Impact of Macroeconomic Shocks on Fiscal Policy Behaviour in Nigeria

Oguntuase Adeniyi (Ph.D)
Department of Liberal Studies
The Federal Polytechnic, Ado-Ekiti
e-mail: oguntuaseadeniyi20@gmai.com

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Abstract

The inability of fiscal policy to achieve its sets of macroeconomic objectives in the recent times has been traced to interference from some sets of macroeconomic shocks which require investigation in order to bring about policy recommendations that will make fiscal policy less-vulnerable to these shocks and hence improve its effectiveness in achieving its macroeconomic objectives. This study investigated the impact of macroeconomic shocks on fiscal policy behaviour in Nigeria. Auto-regressive distributed lags (ARDL) was used to achieve the impact of macroeconomic shocks on fiscal policy behaviour in Nigeria. Findings from the study revealed that shocks like government expenditure, government revenue, oil price volatility and commodity price volatility all constitute long run shocks to fiscal policy behaviour in Nigeria while variables like exchange rate, interest rate, inflation rate, external debt and external reserve constitute more of transitory shocks to fiscal behaviour in Nigeria. The study generally recommends expansion of domestic outputs to reduce the vulnerability of fiscal policy to both external and internal shocks. This will make fiscal policy more effective in achieving its set macroeconomic objectives.

Keyword: *Macroeconomic Shocks, Fiscal Policy, Government Expenditure, Government Revenue*

Introduction

Before the 1930s, irregular ups and downs in economic activities were seen periodically and considered to be normal facts of life. When the event of great depression left tragic effects on the economy of the world, economists felt the need to recognize different internal and external shocks so as to smooth economic fluctuations (Altug, Neyaptic & Emin 2012). Since then, theoretical and empirical literature has documented different kinds of shocks. Over the years fiscal policy has been a major policy used side by side monetary policy to maintain economic stability, increase output and promote overall economic development of Nigeria as a country. However, Nigeria, being a developing country, largely depends on fiscal policy to direct the economy, and therefore, has given more attention to fiscal policy. Also, fiscal policy has been identified by researchers as a policy that tends to have long run relationship with growth (Sidrauski 2003, Papademous 2008). However, there is a general belief that the behaviour of such policy will be highly susceptible to both internal and external influences which might be affecting its practice and behaviour (Olasunkanmi & Babatunde, 2013). Two major variables of fiscal policy behaviour that is the

government revenue and expenditure have been identified to be highly prone to external influence especially in a country that is naturally endowed and heavily dependent on imported goods (World Bank, 2012).

The growth and development of the Nigerian economy has not been stable over the years, as a result, the country's economy has witnessed so many shocks and disturbances both internally and externally over the decades. Internally, the unstable investment and consumption patterns as well as the improper implementation of public policies, changes in future expectations and the accelerator are some of the factors responsible for it. Similarly, the external factors identified are wars, revolutions, population growth rate and migration, technological transfer and changes as well as the openness of the Nigerian economy are some of the factors responsible for these shocks and disturbances. The cyclical fluctuations in the country's economic activities have led to the periodical increase in the country's unemployment and inflation rate as well the external sector disequilibria (Gbosi, 2001).

As a panacea to these aforementioned disturbances, fiscal policy is seen as a major economic stabilization weapon that involves measure taken to regulate and control the volume, cost, availability as well as direction of money in an economy to achieve some specified macroeconomic policy objectives such as full employment, economic growth and economic development and counteract the undesirable trends in the Nigerian economy which can mitigate the effects of these disturbances (Gbosi,1998). Yet fiscal policy administration, cannot be left to market forces of demand and supply and also other instruments of stabilization such as monetary and exchange rate policies among others in other to counteract the problems identified (Ndiyo and Udah,2003). This may either include an increase or a decrease in taxes as well as government expenditures which constitute the bedrock of fiscal policy.

The fiscal policies in Nigeria have been largely determined by oil revenue and wind falls. Nigeria is an oil-rich country and her fiscal revenues largely coincide with oil revenue. Oil revenue accounts for nearly 80 percent of government revenue, which implies that the economy is highly exposed to price fluctuations in the world oil markets (CBN, 2016). Naturally, oil revenue is very volatile due to oscillation in world oil prices and to unpredictable changes in OPEC assigned oil quota- of which Nigeria has been a member since 1958 (Obinyelauku, 2009). It has been observed that despite the huge fiscal deficit that characterize fiscal behavior in Nigeria, the overall economy appears not to have fared very well during these periods and this has constituted a major concern to the policy makers (Olasunkanmi and Babatunde, 2013). For instance domestic fiscal deficit worsened from an average of 2.6 percent of GDP in 1980s to one of 6.2 percent in 1990s. In 2010 alone, domestic deficit increased to 5 percent of GDP from 2 percent in 2009. This increase in deficits results in a mounting stock of debt, ranging from 88 percent of GDP in 1980s to 96 percent in 2009. Around the same periods precisely in 2007 the real GDP growth rate fell from -3.1% to -7.6% in 2009 (World Bank 2012). The implication of this is that the accumulated fiscal deficit has not reflected in growth of Nigeria economy during these periods.

Despite government efforts to instill discipline on the Nigeria fiscal behaviors by way of economic diversification policies and implementation of other fiscal variables like taxation, the economy still remains in comatose due to the consequences of fiscal irresponsibility. However, effectiveness of fiscal policy in a naturally endowed country like Nigeria has been strongly linked with

influences of some external and internal factors which constitute shocks to macroeconomic policies (Obinyelauku, 2009). The severity of the influence is largely dependent on how diversified is the revenue base of the government. Nigeria is widely known to be practicing mono-economy, that is oil remains the major driver of the economy contributing more than 80% to the foreign exchange earnings of the country. This, on its own exposes macroeconomic policy like fiscal policy to external shocks.

The effectiveness of fiscal policy in achieving the set macroeconomic objectives in Nigeria has been largely dependent on the revenue from oil. However, oil being an international commodity, is highly susceptible to both external and cyclical changes in the world oil market, this, among others has caused unprecedented instability in the recent times in the oil revenue accruing to Nigeria as an oil dependent country. Administration of fiscal policy in Nigeria is largely anchored on government revenue which is seriously affected by the fluctuations in the oil revenue. Government have attempted over the years to shift her revenue base from oil so as to reduce the vulnerability of government revenue to oil price fluctuations. All these efforts appear not to yield any positive results.

However, apart from oil related variables, some other factors which are mostly macroeconomic variables which might vary from country to country have been identified by quite a number of researchers as shocks that might likely cause perturbation of the fiscal policy variables and which can affect fiscal policy effectiveness in a particular country (Kinnunen, Sulla, & Merotto, 2013; Gosse Guillamin, 2012). According to them, Some of these variables such as exchange rate, interest rate, public debt among others can be termed internal that is controllable by the Nigerian government while some variables such as oil price volatility, commodity price volatility, exchange rate volatility among others are purely external, that is outside the control of the Nigerian government.

However, fiscal policy which is an important macroeconomic policy meant to achieve economic development through income redistribution, poverty reduction and accelerated growth rate appears to be ineffective in achieving these objectives in Nigeria owing to disturbances from internal and external shocks. This study hopes to contribute to knowledge by identifying these shocks and examining the relationship between them and fiscal policy with a view to bringing up policy restructuring that will insulate fiscal policy against the influence of these shocks and thereby making fiscal policy a vibrant policy to achieve the set macroeconomic objectives of the Nigerian economy.

Studies like Olasunkanmi & Babatunde (2013), Obinyeluaku (2009) among others in the past have focused more on the effects of fiscal policy on growth of Nigeria without investigating the factors that influence the effectiveness of fiscal policy on growth of Nigerian economy. These causative factors are referred to as fiscal policy shocks and they have been identified as major drawbacks to effectiveness of fiscal policy in Nigeria Obinyeluaku (2009).

Therefore, this study hopes to empirically examine the impact of macro economic shocks on fiscal policy behaviours in Nigeria.

THEORETICAL LITERATURE REVIEW

Conceptual Literature

(a) Fiscal policy and Macroeconomic Shocks

Fiscal policy has been seen as that aspect of government policy that deals with manipulations of both government expenditure, government revenue and debt to achieve macroeconomic objectives. Output growth being a major macroeconomic objective has formed a major focus of many researchers in past and fiscal policy administration has been identified as an important policy that can help to achieve this growth objective and some other macroeconomic objectives (Angelopoulos, Malley & Philippopoulos, 2007).

According to Dixit and Lambertini (2003), fiscal policy is the use of government expenditure and revenue to influence the economy. Governments typically use fiscal policy to promote strong and sustainable growth and reduce poverty. Olawunmi & Tajudeen (2007) opine that fiscal policy has conventionally been associated with the use of taxation and public expenditure to influence the level of economic activities. They further said the implementation of fiscal policies is essentially routed through government's budget. Valmont (2006) defined fiscal policy as the economic term which describes the actions of government in setting the level of public expenditure and the way in which that expenditure is funded. Jhingan (2004), Musgrave &Musgrave (2004), Oner (2002), Hottz-Eakin, Lovely (2009) described fiscal policy as mostly to achieve macroeconomic policy objectives, it is to reconcile the changes which government modifies in taxation and expenditure, programmes or to regulate the full employment, price and total demand to be used through instruments such as government expenditure, taxation and debt management. Typically, the objective of fiscal policy is directed towards maintaining sound public finances. This invariably amounts to an unwavering commitment to the maintenance of balance budget by restricting aggregate spending to the size of aggregate recurrent revenue and a sound public sector balance sheet is by implication achieved (Valmont 2006, Osuka & Ogbonna,2010, Jhingan 2004, Fu, Taylor &Yucel 2003).

Macroeconomic Shocks

Macroeconomic shock is an unpredicted change in macroeconomic variables. Unfortunately, there is no such thing as a shock "per se". fiscal policy encompasses a wide variety of policies; there is an endless list of types of incomes, for which the tax rules could be changed, or categories of government, where change could occur (Mounford & Uhlig, 2014).

Economic literature has identified quite a number of macroeconomic variables that constitute external disturbance to fiscal policy framework (Bakare, 2010).The transmission mechanism of fiscal policy has been identified as being prone to some external influences that perturb the whole fiscal policy administration (Obinyeluaku & Viegi 2009). Notwithstanding, the structure and the level of development of an economy has been identified as the major determinants of what constitute external shock to fiscal policy administration in a particular economy (Aremo, Orisadare & Ekperiware, 2012).

Fiscal Policy and Oil

According to Devlin & Lewin (2004) 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. These characteristics make fiscal management more challenging in such countries and have very important implications for their growth performance. Some of these implications are as follows.

(i) 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, Powell & Rigobon 1993).

(ii) 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, Powell & Rigobon, 1993).

(iii) 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.

(iv) 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. Sharp expenditure cuts may become inevitable, potentially harming long-run growth. According to Obinyeluaku & Viegi (2009) Nigeria's fiscal revenues are largely coincided with oil revenue accounting for nearly 80 percent of government revenues, which implies that the economy is highly exposed to price fluctuations in the world oil markets. Naturally, oil revenue is very volatile due to world oscillation in oil prices and to unpredictable changes in OPEC assigned oil quota of which Nigeria has been a member since 1958 following the commercial discovery of oil in Oloibiri in River State, Nigeria in 1956.

Absence of suitable fiscal rules and a proper finance management framework for oil related risks over the past two decade in Nigeria have led to boom-and-bust-type fiscal policies that have generated large and unpredictable movements in government finances. Consequently, this has been a recurrent source of destabilizing effect of fiscal surprises on the domestic prices and exchange rate as well as financial system.

Fiscal Policy and Public Debt

During the 1980s and 1990s, the vulnerability of many countries to shocks was often exacerbated by high fiscal deficits, underdeveloped domestic bond markets, and large currency and maturity mismatches. In many cases fiscal and monetary responses were procyclical. Debt management policy played very little part in either the choice of an optimal debt maturity or in stabilizing the economy. Since the beginning of 2000s, however, the role of fiscal and monetary policy has started to become more active. Fiscal deficits and public debt levels especially in emerging market economies EMEs as a whole have declined substantially (Yörükoğlu, 2010).

In addition, the governors of the CBN of Emerging market economies at the meeting also posited that anchoring medium-term fiscal expectations was crucial, but it was not by itself sufficient to insulate the economy from the debt shock. Greater access to domestic financing and the consequent reduction of currency mismatches, enabled by the domestic currency bond market played an important role. Yet these conclusions came with a number of caveats. Although fiscal dominance has fallen in many countries, contingent liabilities and the costs of ageing populations pose serious medium- to long-term fiscal risks to many economies. In addition, although government debt levels have moderated, the volume of securities issued by central banks has expanded substantially, largely reflecting interventions in the foreign exchange market. Not only is the combined gross debt of the official sector (the government and the central bank) now large in many countries, but a considerable part of this debt consists of short-term securities, which are not characteristically very different from monetary financing. The implications of these balance sheet developments for price and financial stability require careful monitoring.

Fiscal Policy and External Reserve

Studies have suggested a possible link between international reserve holdings and fiscal policy in many developing countries. According to Buiter & Patel (1997), there is a channel connecting government fiscal stance and international reserves in developing countries. Specifically, formal treatment of government solvency uses the concept of net total liabilities, which, by definition, deducts foreign exchange reserves from total government liabilities in assessing fiscal stance. Put another way, international reserves are assets on governments' balance sheets. For instance, according to Bradley (2007) Venezuela economy trim the nation's debt by funneling $8.7 billion of its international reserves from the central bank to a social spending fund.

Besides the fact that fiscal authorities can use international reserves directly to finance fiscal spending, there is an indirect channel through which international reserves and fiscal policy can be related. Hausmann, Powell & Rigobon (1996) argue that a larger stock of international reserves may increase a government's financial room for maneuver: by raising the probability of an appropriate fiscal response, such reserves may provide the reassurance required to persuade participants in international financial markets to finance the deficits associated with

countercyclical fiscal responses to economic shocks. In other words, a larger stock of international reserves may improve a borrowing country's credibility and put the country in a better position to conduct counter-cyclical fiscal policy.

Existing theoretical literature has provided a justification for a link between alternative ways of financing inelastic government spending in cases of costly tax collection and sovereign risk. In that model, international reserves help a country smooth consumption when there is a probability of default and a binding international credit ceiling. A greater chance of opportunistic behavior by future policy makers and political corruption reduce the demand for international reserves and increase external borrowing. International reserves and fiscal policy. The precautionary motive argument, in particular, implies an association between fiscal policy and optimal international reserve demand by policy makers. Aizenman & Marion (2004) develop a theoretical model in which international reserves and external borrowing are empirically investigated and a strong linkage was confirmed between them.

Government Expenditure Shocks

Military build-up resulting from wars or war threats and natural disasters are suitable instruments to identify exogenous variation in government spending. Recently, in order to stimulate economic growth, many government have increase their spending in response to financial crisis, whereas other governments, stricken by fiscal and debt crisis, were forced to cut their sharply.

Review of Basic Theory

(a) Endogenous Growth Theory

Endogenous growth theory or new growth theory was developed in the 1980s by Paul Romer and others. Endogenous growth theory holds that economic growth is primarily the result of endogenous and not external forces. This theory holds that investment in human capital, innovation and knowledge are significant contributors to economic growth. In the neo-classical model, technological progress is an exogenous variable. The neo-classical growth model makes no attempt to explain how, when and why technological progress takes place. The main strength of the endogenous growth theory is that it made the technological progress an endogenous variable to be explained within the models, hence the name endogenous growth theory. There are many different explanations for technological progress. Most of them, however, have a lot of common characteristics: They are based on constant return to scale for capital. Thus, Marginal Product of Capital (MPK)is not a decreasing function of capital in these models. They consider technological development as a public good.

The endogenous growth theories are relevant to this study because, according to the theories, it is possible for the government to affect the growth rate which make them have a lot of policy implications.. The endogenous growth models introduce the channels through which fiscal policy can affect long run growth. The models classify generally the fiscal policy instruments into: (i) distortionary taxation, which weakens the incentives to invest in physical /human capital, hence reducing growth; (ii) non distortionary taxation which does not affect the above incentives ,therefore, growth due to the nature of the utility function assumed for the private agents; (iii) productive expenditures that influence the marginal product of private capital ,hence boost growth and (iv) unproductive expenditures that do not affect the private marginal product of capital, consequently growth (Masson,2000). The endogenous growth models predict that an increase in

productive spending financed by non – distortionary taxes will increase growth. Higher savings also leads to higher growth, not just higher GDP per capital. They predict convergence of GDP per capita between countries in the long run. This is a consequence of the public good property of the technological developments.

Link between Growth Model and Fiscal Policy Variables

According to the neoclassical growth model, if the incentives to save or to invest in new capital are affected by fiscal policy, this alters the equilibrium capital output ratio, and therefore the level of the output path, but not its slope (with transitional effects on growth as the economy moves onto its new path). The novel feature of the public-policy endogenous growth models of Barro (1990), Barro and Sala-i-Martin (1992, 1995) and Mendoza (1997) is that fiscal policy can determine both the level of the output path and the steady-state growth rate. This is easily seen in the following model from Barro and Sala-i-Martin (1992). There are *n* producers each producing output (*y*) according to the production function:

$$y = AK^{1-\alpha}g^{\alpha}$$

Where *k* represents private capital and *g* is a publicly provided input. The government balances its budget in each period by raising a proportional tax on output at rate *t* and lump-sum taxes of *L*. The government budget constraint is therefore

$$ng + C = L + \tau ng$$

Where C represents government-provided consumption ('non-productive') goods.

The lump-sum (or non-distortionary) taxes do not affect the private sector's incentive to invest in the input good, whereas the taxes on output do. With an isoelastic utility function, Barro and Sala-i-Martin (1992) show that the long-run growth rate in this model $\emptyset$ can be expressed as:

$$\emptyset = \lambda(1-\tau)(1-\alpha)A^{1/(1-\alpha)}(g/y)^{\alpha/(1-\alpha)} - \mu$$

Where λ and μ are constants that reflect parameters in the utility function. Equation 2.13 shows that the growth rate is decreasing in the rate of distortionary taxes (*t*) and increasing in government productive expenditure (*g*), but is unaffected by non distortionary taxes (*L*) or non-productive expenditure I.

This is the model which we seek to test. In practice, we need to take account of the fact that the government budget is not balanced in every period, so the constraint becomes.

$$ng + C + b = L + \tau ng$$

Where *b* is the budget surplus. The predicted signs of these components in a growth regression would be: *g* – positive; τ– negative; *C* and *L* – zero; *b* – zero provided that Ricardian equivalence holds *and* that the composition of expenditure and taxation remains unchanged.

To see the implications of this for empirical testing, suppose that growth$\emptyset_t$, at time *t* is a function of conditioning (non-fiscal) variables, *Yit*, and the fiscal variables from *Xjt*.

$$\emptyset_t = \alpha + \sum_{i=1}^{k} \beta_i Y_{it} + \sum_{j=1}^{m} \gamma_j X_{jt} + \mu_t$$

Because of the linear constraint, we have

$$X_{mt} = -\sum_{j=1}^{m-1} X_{jt}$$

So one element of *X* must be omitted in the estimation of equation (2.15) in order to avoid perfect collinearity. The omitted variable is effectively the assumed compensating element within the government's budget constraint. Thus for estimation, equation must be rearranged to give:

$$\emptyset_t = \alpha + \sum_{i=1}^{k} \beta_i Y_{it} + \sum_{j=1}^{m-1} (\gamma_j - \gamma_m) X_{jt} + \mu_t$$

This shows that the coefficient of *Xjt* should be interpreted as $(\gamma_j - \gamma_m)$ rather than γ_j. In other words, the correct interpretation of the coefficient of each element of the government budget is the effect of a unit change in the relevant variable offset by aunit change in the element omitted from the regression (or some mix of the omitted elements, if there is more than one). To give an example, the coefficient on productive expenditure will tend to be higher if it is financed by non-distortionary taxation rather than by distortionary taxation or by some mixture of the two.

The problem is not solved by omitting many elements of the government budget constraint from the regression instead of just one. This is a straightforward point, but one which has frequently been ignored. When policymakers seek to influence the economy, they have two main tools at their disposal monetary policy and fiscal policy. Central banks indirectly target activity by influencing the money supply through adjustments to interest rates, bank reserve requirements, and the sale of government securities and foreign exchange; governments influence the economy by changing the level and types of taxes, the extent and composition of spending, and the degree and form of borrowing. Governments directly and indirectly influence the way resources are used in the economy. The basic equation of national income accounting helps show how this happens:

GDP = C + I + G + NX

On the left side is gross domestic product (GDP)—the value of all final goods and services produced in the economy ("Back to Basics," *F&D*, December 2008). On the right side are the sources of aggregate spending or demand—private consumption I, private investment (I), purchases of goods and services by the government (G), and exports minus imports (net exports, NX). This equation makes it evident that governments affect economic activity (GDP), controlling G directly and influencing C, I, and NX indirectly, through changes in taxes, transfers, and spending. Fiscal policy that increases aggregate demand directly through an increase in government spending is typically called expansionary or "loose." By contrast, fiscal policy is often considered contractionary or "tight" if it reduces demand via lower spending. Besides providing goods and services, fiscal policy objectives vary.

In the short term, governments may focus on macroeconomic stabilization for example, stimulating an ailing economy, combating rising inflation, or helping reduce external vulnerabilities. In the longer term, the aim may be to foster sustainable growth or reduce poverty

with actions on the supply side to improve infrastructure or education. Although these objectives are broadly shared across countries, their relative importance differs depending on country circumstances. In the short term, priorities may reflect the business cycle or response to a natural disaster in the longer term, the drivers can be development levels, demographics, or resource endowments. The desire to reduce poverty might lead a low income country to tilt spending toward primary health care, whereas in an advanced economy, pension reforms might target looming long-term costs related to an aging population. In an oil-producing country, fiscal policy might aim to moderate pro-cyclical spending—moderating both bursts when oil prices rise and painful cuts when they drop.

Clements, Flores & Leigh (2009) used an open-economy New Keynesian overlapping generation model, the Global Integrated Monetary and Fiscal Model (GIMF) to assess the macroeconomic effects of external shocks and the impact of various monetary and fiscal policy responses. The simulations assess the effect of shocks to trade, world income, and risk premia for public debt. The results suggested that under Colombia's inflation targeting regime, which incorporates exchange rate flexibility and a highly responsive monetary policy, the economy is well poised to adjust to different external shocks. They also suggested that the potential role of fiscal policy in responding to shocks depends critically on financing conditions.

Ravnik & Zilic (2010) used multivariate Blanchard-Perotti SVAR methodology to analyze disaggregated short-term effects of fiscal policy on economic activity, inflation and short-term interest rates. The results suggested that the effects of government expenditure shocks and the shock of government revenues are relatively the highest on interest rates and the lowest on inflation. A tax shock in the short term increases the inflation rate and also decreases the short-term interest rate, and after one year stabilization occurs at the initial level, while spending shock leads to a reverse effect. The effects of fiscal policies on the proxy variable of output, i.e. industrial production, are less economically intuitive, because the shock of expenditure decreases and revenue shock permanently increases industrial production. The empirical result shows that a tax shock has a permanent effect on future taxes; while future levels of government spending are not related to current expenditure shocks. Interactions between the components of fiscal policy are also examined and it is concluded that a tax shock increases expenditures permanently, while an expenditure shock does not significantly affect government revenues, which is consistent with the tendency of growth in public debt. Furthermore, it was found that government revenue and expenditure shocks do not have a mirror effect, which justifies disaggregated analysis of fiscal policy shocks.

Obinyeluaku & Viegi (2009) focused on oil revenue shocks and fiscal policy in Nigeria. They examined fiscal policy rule as a tool for managing oil revenue in Nigeria. According to them, Nigeria is heavily dependent on oil revenue to finance over 80 per cent of its total expenditure, making its budget vulnerable to fiscal shocks. This poses a serious threat both to the sustainability of the country's budget and to its macroeconomic stability. Oil windfall induces government spending that is difficult to retrench when the oil revenue falls, distorting government budget allocation pattern, cohesion and stability and increase deficits and debt stock that has often created an unfavorable environment for monetary policy. The question then is what form of fiscal policy rules will perform better in reducing debt accumulation and promote the necessary medium-term budget deficit stability. The results show that the fixed surplus rule performs better than the simple

variable surplus rule when real interest rate is relatively high and the ability to adjust government expenditure is limited.

Olasunkanmi & Babatunde (2013) examined the effects of fiscal policy shocks on the current account as well as the dynamic interactions among fiscal policy shocks and current account with the other macroeconomic variables: real output, real interest rate and exchange rate for Nigeria over the periods 1980 -2010. The identification of fiscal policy shocks is achieved via structural VAR approach proposed by Blanchard-Perotti (2002). The results of this study indicated that the expansionary fiscal policy shock has a positive effect on output, exchange rate and negative impacts on current account balance and interest rate. By implication, this study suggested that fiscal policy can stimulate economic activity through expenditure expansions at a cost of lower interest rate and exchange rate appreciation in the medium term and a sustained current account balance will enhance output via fiscal consolidation. In the simple variable surplus rule when real interest rate is relatively high and the ability to adjust government expenditure is limited.

Aremo, Orisadare & Ekperiware (2012) investigated oil price shock and fiscal policy management in Nigeria. According to them, high Oil price fluctuations have been a common feature in Nigeria and these have considerably constituted a major source of fiscal policy disturbance to the Nigerian economy as well as the economies of other oil producing countries of the world. The over-reliance on oil production for income generation combined with local undiversified revenue and export bases is an issue for concern. This has policy implications for economic policy and in particular fiscal policy management. According to them the motivation for the study was to examine the effect of oil price shock on fiscal policy in the country. Using structural vector auto regression (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 were examined. The results showed that oil prices have significant effect on fiscal policy in Nigeria within the study period of 1980 to 2009. The study also revealed that oil price shock affects GREV and GDP first before reflecting on fiscal expenditure. The study suggested 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.

Theoretical Framework

This study adopts the framework of endogenous growth models. The novel feature of these models is that, unlike the neo classical growth models which imply that government policy can affect only the output level but not the growth rate, endogenous growth models incorporate channels through which fiscal policy can affect long run growth (Barro & Sala-i-martin,1991), a feature, which makes the models appropriate and relevant for this research work as this will enable the study to examine empirically the long run relationship between macroeconomic shocks and the growth of Nigeria economy**.** Barro & Sala-i-Martin (1992, 1995) have developed a series of endogenous growth models, in which investment in infrastructure affects output through the production function, as a factor along with capital and labour, in order to study the influence of the supply of public goods on growth rates. Clearly, the rate of output growth can be positively related to the share of government purchases, in the form of public services, while examining various policy implications under alternative schemes of the production function. Consequently, government expenditure in the form of public investment plays a decisive role for the performance of the economy through its

influence on gross national output. Several empirical studies have also established a strong positive link between investment and output growth rates; Aschauer (1989), Baxter and King (1993), Easterly & Rebelo (1993), Dollar & Svensson (2000), and Bekaert et al. (2005).

Model Specification

It would be recalled that the objective of this study is to examine the impact of macroeconomic shocks on fiscal policy behaviour in Nigeria. From the literature, government revenue and government expenditure are the core variables of fiscal policy while, public debt, external reserve, oil price volatility, commodity price volatility, exchange rate, regime of administration and inflation rate are variables that determine the fiscal policy behavior in Nigeria and all of them also constitute shocks or disturbance of fiscal policy in Nigeria.

Following the theoretical framework, is modified to involve those macroeconomic shocks which are regarded as shock variables, extracted from the literature as stated in the previous paragraph. Fiscal balance is used as the dependent variable as it is shown from previous studies that fiscal outlook or behavior of a country is portrayed by the fiscal balance which could either be Fiscal surplus or deficit (Olasunkanmi & Babatunde 2013).

$$lnFB = fln(GE, GR, ER, DEBT, EXR, DUMR, INFR, OILPVOL, COMPVOL)$$

Where FB is the fiscal behavior proxied by fiscal balance, GE is government expenditure, GR is government revenue, ER is external reserve, EXR is exchange rate, INFR is the inflation rate, DEBT is public debt, DUMR is the dummy variable for regime of administration., OILPVOL is oil price volatility and COMPVOL is commodity price volatility.

Estimating Technique and Procedure

To empirically implement the various specific objectives of this study, the estimation procedures are structured into two stages. The first stage of the estimation procedures involves some pre-test, namely; unit root and contintegration test. The second stage is concerned with the estimation proper.

ARDL Model

Following the standard framework of Peasaran et al. (2001), the specification of the ARDL model is as given below:

$$\Delta fb = \beta_0 + \sum_{i=f1}^{p} \beta_i \Delta ge_{t-i} + \sum_{j=0}^{q_1} \propto_j \Delta gr + \sum_{k=0}^{q_2} \emptyset_k er + \sum_{l=0}^{q_3} \varepsilon_l \Delta exr + \sum_{m=0}^{q_4} \epsilon_m \Delta dumr_{t-m} + \sum_{v=0}^{q_5} e_v \Delta ge_{t-v} + \theta_0 gr_{t-1} + \theta_1 er_{t-1} + \theta_2 exr_{t-1} + \theta_3 dumr_{t-1} + e_t$$

Where p,q_1,…..,q_5 represents appropriate maximum lags.

Since the variables in first differences can accommodate more than one lag, determining the optimal lag combination for the ARDL becomes necessary. The optimal lag length can be selected using Akaike Information Criterion (AIC), Hannan-Quinn Information Criterion (HIC) or Schwartz Information Criterion (SIC).

This study adopted Akaike Information Criterion (AIC) to determine the optimal lag combination for the ARDL. The adoption of this method is informed by its highest explanatory power which makes it to be the most commonly used among researchers. The lag combination with the least value of the chosen criterion among the competing lag orders is considered the optimal lag. Consequently, the preferred ARDL model is used to test for long run relationship in the model. This approach of testing for cointegration is referred to as Bounds testing as it involves the upper and lower bounds. The test follows an *F* distribution and therefore, if the calculated F-statistic is greater than the upper bound, there is cointegration; if it is less than the lower bound, there is no cointegration and if it is lies in between the two bounds, then, the test is considered inconclusive.

Derivation of oil price and commodity price volatilities

Literatures have confirmed both oil price fluctuations and commodity price movement as important factors affecting fiscal policy framework in the many of the resource endowed countries which are producers of primary products. In addition, Demachi (2012), Wagithunu, Muthee & Thinguri (2014) & Ayodeji (2015) among others argued that the nature of the volatility of these two commodities has important implications for fiscal policy dynamics in developing economies due to their reliance majorly on primary commodity export and being largely import dependent. The nature of the volatility can either be symmetric or asymmetric. Either of the two cases has its own implication on fiscal policy framework of Nigeria. Consequently, Exponential Generalized Autoregressive Conditional Heteroskedaticity EGARCH was adopted.

Firstly, volatilities for the commodity and oil prices used in the study is developed via the exponential generalize autoregressive conditional heteroeskedaticity EGARCH [1,1]. The EGARCH process described as follows:

$$comp_t = \varphi + comp_{t-1} + \mu_t$$

$$oilp_t = \varphi + oilp_{t-1} + \mu_t$$

The AR[1] approach is followed. The following EGARCH model is estimated for each of the commodities prices used.

$$ln\sigma^2 = \omega + ln\sigma_{t-1}^2 + \alpha \left|\frac{\mu_{t-1}}{\sigma_{t-1}}\right| + \gamma \left|\frac{\mu_{t-1}}{\sigma_{t-1}}\right|$$

In the equations above, γ is residual, and σ denotes the conditional variance obtained from the EGARCH equations. Here, if $\gamma < 0$, it indicates the asymmetric character of commodity price and oil price movements on volatility. This means that a negative price shock has a larger influence on volatility than a positive price shock. The estimates of the conditional variance for each of the commodity prices are used as their volatility components and are used in Demachi (2012). This is capable of allowing us to know which of the prices has asymmetric effects.

The a priori expectation is that the commodity and oil price volatility will impact negatively on Growth due to the fact that both are direct consequence of macroeconomic mismanagement which will likely have negative feedback effect on the economy.

Nature and Sources of Data

All the data used for the study were sourced from World Bank Tables 2015 edition as well as International Financial Statistics (IFS) 2015. However, the Mundi Index and the Global Economics data are other sources for data collection used for the study. The data were made to undergo frequency transformation to quarterly data through the EVIEWS econometric software so as to be able to study their short run behavior in the SVAR model. The advantage of this is, having more observations without changing the natural structures of the data. Studies like Demachi, 2012, Omolade, 2014 among others have used the same approach.

Result Presentation and Analysis

The first model specification has to do with analyzing relationship between each of the shock variables (macroeconomic shocks) and fiscal policy behaviour in Nigeria and equation 3.10 is to be estimated for this purpose. From the equation, both commodity price volatility and oil price volatility are part of the identified shock variables to fiscal policy behaviour. Consequently, the process leading to the generation of both oil price and commodity price volatilities is the starting point of this analysis. From the methodology, the usage of Exponential Generalized Auto-regressive Conditional Heteroschedaticity EGARCH to generate the volatilities of both commodity and oil price have been emphasized. Therefore, the results and discussion of the EGARCH process is as follows.

Derivation of Commodity and Oil Price Volatilities

EGARCH process requires a stationary series therefore, the analysis begins with the unit root test for both commodity and oil prices. This study adopted two unit root tests and the results of the unit root tests are presented in Table 1

Table 1: Unit Root Test for Commodity and Oil Prices

Variable	ADF Statistics	Alpha Level	Decision	PP-Statistics	Alpha Level	Decision
Oil price	-5.452983	I(1)	I(1)	-5.452983	I(1)	I(1)
Commodity price	-3.954319	I(1)	I(1)	-3.954319	I(1)	I(1)

Sources: Researcher's Computation

Table 1 shows that both commodity and oil prices are stationary at the first difference this means that they are integration of order one I(1). This indicates that the condition for EGARCH estimation has been met.

Unit Root TestAfter Deriving Volatilities

In this study, two types of unit root test were implemented, that is, the Augmented Dickey test (Dickey and Fuller, 1979) (ADF) and Philip-Perron (Philip and Perron, 1988) (PP) test. The two tests assume unit root in their null hypothesis. Table 4.2 report the result of the unit tests.

Table 2 Unit Root Test

Variable	ADF Statistic	Alpha Level	Decision	PP-Statistics	Alpha Level	Decision
FB	-3.937	0.01	I(1)	-3.937	0.01	I(1)
GR	-8.707	0.01	I(1)	-8.707	0.01	I(1)
GE	-3.096	0.01	I(0)	-3.096	0.01	I(0)
ER	-3.568	0.01	I(1)	-3.568	0.01	I(1)
ED	-5.244	0.01	I(1)	-5.244	0.05	I(0)
EXR	-5.516	0.01	I(1)	-5.516	0.01	I(1)
DUMR	-5.831	0.01	I(1)	-5.831	0.01	I(1)
OILPVOL	-3.988	0.01	I(0)	-3.988	0.01	I(0)
COMPVOL	-3.600	0.01	I(0)	-3.600	0.01	I(0)
INF	-5.515	0.01	I(1)	-5.515	0.01	I(1)
K	-5.500	0.01	I(1)	-5.500	0.01	I(1)
GDPGR	`-4.514	0.05	I(1)	`-4.514	0.05	I(1)

Sources: Researcher's Computation

The results of the unit root test indicate that the variables are either stationary at levels or at the first difference. The implication is that Johansen type of cointegration techniques cannot be applied since it emphasizes the need for all the variables in the model to be stationary at first difference. However, from Table 2 variables like oil price volatility, commodity price volatility, External Debt and government expenditure are all stationary at levels hence the need to apply ARDL approach to cointegration, more so none of the variable is stationary at the second difference. All other variables in the model apart from the four are all stationary at first difference. Notwithstanding before the ARDL analysis, it is important that the lag length of each of the variables is determined. This is one of the preconditions for applying the ARDL approach to cointegration.

EGARCH process for both commodity and oil prices

The process begins with verification of ARCH effect. The two series are tested for ARCH effect both the residual plot and ARCH tests are used. The result is presented as follows:

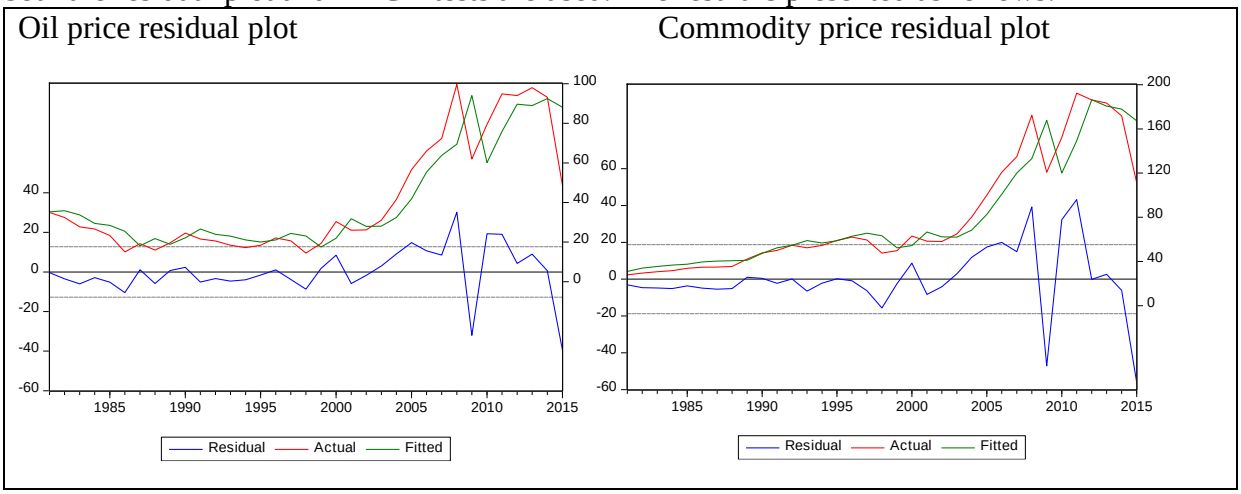

Figure 1: Residual Plot for Both Commodity and Oil Prices

Both graphs in figure 1 shows the likelihood of ARCH effect. Both commodity and oil price residual plot indicates undulating shapes that confirms the presence of ARCH effect. Notwithstanding, the ARCH analysis has provided an avenue for double checking the results presented in Figures 1 through the ARCH test. The results of the ARCH test for oil and commodity prices are presented in table 2

Table 3: ARCH Tests for Oil and Commodity Prices

Oil prices			
F-statistic	5.192702	Prob. F(1,32)	0.0295
Obs*R-squared	4.746949	Prob. Chi-Square(1)	0.0294
Commodity Prices			
F-statistic	6.315168	Prob. F(1,32)	0.0172
Obs*R-squared	5.603935	Prob. Chi-Square(1)	0.0179

Sources: Researcher's Computation

The results from tables 3 shows that the Null hypothesis of no ARCH effect is rejected at 5% level for both prices. The implication of this is that the results from the table confirm that there is ARCH effect. Therefore, we are justified to run any of the ARCH families' analysis. The EGARCH is applied here in order to verify if oil price as asymmetric effect. The estimated EGARCH equations for both oil and commodity prices are presented as follows:

EGARCH or conditional variance equation for oil price

$$ln\sigma^2 = 1.351934^{***} - 1.169635^{***} ln\sigma_{t-1}^2 + 0.821859^{***} \left|\frac{\mu_{t-1}}{\sigma_{t-1}}\right| + 0.882097^{***} \left|\frac{\mu_{t-1}}{\sigma_{t-1}}\right|$$

(3.94E-06) (0.024807) (0.151661) (1.6E-103)

EGARCH or conditional variance equation for commodity price

$$ln\sigma^2 = 0.319702 - 0.442090 ln\sigma_{t-1}^2 - 0.034851 \left|\frac{\mu_{t-1}}{\sigma_{t-1}}\right| + 1.067861^{***} \left|\frac{\mu_{t-1}}{\sigma_{t-1}}\right|$$

(0.221492) (0.323958) (0.394033) (0.002111)

*, **, ***: significance at 10%, 5% and 1% respectively

Equations above estimated EGARCH models for both oil and commodity price respectively. The results show that both prices do not have asymmetric effect but rather a significant symmetric effect during the period under review. This is because the coefficient 0.882097 and 1.067861 are greater than zero and they are statistically significant. This indicates that a positive price shock will have more pronounced effect than negative price shock.

Consequently, the residuals of the conditional variance equations that is $ln\sigma^2$ in equations 1 and 2 for both oil and commodity prices are used as oil price volatility (oilpvol) and commodity price volatility (compv) respectively as stated under the methodology.

Data analysis on the impact of macroeconomic shocks on the fiscal policy behavior in Nigeria
The model to be estimated here is under the methodology representing the objective. The analysis begins with exploration of the time series properties of the variables through the unit root test. The test is necessary to determine the order of integration of the variables and hence it will allow us to know which approach of cointegration technique to use.

ARDL model for impact of macroeconomic shocks on fiscal policy behaviour in Nigeria
Both the long run and the short run relationships are presented in table 4. The relative impacts of each of the identified macroeconomic shocks on fiscal balance which is used to proxy fiscal behaviour are explained in the table 4.

Table 4 ARDL regression for macroeconomic shocks and fiscal balance
Method: ARDL
Selected Model: ARDL(2, 2, 2, 2, 2, 2, 2, 1, 2, 2)

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
FB(-1)	-0.859629	0.313842	-2.739049	0.0408
FB(-2)	0.396277	0.304876	1.299797	0.2504
GR	0.656625	0.085770	7.655669	0.0006
GR(-1)	0.760604	0.170560	4.459448	0.0066
GR(-2)	0.130735	0.085281	1.532992	0.1859
GE	-1.067228	0.109264	-9.767412	0.0002
GE(-1)	-0.779109	0.240261	-3.242757	0.0229
GE(-2)	0.091465	0.150321	0.608462	0.5695
ER	-0.018923	0.029145	-0.649280	0.5448
ER(-1)	-0.067530	0.028254	-2.390089	0.0624
ER(-2)	0.071883	0.052772	1.362141	0.2313
ED	-0.017125	0.007993	-2.142380	0.0851
ED(-1)	0.001486	0.009286	0.160076	0.8791
ED(-2)	0.073138	0.034730	2.105916	0.0891
EXR	-1663.537	434.9376	-3.824771	0.0123
EXR(-1)	1814.525	659.9441	2.749513	0.0403
EXR(-2)	-696.1182	103.5169	-6.724682	0.0011
INF	131.9497	53.17054	2.481632	0.0557
INF(-1)	62.74385	63.61635	0.986285	0.3693
INF(-2)	-66.29291	76.25004	-0.869415	0.4244
DUMR	96481.49	30976.82	3.114635	0.0264
DUMR(-1)	-176050.8	43655.98	-4.032685	0.0100
COMPVOL	-634.8538	241.3365	-2.630575	0.0465
COMPVOL(-1)	562.7036	209.3143	2.688319	0.0434
COMPVOL(-2)	655.1934	296.5082	2.209698	0.0781
OILPVOL	-163.1138	237.7326	-0.686123	0.5231
OILPVOL(-1)	-406.2991	285.0998	-1.425112	0.2134
OILPVOL(-2)	-571.1676	266.0860	-2.146553	0.0846
C	-2184.024	3703.388	-0.589737	0.5810

R-squared	0.999788	Mean dependent var	-21510.65
Adjusted R-squared	0.998600	S.D. dependent var	56368.14
S.E. of regression	2108.847	Akaike info criterion	17.93463
Sum squared resid	22236181	Schwarz criterion	19.23653
Log likelihood	-275.8887	Hannan-Quinn criter.	18.37861
F-statistic	841.8622	Durbin-Watson stat	3.100981
Prob(F-statistic)	0.000000		

Table 4 shows the general estimated regression equation for the relationship between macroeconomic shocks and fiscal balance. The estimated model shows that all the identified shocks are responsible for about 99% change in the fiscal behaviour in Nigeria as indicated through the value of the R square. The F value also confirms this by showing that all the variables can jointly affect fiscal behaviour in Nigeria significantly. However, to split the relative impacts of each of the variables to long run and short run, table 4.5 is presented.

Table 5 ARDL Short run and long run forms for macroeconomic shocks and fiscal balance
Selected Model: ARDL(2, 2, 2, 2, 2, 2, 2, 1, 2, 2)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(FB(-1))	-0.367458	0.036856	-9.970045	0.0002
D(GR)	0.652160	0.008782	74.262956	0.0000
D(GR(-1))	-0.124468	0.020325	-6.123908	0.0017
D(GE)	-1.062585	0.012576	-84.492421	0.0000
D(GE(-1))	-0.083854	0.020935	-4.005393	0.0103
D(ER)	-0.017959	0.002196	-8.179681	0.0004
D(ER(-1))	-0.069434	0.005624	-12.346700	0.0001
D(ED)	-0.016267	0.001288	-12.631022	0.0001
D(ED(-1))	-0.072111	0.004316	-16.709479	0.0000
D(EXR)	-1520.578355	138.940138	-10.944126	0.0001
D(EXR(-1))	650.056021	50.529441	12.864896	0.0001
D(INF)	135.457670	20.889523	6.484479	0.0013
D(INF)	86124.409466	9702.513982	8.876505	0.0003
D(DUMR)	-614.870639	67.851507	-9.062004	0.0003
D(COMPVOL)	-673.169305	66.330236	-10.148755	0.0002
D(COMPVOL(-1))	-168.841569	86.560603	-1.950559	0.1086
D(OILPVOL)	676.360461	99.126497	6.823206	0.0010
D(OILPVOL(-1))	1.419851	0.064396	22.048781	0.0000
Long Run Coefficients				
GR	1.057821	0.151456	6.984347	0.0009
GE	-1.199214	0.152324	-7.872794	0.0005
ER	-0.009957	0.038750	-0.256955	0.8075
ED	0.039293	0.023071	1.703157	0.1493
EXR	-0.37252610	0.22359667	-1.660377	0.1577
INF	0.87744182	0.10825574	0.798941	0.4606
DUMR	-0.5437400 5	0.126511827	-4.288729	0.0078

COMPVOL	-0.39829844	0.13090552	-1.268519	0.0605
OILPVOL	0.77930026	0.944871304	1.736422	0.0430
C	-0.149280471	0.265610104	-0.572795	0.0316

The results on table 5 is a clear indication of the fact that all the variables included in the model have different impacts on fiscal behaviour in Nigeria both in the long run and short run periods.

Firstly, from the table it appears that the variables have more of transitory impact on fiscal policy behaviour in Nigeria than permanent impact. Virtually all the variables have significant impact in the short run but as they approach the long run period the impact diminish. The core variables of fiscal policy such as government revenue and expenditure, then other shocks variables such as external reserve, exchange rate, inflation rate, external debt as well as the exogenous shocks like oil price and commodity price volatilities all have significant impact on fiscal policy behaviour in the short run. This is an indication that fiscal policy in Nigeria is highly vulnerable to shocks from these variables mostly in the short run.

However, approaching the long run period the effects of some of the shock variables is reduced and they are no longer significant on fiscal policy behaviour. These variables are external reserve, external debt, inflation rate and exchange rate. But the effects of variables like government revenue, government expenditure, regime of administration, oil price and commodity price volatilities are all sustained till the long run periods.

Another revelation from the result is the coefficient of the shock variables. For upward oil price shocks, it attracts positive fiscal balance but upward commodity price shocks causes negative fiscal balance. Government expenditure also causes a more negative fiscal balance while government revenue increase causes a positive fiscal balance. These four variables have been shown to have more effects on fiscal policy behaviour in Nigeria than other variables in the model.

In addition to further confirm the existence of the long run relationship between fiscal policy behaviour and other variables in the model the bound test is conducted.

ARDL Bound test

The bound test is one of the diagnostic tests to confirm the presence of co-movement among the variables in the estimated ARDL model.

Table 6 ARDL bound test for the impact of macroeconomic shocks on fiscal policy behaviour.

Null Hypothesis: No long-run relationships exist

Test Statistic	Value	K
F-statistic	33.42047	9

Critical Value Bounds

Significance	I0 Bound	I1 Bound
10%	1.8	2.8
5%	2.04	2.08
2.5%	2.24	3.35
1%	2.5	3.68

Table 4.6 shows F value of 33.4207 this value is greater than all the critical values at various significant levels from 1% to 10%. This implies that the hypothesis of no long run relationship is rejected hence we conclude that there exist a significant long run relationship between the macroeconomic shocks and fiscal policy behaviour in Nigeria.

Conclusions

Based on the inferences drawn from the study some important conclusions which form some of the original contributions of the study to the existing literatures can be made. They are briefly highlighted as follows;

Firstly, oil price volatility, commodity price volatility, government expenditure and revenue, external debt, external reserve, exchange rate, regime of administration, interest rate and inflation rate are important shocks that affect fiscal policy behavior in Nigeria. However, the external shocks like oil price and commodity price volatilities and the core fiscal variables such as government revenue and expenditure have the most pronounced and sustainable effect on fiscal policy behaviour in Nigeria.

Secondly, both oil price and commodity price have been shown to have opposite relationships with fiscal policy behavior in Nigeria. While oil price influences fiscal behavior positively by promoting positive fiscal balance, commodity price has been shown to have negative relationship with fiscal balance and its increase brings about more negative fiscal balance.

Recommendations

Based on the conclusions from this study, some policy recommendations are necessary to improve the relationship between the fiscal policy shocks, fiscal policy and the Nigerian economy in general.

(i) **Expansion of domestic productive capacity:** The study has revealed that Nigeria fiscal policy framework and the Nigerian economy at large are highly susceptible to commodity price volatility due to the low domestic productive capacity. Consequently,

it is advised that Nigerian government needs to in place policies that will enhance local output, this will reduce the vulnerability of the economy to external shocks.

(ii) **Cautious devaluation of currency:** The monetary authorities in the country should exercise a lot of cautions when trying to devalue the naira. Findings from the research work have shown that this action might aid the vulnerability of fiscal policy to external shocks and thus brings more uncertainty to the fiscal policy outlook in the economy.

(iii) **Economic diversification:** Findings from the study have also supported the current crusade for economic diversification in Nigeria. It is discovered from many of the results from the analysis that narrow export base of the Nigerian economy is an important factor making it to be more import dependent. Being import dependent is a factor that exposes macroeconomic polices like fiscal policy to external shocks. Consequently, this study joins other past empirical studies to recommend aggressive efforts toward diversifying Nigerian economy so that it will shift from oil dominance economy to real sector dominant economy.

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