IMPACT OF CRUDE OIL ON NIGERIA'S FISCAL POLICY FORMULATION

Apere, Thankgod Oyinpreye, *PhD*
Department of Economics,
Niger Delta University, Wilberforce Island
Bayelsa State, **NIGERIA**

ABSTRACT

This research empirically investigated crude oil and fiscal policy in Nigeria with annual secondary time series data over the period 1980:1 to 2015:4 obtained from the Central Bank of Nigeria (CBN) statistical bulletin 2015, edition. The vector auto regression (VAR) model was used as data analysis technique. Firstly it was observed that all the variables were stationary, using the Phillip-Perron unit root test, and having determined the stationarity of the variables we further employed the Lag length selection of which the fifth lag was selected; and VAR stability tests result which affirmed that VAR model is dynamically stable and useful for policy analysis. VAR LM test for serial correlation indicates that the model has no serial correlation problem. While the granger causality test reveal that there exists a bi-directional relationship between natural gas and fiscal policy; oil revenue and a unidirectional causality between crude oil and fiscal policy notably government total expenditure. The impulse response function and Forecast Error Variance Decomposition results shows that oil shocks exert noticeable influence on Nigeria fiscal policy through fiscal channel of government expenditures that are funded by oil revenues. Also the impact of crude oil and natural gas on innovations in fiscal policy shock was positive from the first, second, third forecast periods and was steady throughout and did not die out in the long run. This study therefore recommends that resources should be devoted by the government to developing the non-oil sector such as the manufacturing, agriculture and the service sector. The Nigerian government should continue in the safe guiding oil installations as well as transnational oil companies should collaborate with the government and oil communities in securing oil installations through various empowerment techniques.

Keywords: Fiscal policy shock, Macroeconomic policy, Government expenditure, Crude oil revenue, Natural gas.

INTRODUCTION

Government policies in recent time have engendered economic growth, this manifested in the robust gross domestic product which has placed Nigeria as the fastest growing economy in Sub-Sahara Africa. Over the years Government have embarked on various macroeconomic policies in relation to the growth of the oil sector, fiscal policy is one of such policies. The massive increase in oil revenue as an aftermath of the Middle-East war of 1973 created unprecedented, unexpected and unplanned wealth for Nigeria. Then began the dramatic shift of policies from a holistic approach to benchmarking them against the state of the oil sector. Now, in order to make the business environment conducive for new investments, the government began investing the newfound wealth in socio-economic infrastructure across the country, especially in the urban areas. As well, the services sector grew. The relative attractiveness of the urban centres made many able-bodied Nigerians to migrate from the hinterland, abandoning their farmlands for the cities and hoping to partake in the growing and

prosperous (oil-driven) urban economy. This created social problems of congestion, pollution, unemployment and crimes.

The development of a seven year National Development Plan (1962-1968) is as a result of the nationalistic fervor that followed the attainment of independence in 1960. The plan was geared towards developing the Nigeria economy quickly through industrialization by adopting the import substitution strategy. However this plan was distorted by the civil war. The disruptions to economic activities meant huge investments in infrastructure by the Federal Military Government as well as gave way to broad economic policies for reunion and reconstruction. As Nigeria gradually settled into normal economic activities, the first major economic policy of the 1970s was introduced. This was the Udoji Commission's comprehensive review and evaluation of jobs in the public service, which led to new pay and benefits structure, representing the first policy impact of the oil wealth. This changed the consumption habit of the average Nigerian, considered prosperous and able to afford most of the quality things of life.

Notably there was no concrete economic programme that would do any of the two important growth triggers in Nigeria: Small and Medium Scale Enterprises (SMEs) in the non-oil sector and entrepreneurial ability of the typical resilient Nigerian lead to the Indigenization Decree in 1974 and 1977, the latter more comprehensive and far-reaching. The policy sought to put the commanding heights of the Nigerian economy in the hands of Nigerians within the context of nationalism. Several foreign investors divested from Nigeria, not by choice, but because of the policy that made it impossible for them to own certain ventures 100%, or not more than 60% or 40% as the case may be. It was in the process of implementing this policy that oil became a major revenue earner and the policy fundamentals changed. As oil revenue ballooned in 1973/1974, the Nigerian Government embarked on several ambitious and expensive projects, having little or no economic value. By 1978, there was a downturn in oil earnings as crude oil prices dipped in the international markets and the first major economic policy, labeled Belt Tightening, was introduced by Obasanjo military government. Following closely in 1979, Nigeria resorted to the international capital markets to raise external loans (commonly referred to as the "jumbo loans") to fund development projects that were hard to place (Adedipe, 2004,).

The recommendations of the Onosode Commission on pay structure in Government parastatals were adopted in 1981 and further increased salaries and benefits in several public institutions whose responsibilities were considered unique and more complex than the ordinary civil service. The Economic Stabilization Act of 1982, which was the response of the Shagari's civilian administration to dwindling oil earnings and major external sector imbalances and the Structural Adjustment Programme (1986-1988) by Babangida's military administration, with the active support of the World Bank. This was Nigeria's first bold step on wide-ranging reforms in almost all the major sectors of the economy. It recorded some significant gains for the first two years, but suffered a setback when certain aspects of it were reversed and inconsistencies (internal and sectoral) became prevalent with three major economic policies in the 1980s (Adedipe, 2004). This decade might be described as a period of reversals and lost opportunities. The series of reforms and reversals of the late 1980s took its toll on the real sector of the economy and the effects were transmitted to the financial system. This was also the period Nigeria experienced some windfall gains from the strong oil prices as a result of the Coalition Forces/Iraqi war of 1990. The experimentation with deregulation and liberalization was truncated in 1994 with the advent of the military administration led by late Gen Sani Abacha. The Federal Government re-regulated the

economy, by capping exchange and interest rates. It was an obvious reaction to the high nominal interest rates that reached 78% in commercial banks and 180% p.a. in the non-bank financial services sector. These rates were themselves driven by the high rate of inflation – at 44.8% in 1992 and 57.2% in 1993.

It sets specific goals in major growth indices as wealth creation, employment generation, institutional reforms and social charter. But by 2007 the Fiscal Responsibility Act, 2007 was enacted upon which platform all policies of government are currently being conveyed. The Act is to provide for the prudent management of the Nation's Resources, ensure Long-Term Macro-Economic stability of the National Economy, secure greater accountability and transparency in fiscal operations within the Medium Term Fiscal Policy Framework, and the establishment of the Fiscal Responsibility Commission to ensure the promotion and enforcement of the Nation's Economic objectives; and related matters (Adedipe, 2004).

LITERATURE REVIEW

In oil exporting countries government finance is heavily dependent on the oil sector. Hence government revenues tend to be highly volatile, and will eventually dwindle and dry up in the future. In addition, oil price shocks tend to be persistent and the oil price cycles are highly unpredictable (Cashin, Liang and McDermott 1999; Cashin, McDermott and Scott 1999; Hausmann et al 1993; Engle and Valdes 2000). These characteristics make fiscal management more challenging in such countries and have very important implications for their growth performance. In such circumstances, the oil price volatility can be transmitted to the economy through the large fluctuations in government revenues. The uncertainty about future oil revenues and the variability of such revenues would result in changes in spending as the government reassesses its expected revenue stream, generating significant adjustment costs (Hausmann et al. 1993). Therefore, the resulting pro-cyclicality of government spending can ultimately lower growth rates. Carefully looking into some of the potential expenditure mechanisms, one can identify the following: If a positive shock is perceived as temporary, accumulating the budgetary surpluses in developing economies is politically unpopular and the government will be subject to pressures to increase spending, especially on public projects. For example, during the period 1974-1978, 85%, 50%, and 46% of the windfall gains accrued to the governments of Nigeria, Indonesia, and Venezuela, respectively, were channeled to increasing public investment (Gelb et. al, 1988). Many studies found that most of the large surges in public capital spending during boom times are non-productive and typically have a very low return (See: Talvi and Vegh, 2000).

Akanni (2007) examines if oil exporting countries grows as their earnings on oil rents increases, using PC-GIVE10, (ordinary least squares regression). The result shows that there is a positive and significant relationship between investment and economic growth and also on oil rents. In conclusion, he said oil rents in most rich oil developing countries in Africa do not promote economic growth. Odularu (2010), used Harrod-Domar theory and Solow's theory of economic growth used Ordinary Least Square regression and Cobb-Douglas production function were employed to test the impact of crude oil on Nigeria economic performance. The result shows that crude oil production contributed to economic growth but have no significant improvement on the economy of Nigeria. Adedokun (2012) examined the effect of oil export revenue on economic growth in Nigeria between the period of 1975 and 2009. Empirical analysis from the study suggested that oil export revenue had a positively significant effect on growth both in the short-term and long-term in the country. The study further revealed that the primary determinant of foreign exchange earnings in Nigeria was

changes in the world crude oil prices. Hamdi and Sbia (2013) empirically examined the dynamic relationships among oil revenues, government spending and economic growth in the Kingdom of Bahrain over the period from 1960 to 2010. The study investigated whether the huge government spending enhanced the pace of economic growth or not. Overall results suggested that oil revenues remained the principal source for growth, and the main channel which financed government spending. Aregbeyeni, and Bashir, (2012) examines oil revenue, public spending and economic growth relationships in Nigeria, Findings from the analysis revealed that oil revenue Granger caused total government spending, while there was no causality between government spending and growth. Also, it was revealed that oil revenue Granger caused as well as impacted positively on economic growth.

A fiscal consolidation in response to a permanent negative oil shock that aims to put fiscal policy on a sustainable path would adversely affect growth, leading to a more unsustainable path. A given level of primary deficit that may seem sustainable given a certain growth rate could be unsustainable at a lower rate of growth. This endogeneity of fiscal policy appears to be crucial in designing fiscal adjustments in shock-prone economies. In a downturn, it is not quite unusual that some governments delay a needed adjustment to avoid immediate spending cuts. If the shock turns out to be permanent, the persistent budget deficit and the growing public debt would put into question fiscal policy and current account sustainability, as well as government solvency. Ultimately, a larger adjustment at a higher cost would be inevitable at some point in the future. For example, in 1986, Venezuela did not allow for spending adjustment in response to the negative large oil shock. In 1989, the looming balance of payments crisis led to substantial costly adjustments (Hausmann et al., 1993).

Oil exporting countries tend to have higher borrowing capacity during boom times. Therefore, an oil boom could induce an expansion of easy borrowing, especially with the large growth in domestic absorption. That lately resulted in the phenomenon of highly-indebted oil-rich economies. The accumulation of debt during times of plenty makes the adjustment more costly and more difficult at times of scarcity because it implies larger adjustments. Therefore, at times of oil price downturns some oil economies may face foreign borrowing constraints, which would adversely hinder their development programs. In addition, this leaves the fiscal authorities with fewer options to finance the deficit (Hausmann et al., 1993).

Despite the fairly general recognition of macroeconomic policy (especially) stability as an essential requirement for stimulating investment and growth, and the associated prescription that a central bank should focus primarily on maintaining low inflation, desperate governments have not been particularly reluctant to use domestic debt and money creation to finance their deficits, especially when they are starved of resources and unable to deploy alternative tax handles. In such circumstances, it may be virtually impossible to separate monetary from fiscal policy. This is clearly one of the areas where conflict frequently occurs between monetary and fiscal authorities. There is an argument that independent central banks should be better able to resist government efforts to have them monetize deficits (Pollard, 1993). This argument suggests that once governments realize that there may be limits on their ability to issue treasury bills continuously to finance deficits, they may decide to control their deficit spending. The empirical evidence on this supposition has been mixed. There is, for instance, some evidence of a negative relationship between central bank independence and the long-run behavior of government deficits as a percentage of GNP (Parkin, 1993). But, in a later study, Grilli, et. al (1991) conclude that an independent monetary authority apparently does not discourage the government from running fiscal deficits (CBN, 2003).

In the case of low-income countries characterized by shallow capital markets, limited tax revenue alternatives and restricted access to foreign savings, governments which sustain large fiscal deficits that their "independent" central banks are reluctant to monetize could, conceivably, shift political responsibility for the consequences of their fiscal policies to their central banks. When substantial domestic financing of fiscal deficits induce inordinately high real interest rates which, in turn, crowd out private sector credit and investment, government can always claim that these are monetary problems for which the independent central bank, rather than the fiscal policy authorities should be held accountable. The central bank can, at least in principle, respond with an overly restrictive monetary policy and thus refuse to "accommodate" government's fiscal policy posture in the hope of forcing government to change its policy. This assertion of independence and "toughness" may, however, backfire, as in the case of Peru (Mas, 1994). Faced with this kind of problem, the Peruvian central bank refused to accommodate the bulk of government's request for credit between September 1988 and July 1989. As a result, there was 23% decline in GDP and a 75% appreciation of the parallel market exchange rate. The "face-off" ended with the resignation of the President of Peru's Central Bank the Peruvian government had apparently succeeded in shifting the political responsibility for its fiscal actions to the independent central bank (CBN, 2003); Odularu (2008); Adedokun (2012); and Akinlo (2012) have examined the effect of oil on growth in Nigeria without considering the interactive impact of government expenditure. Their results either revealed that oil influenced growth positively, or oil had adverse effect on the manufacturing sector. Thus, to the best of our knowledge, none of the existing studies has explicitly considered the combined average-impact of oil revenue and aggregate government expenditure on growth in Nigeria.

METHODOLOGY

This study employed annual time series secondary data spanning from 1981 to 2015 collected from the Central Bank of Nigeria Statistical Bulletin, 2015 edition and Energy Information Administration (EIA). Data collected are; crude oil revenue (CO), government total expenditure (GTEX) as a proxy for fiscal policy, revenues from natural gas (NG) as a measure of its contribution to gross domestic product. This study made use of vector auto regression (VAR) model as the fundamental model for this work. This study therefore estimated a vector autoregressive (VAR) model to trace the relationship between fiscal policy and oil in Nigeria. For the purpose of analyzing and forecasting macroeconomic activities, and tracing the effect of crude oil on fiscal policy in Nigeria, simple small-scale VARs with sound theoretical foundation have proved to be as good as or better than large-scale structural equation systems. The generalized VAR model is specified as:

$$Y_t=\mu+ß_1y_{t-1}+ ß_2y_{t-2}+ \ldots+ß_ky_{t-k}+\epsilon_t \quad \ldots\ldots (1)$$

Where the $\boldsymbol{\epsilon}_t=(\boldsymbol{\epsilon}_{1t},\ldots,\boldsymbol{\epsilon}_{kt})$' form a sequence of independently identically distributed random K-vector with zero mean vector. Thus equation 1 can be arranged to obtain

$$y_t = \mu +\sum_{i=1}^{p} ß_iy_{t-l} + \epsilon_t \quad \ldots\ldots (2)$$

Where y_t is a column vector of three (3) variables, that is yt = [CO, FP and NG]' modeled in terms of its past values. $ß_i$ are k x k matrix of coefficients to be estimated, μ is a k x 1 vector of constants and ϵ_t is a vector of white noise processes. Where the covariance matrix Ω is assumed to be positive definite. Thus the ϵ′s are serially uncorrelated but may be contemporaneously correlated. The lag length, k is determined empirically using the Akaike information criterion. The model with the lower Akaike value is selected. Therefore

estimation was done by iteration starting with the maximum lag length identified using the information criteria until the optimum model is arrived at-that is until the model becomes stable (no modulus or eigen-value lies outside the unit circle).

Testing for Granger causality involves estimating a VAR model of the form specified below:

$Yt = \alpha_1 + \delta_1 Y_{t-1} + \delta_2 Y_{t-2} + ... + \delta nYt\text{-}n + \gamma_1 X_{t-1} + \gamma_2 X_{t-2} + ... + \gamma nX_{t-n} + \epsilon_t$ - - - - ---------- (3)

$Xt = \alpha_2 + \lambda_1 X_{t-1} + \lambda_2 X_{t-2} + ... + \lambda nXt\text{-}n + \phi_1 Y_{t-1} + \phi 2 Y_{t-2} + ... + \phi nY_{t-n} + u_t$ - - - - ---------- (4)

Where Yt and Xt are the variables under observation, α_1 and α_2 are intercepts, δ_1, δ_2, δn, γ_1, γ_2, γn, λ_1, λ_2, λn, ϕ_1, $\phi 2$, and ϕn are parameters of the system model while μt and vt are system residuals. The model above is only for illustration purposes and our ideal model comprises a system of four equations to account for the three variables we are investigating.

RESULTS AND DISCUSSION

Table 1: Phillip-Perron Unit Root Test

Variable	Level	First difference	Second difference	Lag(s)	Model	Order of integration
FP	-1.186042	-7.098065***		1	Trend & Intercept	I(1)
CO	-2.517875	-5.905558***		1	Trend & Intercept	I(1)
NG	-1.791181	-2.730116	-7.300955***	1	Trend & Intercept	I(2)

***Source*:** Author's computation.

The Phillip-Perron stationarity test in ***table 1***: shows that variables employed in this analysis namely FP, CO and NG are all non-stationary at level showing that all the variables have unit root problem at their ordinary level form; but are stationary at their first difference with the exception of NG, which became stationary at second difference thus this agrees with the fact that most macroeconomic variables are stationary at their first difference (stationary at 1%, 5%, 10% level respectively). Since all the variables are integrated at order one, i.e., 1(1), and the generated residual is stationary at level.

Table 2: Lag Order Selection Criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-39.82326	NA	0.005708	3.343436	3.898528	3.524382
1	27.31825	103.9610*	0.000137*	-0.407629	0.563782*	-0.090973*
2	34.37421	9.559695	0.000163	-0.282207	1.105522	0.170158
3	43.77156	10.91304	0.000174	-0.307842	1.496206	0.280232
4	55.04381	10.90863	0.000177	-0.454439*	1.765928	0.269345

* 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

***Source*:** Author's computation.

The result in table 2 showing the maximum lag length determination estimated via the lag order selection criteria. The result shows that the optimum lag is lag one (1) since most of the criteria – LR, FPE, SC and HQ showed the first lag to be the optimum lag length the VAR(1) model was estimated. It is important for the VAR model has to be dynamically stable to be fit for policy purposes. Thus the Roots of Characteristic Polynomial were examined for stability and the estimated results presented on table 3

Table 3: Roots of Characteristic Polynomial

Root	Modulus
0.995441	0.995441
0.403866 - 0.392136i	0.562920
0.403866 + 0.392136i	0.562920
-0.066006 - 0.438111i	0.443056
-0.066006 + 0.438111i	0.443056
-0.261480	0.261480

No root lies outside the unit circle.
VAR satisfies the stability condition.

Source: Author's computation

The result for root of characteristics polynomial reveals that no root lays outside the unit cycle (Modulus) as such the VAR model satisfies the stability condition and the model is dynamically stable and appropriate for policy formulation. Having determined the stability of the VAR model we proceed to ascertain if the model has the problem of autocorrelation. The test result is presented and discussed below:

Table 4: Autocorrelation LM Test

Lags	LM-Stat	Prob
1	7.273392	0.6087
2	7.685625	0.5661
3	3.675435	0.9314
4	14.87234	0.0945

Probs from chi-square with 9 df.

Source: Author's computation

The test result for autocorrelation as evident in table 4 indicates that the model do not suffer for serial correlation up to the fourth lag i.e lag(4); thus serial correlation is not present in the model.

Table 5: VAR Granger Causality/Block Exogeneity Wald Test

Null Hypothesis	**Wald-Statistic**	**Decision**
LOG(FP) does not Granger Cause LOG(CO)	10.33454**	Reject
LOG(CO) does not Granger Cause LOG(FP)	1.295233	Do not Reject
LOG(FP) does not Granger Cause LOG(NG)	5.648236**	Reject
LOG(NG) does not Granger Cause LOG(FP)	6.435419**	Reject

***Source*:** Author's computation.

The granger causality test results as presented in ***table 5***. The results revealed a bi-directional causality relationship between natural gas and fiscal policy, while a unidirectional relationship exists between fiscal policy and crude oil in Nigeria.

Table 6: Forecast Error Variance Decomposition

Period	S.E.	LOG(FP)	LOG(CO)	LOG(NG)
1	0.179907	100.0000	0.000000	0.000000
2	0.252845	84.08702	5.383478	10.52950
3	0.319555	79.59849	6.180977	14.22054
4	0.371260	77.87196	7.060972	15.06706
5	0.414770	77.41737	7.598894	14.98373
6	0.452543	77.42095	7.820962	14.75808
7	0.486527	77.53762	7.909272	14.55311
8	0.517966	77.61021	7.970845	14.41895
9	0.547485	77.63278	8.024681	14.34254
10	0.575348	77.63195	8.072691	14.29536

Cholesky Ordering: LOG(FP) LOG(CO) LOG(NG)

Source: Author's computation

The impulse response graphs **(*see figure 1*)**. The graphs revealed that the impact of crude oil and natural gas on innovations in fiscal policy shock was positive from the first, second, third forecast periods and was steady throughout and did not die out in the long run. This implies that a steady fiscal operation by the government specifically by her expenditure is transmitted through the huge revenues from the oil and gas sector. More so, if Nigeria oil is properly utilized, it could serve as a "big push" for development through expenditure. This channel is crucial to Nigeria where insufficiency in capital often constitutes a major obstacle to growth and development. The impact of fiscal policy shocks on owns innovations is positive but dropped a little in the first forecast horizon and became steady without dying out in the long run. The result in ***table 6*** shows fiscal policy forecast error variance decomposition which measures the percentage of the forecast error variance of fiscal policy that is explained by own and innovations in other variables over the forecast horizon. The results revealed that in the first forecast horizon 100 percent of the forecast variance is explained by own innovation and in the long – run, own innovations did decline rapidly and explained 77.63 percent in the tenth horizon while innovations in crude oil and natural gas jointly account for 22.36 percent innovations in fiscal policy in the long – run. The implication of this result therefore is that oil shocks exert influence on domestic fiscal policy through fiscal channel operates through government expenditures that are funded by oil revenues. A positive revenue shock that is perceived as permanent typically leads to higher government spending, especially on non-tradable, creating incentives to shifting resources away from the (non-oil) tradable sector to the non-tradable sector. Such resource movements would lead to the "Dutch disease" which is characterizes with higher unemployment, output losses, and ultimately the de-industrialization of the economy; while a negative shock, on the other hand, typically induces downward adjustments in government expenditures

CONCLUSION AND RECOMMENDATIONS

This study has examined the impact of crude oil on fiscal policy in Nigeria over the period 1981 to 2015. The vector autoregressive model was employed. Revenues from oil and gas are important sources in explaining the level of government spending in Nigeria as shown by the results of this study. The implication of this result therefore is that oil shocks exert noticeable influence on Nigeria fiscal policy through fiscal channel of government expenditures that are funded by oil revenues. Also the impact of crude oil and natural gas on innovations in fiscal policy shock was positive from the first, second, third forecast periods and was steady

throughout and did not die out in the long run. A positive revenue shock that is perceived as permanent typically leads to higher government spending, especially on non-tradable, creating incentives to shifting resources away from the (non-oil) tradable sector to the non-tradable sector. Such resource movements would lead to the "Dutch disease" which is characterizes with higher unemployment, output losses, and ultimately the de-industrialization of the economy; while a negative shock, on the other hand, typically induces downward adjustments in government expenditures, the findings in this study reveal that there exists a bi-directional relationship between natural gas and fiscal policy; oil revenue, and a unidirectional causality between crude oil and fiscal policy notably government total expenditure. This study therefore recommends that resources should be devoted by the government to developing the non-oil sector such as the manufacturing, agriculture and the service sector. The Nigerian government should continue in the safe guiding oil installations as well as transnational oil companies should collaborate with the government and oil communities in securing oil installations through various empowerment techniques.

REFFERENCES

Adedipe, B. (2004), The impact of oil on Nigeria's economic policy formulation. Paper presented at the Conference of the Nigeria Economic Summit Group. Lagos, June 16 – 17.

Adedokun, A. J. (2012). Oil Export and Economic Growth: Descriptive Analysis and Empirical Evidence from Nigeria. *Pakistan Journal of Social Sciences, 9*(1), 46-58.

Akanbi, O. and Toit, C. (2011). Macro-econometric modelling for the Nigerian economy: A growth–poverty gap analysis. Economic Modelling 28, 335–350.

Akanni, O. P (2007) '*Oil wealth and Economic growth in exporting countries'* AERC Research paper 170.

Aregbeyeni and Bashir (2012) Oil Revenue, Public Spending and Economic Growth Relationships in Nigeria *Journal of Sustainable Development*; Vol. 8,(3);113-123

Cashin, P., Liang, H. and McDermott, C. (1999), *How Persistent Are Shocks to World Commodity Prices?*, WP/99/80, Washington DC: IMF.

Cashin, P., McDermott, C. and Scott, A. (1999), *Booms and Slumps in World Commodity Prices*, WP/99/155, and Washington DC: IMF.

Central Bank of Nigeria (2003), Issues in fiscal management implications for monetary policy in Nigeria. CBN Third Annual Monetary Policy Conference proceedings. Lagos. December 11-13. Pp.205-230.

CBN (2015), Central Bank of Nigeria Annual Reports and Statement of Accounts, CBN Abuja, Nigeria

Granger, C. W. J. (1969), Investigating causal relations by econometric models and cross-spectral methods. *Econometrica, 37*, 424-438.

Grill, V. & Tabellini, G. (1991). Political and monetary institutions and public financial policies in the industrial countries. *Economic Policy, 13*, 341-392.

Hamdi, H., & Sbia, R. (2013). Dynamic relationships between oil revenues, government spending and economic growth in an oil-dependent economy. *Economic Modelling, 35*(C), 118-12

Hausmann, R., A. Powell and R. Rigobon (1993), An Optimal Spending Rule Facing Oil Income uncertainty (Venezuela), In *External Shocks and Stabilization Mechanisms,* eds. E. Engel and P. Meller, Washington DC: Inter-American Development Bank.

Odularu, G. O. (2008). Crude Oil and the Nigerian Economic Performance. *Oil and Gas Business*. Retrieved from http://www.ogbus.ru/eng/

Parkin, M. (1987), *Domestic monetary institutions and deficits.* In J. M. Buchanan, C.

Rowley, & R. Tollison(eds), *Deficit basic*. (pp 310-337). London: Blackwell.
Pollard, P. S. (1993), Central bank independence and economic performance. *Federal Reserve Bank of St. Louis Review, 5*(4), 211-236.
Talvi, E. and Vegh, C. (2000), "Tax Base Variability and Procyclical Fiscal Policy", NBER Working Paper No. 7499.

Figure 1