil Price Shock and Macroeconomic Variables

Regressor	Coefficient	t-value		
Constant	3.033838	1.011310		
OPS	1.113162	13.13016		
GDP	0.156277	-1.820447		
EXCHR	0.036839	-0.659712		
INFL	-0.036394	-0.961049		
INV	0.027940	1.191743		
Summary Statistics				
\mathbb{R}^2	0.970339			
Adj R ²	0.969248			
Dw statistics	1.985119			
F-Statistics	889.8204			

Source: Authors' computation from E-View version (8.1).

Interpretation and Policy Implications

The outcomes revealed that by and large there is a positive relationship between oil price shock and macroeconomic variables considered. The results revealed that in most cases there is a positive connection between oil value stun and macroeconomic factors considered. The results show that OPS is positively related to national product output, investment, what's more, exchange rate but adversely related to inflation rate. The confirms the results obtained in other studies as Oluwatoyin A.M., Adegboye, F. B. (2014); Anshasy*et al.* (2005) that oil price shock is positively related to investment and growth. The measure of the success of the regression in predicting the values of the dependent variable within the sample is reflected by the coefficient of determination that is R square (R^2) and R square Adjusted (R^2) which are 97 and 96%, respectively. It tends to be reasoned that the five regressors in the condition clarified about 96% of the efficient variety in the

tends to be reasoned that the five regressors in the condition clarified about 96% of the efficient variety in the reliant variable (expansion) during the period secured by the examination. The DW Statistics measures for the nearness of autocorrelation in the model. In any case, it is seen that the model is free from autocorrelation since the DW Statistic saw in the model is 1.98 which is around 2. This implies the model is dependable in clarifying the connection among expansion and limit usage in Nigeria. It can be concluded that the five regressors in the equation explained about 96% of the systematic variation in the dependent variable (inflation) during the period secured by the study. The DW Statistics measures for the nearness of autocorrelation in the model. However, it is noticed that the model is free from autocorrelation since the DW Statistic observed in the model is 1.98 which is approximately 2. This means that the model is reliable in explaining the connection between oil value stun and economic development in Nigeria.

Conclusion and Recommendations

The study has discovered that oil value stun is decidedly identified with aggregate output, investment and exchange rate, but adversely related to inflation. This implies that oil price shock promotes investment and output expansion contrary to the theoretical argument that oil price shocks negatively influence economic growth. It also encourages local currency appreciation but not inflationary. The correct policy response to the



oil price shock syndrome or volatility is for economic agents to spend the money for direct productive investment to induce a positive supply response. The government which is the main recipient of the oil money should also implement policies that will offset the tendency for economic depression. High on the rundown of these measures is upgrading financial liberalization, zero level resistance for corruption, fair treatment and transparency, building up an openly working foreign exchange market, and founding non-inflationary monetary and fiscal strategies. A development strategy based on oil price hike alone is bound to fail once the oil price falls significantly. The country should aim at increasing or maintaining higher domestic savings and rely less on oil price hike and external finance. Domestic savings should serve as an alternative and the primary source of funds for economic growth. In this regards, it is essential for the country to build financial system that can mobilize and absorb those savings. Consequently, the reforms of the financial system has to continue so that the financial system can be deepened in the economy.

References

- 1. Adeleke Omolade, Harold Ngalawa & Adebayo, K.L. Charfeddine (2019). Crude oil price shocks and macroeconomic performance in Africa's oil-producing countries. *Cogent Economics & Finance*, 7(1), 45-59. DOI: 10.1080/23322039.2019.1607431.
- 2. AlhassanAbdulkareem and Kilishi, A. Abdulhakeem (2016). Analysing Oil Price-Macroeconomic Volatility in Nigeria. *CBN Journal of Applied Statistics*, 7(1), 35-49. DOI:https://www.researchgate.net/publication/320173354
- 3. Alley, I. Asekomeh, A. Mobolaji, H. &Adeniran, Y. (2014). Oil price shocks and Nigerian economic growth. *European Scientific Journal*, 10(19), 375-391.https://eujournal.org/index.php/esj/article/view/3808
- 4. Ani, W. Ugwunta, D. Oliver, I. & Eneje, B. (2014). Oil price volatility and economic development: Stylized evidence in Nigeria. *Journal of Economics and International Finance*, 6(6), 125–133. https://academicjournals.org/journal/JEIF/article-full-text-pdf/6165B7845627
- 5. Charles, O. M., Felicia, C. A., Jonathan E. O, Okoro, E. U., Aja E., and Kenneth, C. (2019). Oil Price Fluctuation, Oil Revenue and Well-being in Nigeria. *International Journal of Energy Economics and Policy*,9(1), 346-355. https://www.researchgate.net/publication/330074870
- 6. Eltony, M.N. and M. Al-Awadi (2001). Oil price fluctuations and their impact on the macroeconomic variables of Kuwait: a case study using a VAR model. *International Journal of Energy Research*, 25(11), 939-959.https://www.researchgate.net/publication/227500161
- 7. Gummi, U.M., Buhari, A.I., & Muhammad, A. (2017). Oil Price Fluctuations and Economic Growth in Nigeria (Evidence from Granger Causality Test). *Australasian Journal of Social Science*, 3, 1–16. DOI: 10.3923/aujss.2017.1.16.
- 8. Harbor, F. Ifeyinwa and Oleka D. Chioma (2019). Impact of Oil Price Changes on Selected Macroeconomic Variables in Nigeria. *South Asian Journal of Social Studies and Economics*, 4(1), 1-10. DOI: https://doi.org/10.9734/sajsse/2019/v4i130116.
- 9. Hazarika, I. (2015). An Analytical Study on the Impact of Fluctuating Oil Prices on OPEC Economies. *International Journal of Trade*, *Economics and Finance*, 6(3), 161–164. https://org/8877/03212372513.517
- 10. Joseph, C.O., Ogbonna, B.M., andChikeziem, F.O. (2019). Oil Price Shocks and Macroeconomic Variables in Nigeria: A Local Projection Impulse Response Function Approach. *International Journal of Economics, Commerce and Management United Kingdom*, 7(1), p. 43-55. http://ijecm.co.uk/wp-/2019/01/713.
- 11. Lukman, O. Oyelami (2018). Effects of Oil Price Movement on Nigerian Macroeconomic Variables: Evidence from Linear near and Nonlinear ARDL Modeling, *Iranian Economic Review*, 22(4), 908-933. DOI: 10.22059/ier.2018.67849.
- 12. Mathew, E. Rotimi and Harold, Ngalawa (2017). Oil Price Shocks and Economic Performance in Africa's Oil Exporting Countries, *ActaUniversitatisDanubiusEconomica*, 13(5),65-77.https://ideas.repec.org/a/dug/actaec/y2017i5p169-188.html
- 13. Nagmi, M. Aimer (2016). The Effects of Fluctuations of Oil Price on Economic Growth of Libya. *Energy Economics Letters*, 3(2), 17-29. http://www.aessweb.com/pdf-files/EEL-2016-3(2)-17-29.



- 14. Ogundipe, O.M., Ojeaga, .P. &Ogundipe, A. O. (2014). Oil Price and Exchange Rate Volatility in Nigeria Oil Price and Exchange Rate Volatility in Nigeria. *IOSR Journal of Economics and Finance*, 5(4), 1–9. http://www.iosrjournals.org/iosr-jef/papers/Vol5-Issue4/A0540109.
- 15. Olayungbo, D. O. (2019). Effects of Global Oil Price on Exchange Rate, Trade Balance, and Reserves in Nigeria: A Frequency Domain Causality Approach. *Journal of Risk and Financial Management*, 3(2), 23-38.DOI: https://doi.org/10.3390/jrfm12010043.
- 16. Olomola, P.A. (2006). Oil Price shock and aggregate Economic activity in Nigeria. *African Economic and Business Review*, 4(2), 20-34. https://www.semanticscholar.org/paper/OIL-PRICE-SHOCK-AND-AGGREGATE-ECONOMIC-ACTIVITY-IN-Olomola/83879109c79e52615a338021cec526ec76505bad
- 17. Oluwatoyin A.M., Adegboye, F. B. (2014). An Analysis of the Effect of Oil Price Shock and Exchange Rate Instability on Economic Growth in Nigeria. *Scottish Journal of Arts, Social Sciences and Scientific Studies*, 3, 94-107. http://covenantuniversity.edu.ng/2607/#.XksRTzJKjIU
- 18. Omo, A. and Bashir, O. K. (2015). Oil Revenue, Pubic spending and Economic Growth relationships in, Nigeria. *Journal of Sustainable Development*, *3*(3), 113-123. DOI: http://dx.doi.org/10.5539/jsd.v8n3p113.
- 19. Oriakhi, D.E., & Osaze, I.D. (2013). Oil Price Volatility and its Consequences on the Growth of the Nigerian Economy: An Examination (1970-2010). *Asian Economic and Financial Review*, 3(5), 683-702.https://econpapers.repec.org/article/asiaeafrj/2013_3ap_3a683-702.htm
- 20. Uba J. and Umut H. (2019). Oil Price Shocks and Macroeconomic Instability in Nigeria: Evidence from Gvar. *International Journal of Contemporary Economics and Administrative Sciences*, 9(1), 94-118.DOI: https://doi.org/10.5281/zenodo.3262261.