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Oil Revenue Shocks, Revenue Profile and Economic Performance in Nigeria.

Abusomwan Rachael Eloho (Mrs.)[1], Eguasa Beauty Ekiomado (Ph.D)[2].
(B.Sc, M.Sc, ACA, Ph.D In- view)
Lecturer, Department of Accounting Faculty of Social and Management Sciences
Benson Idahosa University
(B.Sc, M.Sc, ACA, Ph.D)
Lecturer, Department of Accounting Faculty of Social and Management Sciences
Benson Idahosa University
Corresponding Author: Abusomwan Rachael Eloho (Mrs.)

Abstract: *The focus of the study is examine the effects of oil price shocks on revenue stability and economic performance in Nigeria. The study employed a time series research design with extensive reliance on secondary data sourced from Central bank of Nigeria statistical bulletin spanning the period from 1994-2017. Contemporary time series econometrics techniques such as the unit root testing, vector autoregressive model (VAR), impulse response functions and variance decompositions were employed in the estimation of the data. The findings of the study reveals that initially, public expenditure appears to maintain it stability as it appears that other revenue sources may be able to shield it from the effects of oil revenue shocks in the short-run. This is threatened over time as oil revenue shocks takes it away from stability resulting in a very adverse decline. With respect to GDP, it is observed that oil revenue shocks does not have an immediate adverse effect in the initial stages. In the long run, GDP begins to drift into the negative region and this is maintained till the end of the period horizon. With respect to government tax revenue, the effects of oil revenue shocks is initially non-destabilizing, however in the long run a sharp decline into the negative region is observed and this appears to persist to the end of the period. On the overall, the impulse-response results show that oil revenue shocks have significant destabilizing influence on economic performance, public expenditure and government revenue in the long run. The key recommendation is the need for the economy to be less dependent on oil revenues and diversified to drive sustainable growth and development.*

Key Words: *Oil revenue shocks, Economic Performance, Government Revenue*

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I. Introduction

The oil rich developing economies are hard hit by the burst of the crude oil price bubble at the international market. This has created agitation on how the countries who are key players would respond economically to the shocks in the short and long-run. According to Dizaji (2012), oil price shocks are price fluctuations arising from either the changes in supply or the demand of the international oil market; so being a global commodity, the price of oil affects the global market, which by implication then affects economies. Fiscal volatility has been higher for resource-dependent economies than those whose fiscal policies are less dependent on export revenues and this implies that the non-oil sectors in most of Oil dependent economies are not well developed to contribute to growth of the fiscal balance. Fiscal balance would continue to be volatile if countries depend on oil revenue and fail to diversify their economic base. Nigeria is one of the countries heavily affected by the sharp decline in the revenue vis-à-vis the fall in the price of crude oil. It is recalled that, over the years, oil revenues are the main source of financing government expenditures and for importation of products to the country. Specifically, on average, 85% of government revenues come from oil export (Adedokun 2018). As such, the budget is usually affected by sudden negative or positive shocks to the oil prices. Oil revenue shocks would usually influence macro-economic performance through a number of channels. Oil prices transfer financial reserves from oil importing countries to oil-exporting countries through its trade. Increased oil prices decrease industry productivity through higher costs of manufacture and raised inf lation. It is empirically established that oil price is one of the most volatile prices which has significant impact on macroeconomic behavior of many developed and developing economies (Guo & Kliesen, 2005). Further, Salisu and Fasanya (2013) found volatility clustering and confirm the existence of asymmetries in oil price volatility.

Therefore, the dependence of the Nigerian economy on oil proceeds as the major source of revenue is capable of raising suspicion about the impact of oil price volatility on macroeconomic volatility in the country.

Macroeconomic volatility implies the vulnerability of macroeconomic variables to shocks. It is the tendency of macroeconomic variables such as GDP, expenditure, government revenue e.t.c to be unstable and weak in terms of withstanding shock. It is a situation whereby little shock in the economy subjects the macroeconomic variables to fluctuations and uncertainty. Many resource-rich countries run negative fiscal balance despite rising oil exports. The sharp fall in oil prices brings about the question of what are consequences of lower prices for oil dependent economies and how they could attain or reach sustainable development In the light of this, many studies investigated the impact of oil price and revenue changes on macroeconomic variables in Nigeria (Olowe, 2009, Adeniyi, 2011; Taiwo, Abayomi & Damilare, 2012; Omojolaibi, 2013; Apere & Ijiomah, 2013; Wilson, David, Inyiama & Beatrice, 2014) the methodologies employed and the findings have been quite varied regarding the short and long run dynamic of oil revenue shocks on macro-economic outcomes and hence the need to also revisit the issue. The objective of the study is to examine the dynamic reactions of GDP, government revenues and expenditure to oil revenue shocks in Nigeria. The paper is divided into the following sections; section 1 is the introductory section, section 2 examines the literature review and the methodology and models presented in section 3. Section 4 addresses the presentation and analysis of the result and section 5 is the conclusion and recommendations.

II. Literature Review

Asab (2017) examine the asymmetric effect of oil price shocks on economic activity in Jordan, proxied by industrial production growth. Data pertaining to the Jordanian IP quantity index that measures the real production output of manufacturing, mining and quarrying sectors are obtained from the statistical database of the central bank of Jordan. The results suggest that positive oil shocks have a negative and significant effect on growth, while oil price declines have no impact on growth, explaining that drops in oil prices are not necessarily an incentive for industrial growth in oil-importing countries.

Rotimi and Ngalawa (2017) in assessing the transmission processes of oil price shocks and how it impacts economic performance within the monetary framework of the Africa's net oil exporting economies the recently developed Panel Structural Vector Auto-regressive (P-SVAR) estimating technique was applied, covering the period from 1980-2015. They 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 also that transmission of oil price ensues monetary medium.

Mathenge (2017) examine the impact of oil price shocks on inflation, exchange rates and economic growth. The data used was sourced from Kenya National Bureau of Statistics (KNBS) and World Bank sources. Several tests were carried out on the variables used, which include normality tests, Augumented Dickey Fuller tests, Philip Perron tests and co-integration tests. The analysis of the results shows that crude oil prices have short term impact economic growth, inflation and exchange rates in Kenya. It explains that increase in crude oil prices puts an upward pressure on the cost of production across the various sectors of the economy, which in turn lowers productivity and increases overall price level thereby creating high inflation. The results also reveal that sustained increase in oil prices have a higher negative impact on macroeconomic performance. That positive effect yielded when the price of oil falls.

Boheman and Maxen (2015) analyze the impact of oil price shocks on economic growth of net-oil exporting countries to ascertain whether economic growth in the Organization of Petroleum Exporting Countries is more sensitive to oil price shocks than the economic growth of other exporting countries. The study covers 19 oil exporting countries, 11 of which are under OPEC, using the real gross domestic products and annualized world oil price deflated by the all urban consumer price index. It involved the Augumented Dickey-Fuller test and the Im, Pasaran and Shin test, using the bivariate vector auto-regressive models. The results show a positive relationship explaining that a 1% increase the change of the oil prices will increase the GDP growth rate by 0.145% for countries under OPEC, and 0.141% increase for non-OPEC countries.

Berument, Ceylan and Dogan (2010) examine how oil price shocks affect the output growth of selected Middle East and North African (MENA) countries that are considered either net exporters or net importers of this commodity, but are too small to affect oil prices. 16 countries from the Middle east and North Africa were selected for the study, and their real GDP figures ranging from 1952-2005 were used for the econometric analysis. The estimates suggest that oil price increases have a statistically significant and positive effect on the outputs of Algeria, Iran, Iraq, Kuwait, Libya, Oman, Qatar, Syria, and the United Arab Emirates. However, oil price shocks do not appear to have a statistically significant effect on the outputs of Bahrain, Djibouti, Egypt, Israel, Jordan, Morocco, and Tunisia. As they further decompose positive oil shocks such as oil demand and oil supply for the latter set of countries, oil supply shocks are seen to be associated with lower output growth but the effect of oil demand shocks on output remain positive.

Nchor, Klepac and Adamec (2016) investigate the dynamic relationship between oil price shocks and macroeconomic variables in the Ghanaian economy. This was achieved through the use of Vector

Autoregressive (VAR) and Vector Error Correction (VECM) models. The study points out the asymmetric effects of oil price shocks; for instance, positive as well as negative oil price shocks on the macroeconomic variables used. Positive oil price shocks account for about 5% of imports, 6% of industry value added, 17% of inflation and 2% of the real effective exchange rate in the long run. Negative oil price shocks account for about 20% of imports, 8% of inflation and 2% of the real effective exchange rate in the long run.

Brini, Jemmali and Farroukh (2016) analyze the impact of oil price shocks on inflation and the real exchange rate in a set of oil importers and exporters MENA countries: Tunisia, Morocco, Algeria, Bahrain, Saudi Arabia and Iran (MENA-6) using a Structural VAR model. The study covers the period from January 2000 to July 2015. The impulse response functions reveal that, in the long run, oil price fluctuations have the major impact on real exchange rate of the oil-importing countries (Tunisia and Morocco), while the impact on inflation is smaller and absorbed by the rigidity of subsidized products prices. The variance decomposition results also assert that oil price shocks do not explain notably the variation in the two considered variables in Algeria and Iran.

Monesa and Qazi (2013) investigate the effects of oil price shocks on economic growth of oil exporting countries. They examine the impacts of oil price shocks on GDP growth, inflation, investment and the exchange rate of six OPEC economies using annual data from 1980 to 2013. The study uses Augmented Dickey Fuller (ADF) to establish Stationarity of the time series and applies Vector Autoregressive (VARX) model with Ordinary Least Squares (OLS) model to estimate the effects of oil price shocks on economic growth of the six OPEC countries during the research period. The results of the study indicates a statistically significant negative impact of oil shock on GDP growth of Algeria, a statistically significant positive impact of oil price shock on GDP growth of Venezuela, a statistically significant positive impact of oil shock on inflation rate of Iran and a statistically significant negative impact of oil shock on inflation rate of Venezuela, whereas, results for rest of the variables and countries were found statistically insignificant.

Ibrahim, Ayodele, Hakeem and Yinka (2014) examine the impact of oil price shocks on the Nigerian economy and on government expenditure by employing the general methods of moment (GMM), using data from 1981 to 2012 which were sourced from Energy Information Administration; National Bureau of Statistic, Nigeria and the Central Bank of Nigeria. After appropriate robustness checks, the study revealed out that oil price significantly affect economic growth in all the estimations at conventional levels, while on the other hand, oil price shock negatively affects the economy. This may be explained from the impact on the government budget explaining that oil price shocks often destabilize government fiscal operations; while negative shock may result in cut in planned government expenditures, positive shocks may overheat the economy as government may expand its fiscal operations to mop up the excess revenues.

Nchor, Klepac and Adamec (2016) investigate the dynamic relationship between oil price shocks and macroeconomic variables in the Ghanaian economy. This was achieved through the use of Vector Autoregressive (VAR) and Vector Error Correction (VECM) models. The variables considered in the study include: real oil price, real government expenditure, real industry value added, real imports, inflation and the real effective exchange rate. The empirical findings of this study suggest that both linear and nonlinear oil price shocks have adverse impact on macroeconomic variables in Ghana. Positive oil price shocks are stronger than negative shocks with government expenditure.

Aremo, Orisadare and Ekperiware (2012) in a study examine, using structural vector autoregression (SVAR) methodology, the effects of crude oil price fluctuations on two major key fiscal policy variables (government expenditure (GEXP) and government revenue (GREV)), money supply (MS2) and GDP. The results showed that oil prices have significant effect on fiscal policy in Nigeria within the study period of 1980-2009. The study also revealed that oil price shock affects GREV and GDP first before reflecting on fiscal expenditure. The study suggests strongly that diversification of the economy is necessary in order to minimize the consequences of oil price fluctuations on government revenue, by implication government expenditure planning in the country.

Dizaji (2012) investigate the dynamic relationship between government revenues and government expenditures in Iran as a developing oil export based economy, and also to examine the response of government expenditure and revenue to oil price (revenue) shocks. To reach the purposes of this study some helpful econometrics techniques such as vector autoregression model (VAR), vector error correction model (VECM) and structural vector autoregression model (SVAR) and some useful tools on these techniques such as impulse response functions and variance decomposition are used. The findings showed that, the shocks to oil prices and consequently oil revenues mostly affect the government current expenditures rather than its capital expenditures. Also stating over 77% variations in government revenue in the first quarter was traced to the shocks in oil prices indicative of the fact that the government revenue was over dependent on oil revenue.

Adedokun (2018) in a study using data from 1981 to 2014, investigate the effects of oil shocks (price and revenue) on the dynamic relationship between government revenues and government expenditures in Nigeria and how it transmits effects on major macroeconomic variables using structural VAR (SVAR) on key

variables, and also employed unrestricted VAR and Vector Error Correction (VEC) Models on expanded number of variables. The results of SVAR show that oil price shocks could not predict the variation in government expenditure in the short-run, while the predictive power of oil revenue shocks is very strong both in the short-run and in the long run. The VAR and VECM also substantiate the results of SVAR and provide further insight which shows that short-run fiscal synchronization hypothesis is evidenced between the oil revenues and total government expenditures, while spend-tax hypothesis exists in the long-run between total expenditures and total revenues.

Ekesiobi, Oguanobi, Mgbemena and Ugwunna (2016) investigate the empirical relationship between external shocks and government revenue in Nigeria using co-integration approach and error correction mechanism (ECM). The result of the study confirms a long run relationship between government revenue and the explanatory variables (oil revenue, government expenditure, tax revenue, terms of trade shock and exchange rate). The significance of external shocks and its negative sign shows that external shocks exert substantial pressure and uncertainty on government revenue in Nigeria. The coefficient of oil revenue and its significance also is an indication that oil revenue remains the main determinant of government revenue in Nigeria.

2.4. Theoretical Framework

The Linear/Symmetric relationship theory of growth

The theory backing this study is the linear /symmetric relationship theory of growth. The theory which has as its proponents, Hamilton (1983), Gisser (1985), Goodwin (1985), Hooker (2002) and Laser (1987). Postulated that, volatility in economic performance is driven by oil price volatility. They hinged their theory on the happenings in the oil market between 1948 and 1972 and its impact on the economies of oil-exporting and importing countries respectively. Hooker (2002), after a rigorous empirical studies demonstrated that, between 1948 and 1972 oil price level and its changes exerted influence on GDP growth significantly. Laser (1987), who was a late entrant into the symmetric school of thought, confirms the symmetric relationship between oil price volatility and economic growth. After an empirical study of her own, she submitted that an increase in oil prices necessitates a decrease in GDP. While the effect of an oil price decrease on GDP is ambiguous, due to the varied effects in different countries. The Asymmetry-in-effects theory of economic growth used the U.S economy as a case study. The theory posits that the correlation between crude oil price decreases and economic activities in the U.S economy is significantly different and perhaps zero.

III. Methodology

The nature of this study necessitates the use of a time–series research design and an extensive reliance on secondary data. The data which include selected macroeconomic variables were sourced from the Central Bank of Nigeria (CBN) statistical bulletins, for the period 1994-2017. The method of data analysis utilized in the study involves several econometric applications often used in most contemporary economic time-series studies. First, the unit root test was applied to examine the stationarity condition of the variables in a time–series analysis. In this study we adopted the Dickey-Fuller (DF) and Augmented Dickey-Fuller (ADF) statistics to test for stationarity of the data. Next, we conducted the VAR estimation and then the impulse response and variance decomposition followed.

Model Specification

Since the early eighties, VAR models have become the standard tool to analyse macroeconomic policy and are found to be more successful in predicting economic relationships than the complex structural macro econometric models (Bahovec & Erjavec, 2009). The Vector Autoregressive Model can be expressed as,

$A_O y_t = a_o \sum_{i=1}^{p} A_i y_{t-1} + e_t$ ----------(1)

Accordingly the baseline VAR model with p lags VAR(P) is specified in its reduced form as:

$Y_t = a_0 + a_1(t) + A_1 Y_{t-1} + A_2 Y_{t-2} + \cdots + A_p Y_{t-p} + e_t$ ---------- (2)

where a_0 is the ($k \times 1$) vector of constants; $a_1(t)$ is a ($k \times 1$) vector of linear time trend;

t=1,…T; A_i are (k x k) coefficient matrices, K being the number of endogenous variables in the system and Y_t= $(OILREV, GDP, GREV, e)$ is the vector of endogenous variables. The K x 1 vector $e_t = (e_t^{OILREV}, e_t^{GDP}, e_t^{GREV},)$ consists of reduced form residuals ordered with their corresponding observed endogenous variables in vector Y_t. Furthermore, each residual is a mean zero white noise process that is serially uncorrelated, i.e., $e_t \sim N(0, \varepsilon_\mu)$. In order to get the reduced form of our structural model (2) we multiply both sides with A_0^{-1} such as that:

$y_t = a_o \sum_{i=1}^{p} B_i y_{t-1} + e_t$ ---------- (3)

where, $\mathbf{a}_0 = \mathbf{A}_0^{-1}\mathbf{c}_0$, $\mathbf{B}_i = \mathbf{A}_0^{-1}\mathbf{A}_i$, and $\mathbf{e}_t = \mathbf{A}_0^{-1}\boldsymbol{\varepsilon}_t$, i.e. $\boldsymbol{\varepsilon}_t = \mathbf{A}_0\mathbf{e}_t$. The reduced form errors $\mathbf{e}_t$ are linear combinations of the structural errors $\boldsymbol{\varepsilon}_t$, with a covariance matrix of the form $E\left[\mathbf{e}_t\mathbf{e}_t^{'}\right] = \mathbf{A}_0^{-1}\mathbf{D}\mathbf{A}_0^{-1'}$.

The structural disturbances can be derived by imposing suitable restrictions on $\mathbf{A}_0$. The short-run restrictions that are applied in this model as the following:

$$\begin{bmatrix} \varepsilon_t^{OILREV} \\ \varepsilon_t^{GREV} \\ \varepsilon_t^{GDP} \end{bmatrix} = \begin{bmatrix} \alpha_{11} & 0 & 0 & 0 \\ \alpha_{21} & \alpha_{22} & 0 & 0 \\ \alpha_{31} & \alpha_{32} & \alpha_{33} & 0 \end{bmatrix} \text{X} \begin{bmatrix} e_t^{OILREV} \\ e_t^{GREV} \\ e_t^{GDP} \end{bmatrix}$$

This study adapts the procedures in Dizaji (2014) as defined for the structure of oil dependent Iranian economy. The condition for the modelling the oil dependent Iran is identical to the current circumstances in the Nigerian economy. In Nigeria, oil revenue and government spending respond to oil price shocks, while government expenditure equally responds to oil revenue shocks.

Where;

(ε_t^{OILREV} ε_t^{GREV}, , ε_t^{GDP},) denote the shocks in oil prices performance, Government revenue and GDP respectively. Furthermore, $(e_t^{OILREV} e_t^{GREV}, e_t^{GDP},)$ consists of reduced form residuals ordered with their corresponding observed endogenous variables in vector Y_t. Our restrictions and indentication of the VAR model is based on the recursive approach using Cholesky decomposition that decomposes a given positive definite matrix. Variance decompositions (VDCs) and impulse response functions (IRFs) derived from vector autoregression (VARs) approach are also used.

IV. Presentation And Analysis Of Result

4.1 Unit root test

Generally, unit root test involves the test of stationarity for the variables used in the regression analysis. The augmented Dicky Fuller (ADF) test is employed in order to analyse the unit roots. Table 4.1 presents the results of the ADF test in levels without taking into consideration the trend of the variables. The reason for this is that an explicit test of the trending pattern of the time series has not been carried out. The result indicates that all of the variables at levels, have ADF values that are less than the 95% critical ADF value of 2.96 except for INTR. Moving forward, we take the first differences of the respective variables and perform the unit root test on each of the resultant time series. The result of the unit root test on these variables in first differencing shows that the ADF values in absolute terms is greater than the 95% critical ADF values. With these result, these variables are adjudged to be stationary.

Table 4.1. Unit root test Results

Unit root test at levels			
Variable	ADF-Test Statistic	95% Critcal ADF Value	Remark
OILREV	-0.6238	-2.96	Non-stationary
GDP	-2.106	-2.96	‘’
PEXP	-3.092	-2.96	Stationary
TTR	-1.728	-2.96	Non-stationary
Unit root test at 1st difference			
Variable	ADF-Test Statistic	95% Critcal ADF Value	Remark
OILREV	-4.419	-2.96	Stationary
GDP	-20.408	-2.96	‘’
PEXP	-5.918	-2.96	‘’
TTR	-6.664	-2.96	‘’

Source: Source: Researchers Compilation (2018)

4.2. Lag length Selection

To obtain a reasonable conclusion, the selection of lag length is a key determinant factor to establish the appropriate VAR model. According to the criteria selection output in Table 4.1, different lag lengths are

indicated for each county. A lag length of 3 is used as the optimal lag length since it has the highest value of likelihood ratio (LR) LR and lowest information criteria (IC)

Table 4.2: Lag length selection

VAR Lag Order Selection Criteria						
Endogenous variables: PEXP GDP OILREV TTR						
Lag	LogL	LR	FPE	AIC	SC	HQ
1	-14.0464	NA	0.000209	2.861559	3.657385	3.034273
2	3.91929	22.24319	0.0002	2.674353	4.266007	3.019783
3	36.94798	28.31030*	6.29e-05*	1.052574*	3.440053*	1.570718*

Source: Researchers Compilation (2018)

* indicates lag order selected by the criterion

LR: sequential modified LR test statistic (each test at 5% level) FPE: Final prediction error AIC: Akaike information criterion, SC: Schwarz information criterion, HQ: Hannan-Quinn information criterion

4.3 Impulse Response Functions

The impulse responses show the path of all economic performance measured by GDP, Public expenditure (PEXP) and Government revenue (TTR) when there are innovations in oil revenue. The figures below show four panels of impulse response graphs indicating how innovations in oil revenue affect economic performance, public expenditure and government revenue over a period of 12 quarters. Table 4.4 displays the responses of all variables in the VAR to innovations in oil revenue. As observed, PEXP used appears to maintain it stability beginning from the first quarter and even up to the 4th quarter. This may suggest that other revenue sources from non-oil areas, foreign aids, government saving and debt may be able to shield PEXP from the effects of oil revenue shocks in the short-run but this may be threatened over time as oil revenue shocks takes PEXP away from stability resulting in a very adverse decline in PEXP and this trend is observed to persist into the end of the period. With respect to GDP, it is observed that oil revenue shocks appear does not have an immediate adverse effect on the economy but on the contrary, the effect is positive suggesting that the effects of revenue shocks may not show up negatively in the economy in the initial stages up till the 8^{th} quarter where GDP begins to drift into the negative region and this is maintained till the end of the period horizon showing a tendency for asymptotic disequilibrium. With respect to government tax revenue, the fluctuations observed resulting from oil revenue shocks seem to be quite benign and initially non-destabilizing again highlighting the justification for alternative revenue sources such as growing non-oil revenue profile in Nigeria. However, this is maintained up till the 8th quarter where a sharp decline into the negative region is observed and this appears to persist to the end of the period.

On the overall, the impulse-response results show that oil revenue shocks have significant destabilizing influence on GDP, PEXP and TTR in the long run. The findings here are generally in line with Asab (2017) results which identify that oil shocks have a negative and significant effect on growth. Rotimi and Ngalawa (2017) result also agreed 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. Mathenge (2017) that sustained increase in oil prices have a higher negative impact on macroeconomic performance that positive effect yielded when the price of oil falls. Boheman and Maxen (2015) Berument, Ceylan and Dogan (2010) for selected Middle East and North African (MENA) identified that oil supply shocks are seen to be associated with lower output growth but the effect of oil demand shocks on output remain positive. Monesa and Qazi (2013) results indicates a statistically significant negative impact of oil shock on GDP growth. Ibrahim, Ayodele, Hakeem and Yinka (2014) oil price shock negatively affects the economy, this may be explained from the impact on the government budget explaining that oil price shocks often destabilize government fiscal operations. Aremo, Orisadare and Ekperiware (2012) results showed that oil price shock affects revenue and GDP first before reflecting on fiscal expenditure. Dizaji (2012) show that the shocks to oil prices and consequently oil revenues mostly affect the government current expenditures rather than its capital expenditures. Adedokun (2018) show that oil price shocks could not predict the variation in government expenditure in the short-run, while the predictive power of oil revenue shocks is very strong both in the short-run and in the long run. Ekesiobi, Oguanobi, Mgbemena and Ugwunna (2016) opine that oil revenue remains the main determinant of government revenue in Nigeria.

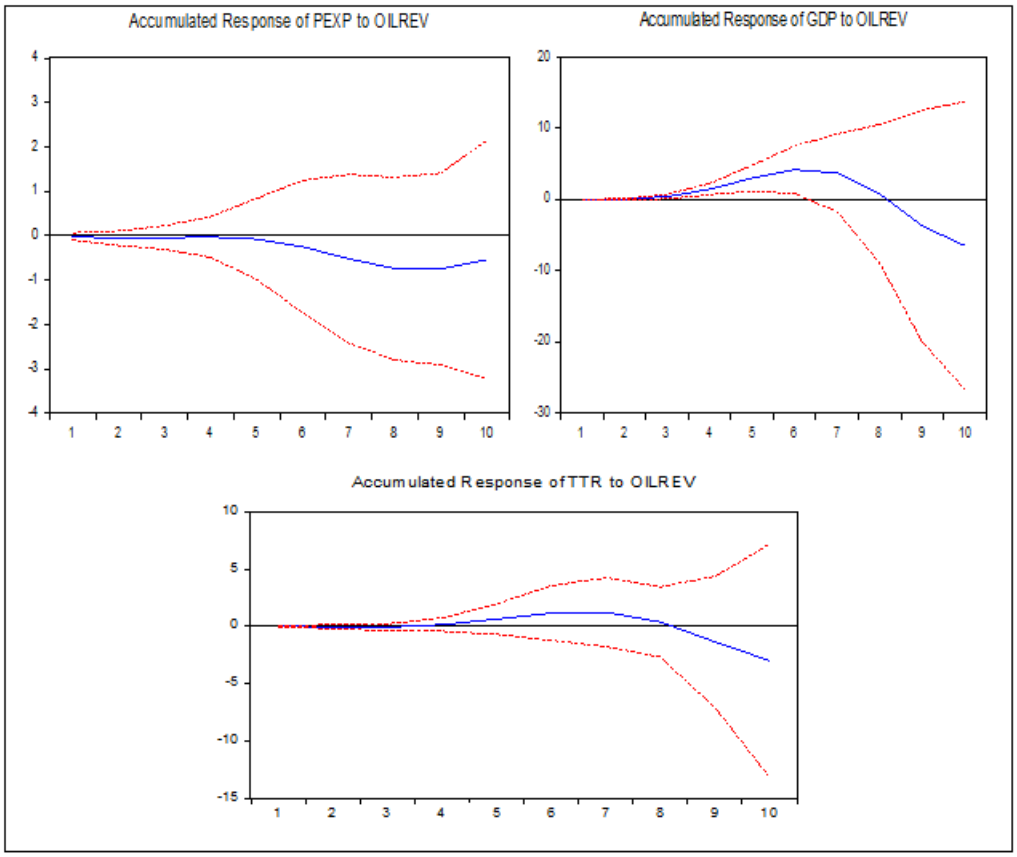

Table 4.3. Impulse-response Functions

Source: Researcher's computation (2018)

4.4. The variance decomposition

Table 4.4 presents the variance decomposition for ten years' forecasts in unrestricted VAR model. Meanwhile, the variance decomposition for GDP shows that the variable explains 100 and 91.884 in the 1st and 2nd years but after that as expected, oil revenue then begins to account for the highest variations in GDP with 43.29% in the 3rd year and then grew to 785.34% in the 4th year and then 79.13% and 74.74% in the 5th and 6th year respectively an then 72.96% in the 10th year. This is a clear demonstration of high dependency of the economy on oil revenues and the precedence is retained throughout the ten years. The substantial variations in the PEXP is explained by its own trend with for the first 7 year and after that we observe that the proportion of variations explained by oil revenue becomes stronger and more significant. Meanwhile, as expected trend of total revenues has declining predictive power over itself and giving way for oil revenue in explaining a huge proportion of revenue in the long run. Comparing the values of 68.88% and 78.42% in the 7th and 8th period for oil revenue to 9.31% and 8.14% for its own self and then 74.65% and 74.98% for oil revenue and 9.16% and 8.00% for its own self and this suggest that oil revenue accounts considerable for variations in government revenue profile.

Table 4.4: Variance Decomposition

Variance Decomposition of GDP	Period	S.E.	GDP	OILREV	PEXP	TTR
		0.204371	100	0	0	0
	2	0.352834	91.88432	0.171444	2.45551	5.48873
	3	0.608022	43.29809	43.03015	0.889945	12.78181
	4	1.223931	11.37842	75.34211	0.78896	12.4905
	5	1.809136	5.208327	79.12936	2.375692	13.28663
	6	2.001997	4.370206	74.73543	4.835823	16.05854
	7	2.13713	7.266654	71.6901	5.57453	15.46871
	8	2.603222	15.22772	70.4807	3.758003	10.53358
	9	2.82246	26.23932	60.41367	3.418979	9.928025
	10	4.10466	15.06453	72.96995	1.710436	10.25508
Variance Decomposition of **PEXP**:						
	1	0.198935	8.485112	0.630241	90.88465	0
	2	0.230389	6.619487	3.894572	89.45363	0.032315

3	0.267296	4.92821	3.289935	91.70986	0.071996
4	0.288153	5.829188	3.072066	91.02959	0.069155
5	0.311791	6.187895	4.811456	88.7542	0.246447
6	0.378163	4.56049	24.80081	68.74974	1.888966
7	0.492985	2.690238	44.69263	48.47003	4.147101
8	0.572695	1.999129	48.25521	43.85001	5.895652
9	0.598486	2.43593	44.20069	46.73932	6.62406
10	0.660199	6.603192	46.82325	41.00808	5.565473
Variance Decomposition of TTR:					
1	0.237549	3.972562	0.025673	25.96847	70.0333
2	0.340866	13.37117	0.913416	47.70048	38.01493
3	0.376447	10.98798	0.976929	56.41608	31.619
4	0.460281	9.00471	22.46074	47.0622	21.47235
5	0.535964	13.09931	33.88979	36.70726	16.30364
6	0.566404	16.40442	34.24584	34.44407	14.90567
7	0.917192	6.280207	68.88718	15.51471	9.3179
8	1.43341	3.329795	78.42793	10.09778	8.144492
9	1.622079	3.244957	74.64988	12.93524	9.169919
10	1.746542	3.22737	74.98242	13.78659	8.003618

Source: Researcher's computations (2018)

V. Conclusion And Recommendation

The implications of oil revenue volatility for oil dependent economies is huge and is a serious issue of concern. This is even exacerbated by the fact that a good number of such economies after several decades are still finding it difficult to diversify the economy from oil and create a more diversified revenue base that can drive growth and inclusive development. One of the known features of global oil prices and by implication oil revenues is the volatility that comes with it and to the extent that oil dependent economies like Nigerian remain undiversified, oil price and revenue volatility will definitely be transmitted to mainstream macro-economic variables as the Nigerian budget in itself is hinged on predicated oil revenue based on per-barrel prices of crude in the global oil market. The aim of the study is examine the impact of oil revenue shocks on gross domestic product performance and government fiscal dimensions. Using the Variance autoregressive model (VAR), the impulse responses results shows that initially Pfandbrief Performance Index (PEXP) appears to maintain it stability as it appears that other revenue sources may be able to shield PEXP from the effects of oil revenue shocks in the short-run but this may be threatened over time as oil revenue shocks takes PEXP away from stability resulting in a very adverse decline in PEXP. With respect to GDP, it is observed that oil revenue shocks does not have an immediate adverse effect in the initial stages but in the long run, GDP begins to drift into the negative region and this is maintained till the end of the period horizon. With respect to government tax revenue, the effects of oil revenue shocks is initially non-destabilizing, however in the long run a sharp decline into the negative region is observed and this appears to persist to the end of the period. On the overall, the impulse-response results show that oil revenue shocks have significant destabilizing influence on GDP, PEXP and TTR in the long run. The key recommendation is the need for the economy to be less dependent on oil revenues and diversified to drive sustainable growth and development.

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