SSRG International Journal of Economics and Management Studies
ISSN: 2393 – 9125 / https://doi.org/10.14445/23939125/IJEMS-V8I3P101

Volume 8 Issue 3, 1-9, March, 2021

Original Article

Fiscal Policy Dynamics and Economic Growth; Sharing the Nigeria Experience

[1]Dada, M. A., [1]Posu, S. M. A., [2]Okungbowa, O. G., [3]Oguntegbe, A. A

[1.]*Department of Economics, College of Management Sciences, Federal University of Agriculture, Abeokuta, Nigeria.*
[2.]*National Institute for Legislative and Democratic Studies, National Assembly, FCT, Abuja, Nigeria*
[3.]*Department of Business Administration, The Polytechnic Ibadan, Oyo State, Nigeria.*

Received Date: 25 January 2021
Revised Date: 28 February 2021
Accepted date: 05 March 2021

Abstract - *Economic growth has been a great concern not only among countries aspiring to achieve economic development but also among already developed countries for development sustainability. This study examined the fiscal policy dynamics and economic growth sharing the Nigeria experience. The study is based on historical data covering (1981-2017), fetched from World Development Indicators (WDI) and Statistical Bulletin, a publication of the Central Bank of Nigeria. An autoregressive distributed lag (ARDL) modeling procedure was used to achieve the set objective. The results showed the coefficient of fiscal policy as being negative and significant in the short-run but positive and significant in the long-run. The coefficient of the error correction term significant, negatively signed, and less than the absolute value of 1 in conformity with a priori expectation. The magnitude of the coefficient confirmed a strong long-run equilibrium relationship and short-run dynamics between fiscal policy and economic growth. The result also showed that monetary policy rate and inflation contributed positively and significantly to economic growth. This study deduced that fiscal policy targeting future expansion in economic activities might shrink economic growth initially but enhances it later. The study concluded that fiscal policy affects Nigeria's economic growth positively only in the long-run.*

Keywords - *ARDL Model, Fiscal policy, Economic Growth, Development Sustainability, Nigeria.*

JEL *Classifications*: E52; H50; J68; O42

I. INTRODUCTION

The question of whether fiscal policy affects economic growth either positively or negatively abound in economic literature, particularly in the area of fiscal theory and policy as well as public economics. The efficacy of the Keynesian fiscal policy has remained a question of empirical investigation since the effect of such policy is known to vary across economies and times. Fiscal policy, according to Rena (2005), refers to the measures a government adopts to alter levels of expenditure with a view to influencing economic activities and performance towards a given direction. There is no doubt that in recent times, the debate is going more in favor of taking discretionary fiscal policy actions based on prevailing economic situations (Gruen, 2009; Taylor, 2018). For instance, during the period of upheaval or emergency, fiscal policy must respond adequately to minimize the effect of such occurrences that could distort the economy by altering the general equilibrium position in the economy. If there are unfavorable economic conditions, fiscal policy should respond by embarking on a discretionary fiscal action of raising expenditure above revenue (i.e., fiscal deficit) to smoothen economic behavior and imbalances. On the other hand, if a favourable economic condition generally prevails, fiscal policy should also respond by embarking on a discretionary fiscal action capable of lowering expenditure below revenue (i.e. fiscal surplus) in order to keep the economy at equilibrium. This stabilization function is required for the economy to keep growing. In order to smoothen out economic fluctuations in the system, fiscal policy has to rely on automatic stabilizers.

According to Mykola (2017), an increase in government expenditure has significant dual effects on economic growth. For instance, an increase in government expenditure is a boost to economic activities and therefore positively affects growth. On the other hand, implementation of tax increase necessitated by the need to fund the relevant government expenditure is a withdrawal from the economy and, hence, shrinks the economic growth process. This view presented fiscal policy-growth effects as a single coin with two sides. It demonstrates that an increase in government expenditure would positively impact economic growth, but if such expenditure is financed with tax, the tax increase may yield negative economic growth effects. However, when benefits from increased expenditure out-weigh the costs associated with increased taxation, the net result will be positive, which will, consequently, propel a higher economic growth rate.

Most governments across developed, emerging, and developing countries usually employ fiscal policy tools to

achieve a set of macroeconomic objectives. Fiscal policy is a set of deliberate actions or measures by the government to influence macroeconomic variables. The measures include rapid employment creation, sustainable economic growth, reducing inequality and poverty level in the country. Fiscal policy alone may not be effective unless it is used in conjunction with an appropriate monetary policy whereby the monetary authority moderates the total money supply. Both monetary and fiscal policies are combined in different proportions of the measures to achieve the nation's macroeconomic objectives. Fiscal policy has great potential in stabilizing an economy. It is targeted at the amount and structure of taxes, expenditure, and debt management. Fiscal policy exerts great effects on aggregate demand, wealth distribution, capacity utilization, and provision of enhanced infrastructure. It helps to achieve an efficient allocation of public resources required for the achievement of the basic macroeconomic goals. The question of whether fiscal policy boosts economic growth during the business cycle has become a subject of interest. Fiscal policy seems to be an important instrument of economic stabilization.

Fiscal policy is fundamentally crucial to the health and performance of a nation's economy. A nation's capacity to collect tax and spend from the various revenue collected affects the disposable income of individual households, after-tax profit of business firms, and the general business climate (Okonjo-Iweala, 2003; Ezeoha and Uche, 2006). The government's choice of financing high fiscal expenditure also matters for the economy. Fiscal policy mix can also be used to reduce income inequality which is a strong factor causing education and healthcare inequalities across developing countries. It could be recalled that as income inequality escalates, education and healthcare inequalities also continue to follow a similar trend. Bridging the income inequality gap will also bridge the gap in education and healthcare inequalities. Human capital development involves heavy investment in human education and healthcare services. Such investments will tend to exert a long-run economic growth effect due to the consequential increase in the marginal physical productivity of labor (Yepez, 2017).

Fiscal policy affects long-run economic growth through these transmission channels. Investment in education and healthcare has the capacity to boost productivity at individual and aggregate levels. A high level of fiscal spending will definitely be required to execute the magnitude of investment that could bridge the gaps in healthcare and education. The expected return on these investments might not payback immediately. The delay in the yields on investment would be interpreted as the negative short-run effect of investment expenditure on GDP growth. Ideally, the payback of investments on growth both in the short-run and long-run would vary.

Omoruyi (2000) attributed the unsustainable level of fiscal deficits as the major cause of economic instability and low economic growth. The study showed that the national output is financed through bank loans and possible weak deficit financing. Accordingly, little consideration is given to servicing existing scheduled debt obligations. This view is pessimistic about high fiscal expenditure and continuous rise in the debt stock of the nation, which is the result of a highly volatile expenditure pattern. Despite this pessimistic view, the study concluded that a prudent fiscal policy promotes macroeconomic stability and growth while deficit financing engenders instability and poor economic performance.

Nigeria, over the period 1960-2000, was classified among the most volatile economies in the world (World Bank, 2003). Any increase in government expenditure in excess of revenues results in a fiscal deficit, and if this is financed by borrowing either externally or internally, it raises the debt profile of the nation. The effect may be mixed in developing nations. The kind of fluctuations in oil earnings can really be worrisome to an economy that depends largely on revenue from oil to finance necessary fiscal obligations. Fluctuations both in spending and earnings produce certain economic effects that cannot be underestimated. Weak fiscal discipline and much dependence on earnings from crude oil account for fluctuations in government expenditure. Erratic fluctuations in fiscal spending could also trigger exchange rate volatility. Barnett and Ossowski (2002) observed that an increase in government expenditure that is financed with oil revenues usually results in appreciation of the domestic currency and creates the Dutch Disease concerns. Dutch Disease reduces the competitiveness of the non-oil sector. Ekpo (2003) distinguished between fiscal policy and monetary policy. The former uses taxes and government expenditure to control economic activities. The latter uses changes in interest rates and money supply to regulate economic activities. In macroeconomic management, the effects of fiscal and monetary policies are not mutually exclusive. Interconnections and spillover effects exist between the two policies.

A considerable number of existing studies on fiscal policy-growth nexus used aggregate government expenditure and revenue to proxy fiscal policy. Some other studies used the disaggregated expenditure and revenue data as a proxy for fiscal policy. This study captured fiscal policy using the change in the differences between aggregate government expenditure and revenue as well as the debt-GDP ratio. In this case, two fiscal policy variables, namely, fiscal balance and debt-GDP ratio, were jointly used to capture fiscal policy over the period under consideration. Any government expenditure financed through debt would definitely increase the debt profile of the nation since the debt-GDP ratio would rise in the wake of high government spending. The consequence of this policy action can only be settled empirically since such a fiscal arrangement has been met with mixed effects across different economies. The experience in one country or region might be different from another. On this background, this study uses the autoregressive distributed lag (ARDL) technique to examine the role of fiscal policy, via fiscal balance and debt-GDP ratio, on the economic growth process in Nigeria.

The remaining parts of this paper follow this structure. Section 2 contains theoretical underpinning and empirical literature review on fiscal policy-growth nexus. Presented in Section 3 is a dataset on the variables and methodology. Section 4 embodies the analysis of empirical results, and Section 5 concludes the study.

II. REVIEW OF LITERATURE

A. Theoretical Underpinning

Neoclassical economists ruled out government participation in the growth process of an economy. Accordingly, the effect of fiscal policy on growth was held constant and assumed zero. However, the neoclassical growth theory, according to Judd (1985), considers government policy to affect the output level only with a nil effect on growth rate. Going by the endogenous growth theory, fiscal policy exerts long-run growth effects through investment in education and healthcare (Barro 1990, Barro and Sala-i-Martin 1992, and 2004). The endogenous growth theory agrees with the Keynesian theory. When government expenditure rises, aggregate demand tends to be stimulated, spurring an increase in economic activities that would translate to economic growth. To finance its expenditure, the government can embark on domestic borrowings, external borrowings, or make recourse to seigniorage: printing of currency by the monetary authority.

The Keynesian economists postulate a positive relationship in the fiscal policy-growth nexus. The Keynesians opined that an increase in government spending would produce certain effects on an economy. It would (i) stimulate domestic economic activities; (ii) increase aggregate demand; (iii) boost savings and, thus, private investment at any prevailing interest rate; and (iv) crowds-in the flow of private investment. By this, the Keynesian theory provides a counter-argument to the idea of a crowding-out effect and thereby lends support to the use of fiscal policy to influence the economy for growth purposes and macroeconomic stability. They argue that fiscal policy causes an increase in domestic output, induces further investment because private investors would become more optimistic about the investment climate of the country. This produces what is called “the crowding-in effect” against the so-called “crowding-out effect” on both consumption and investment expenditures.

Economic literature classified fiscal policy instruments into taxation and expenditure. Taxation may be distortionary or non-distortionary. Expenditure, too, maybe productive or unproductive. Distortionary taxation shrinks growth as it discourages investment expenditures on physical and human capital. In contrast, non-distortionary taxation has no effect on investment in physical and human capital. It thereby enhances economic growth. The nature of the utility function anticipated for the private agents determines the enhancement. Productive investment expenditure influences the marginal product of private capital and thereby propels economic growth. Unproductive expenditure exerts no effect on the private marginal product of capital. It does not stimulate growth.

This classification helps to appreciate the varying effect of fiscal policy on an economy. The endogenous growth models postulate that using non-distortionary taxes to finance productive expenditure will boost economic growth. The effect, however, of using distortionary taxation is ambiguous. Irmen and Kuehnel (2008) observed that the productive expenditure that would achieve the maximum growth rate may or may not be Pareto efficient. Fiscal policy will produce a neutral effect on economic growth when non-distortionary taxation is used to finance non-productive expenditures. If, however, distortionary taxation is the measure to fund non-productive expenditure, the effect will be negative on the economy. These varied conclusions on fiscal policy-growth effects leave the windows open for further researches. Further studies would capture the fiscal policy-growth effects to enable policymakers to evaluate the appropriate policy approach for better macroeconomic performance.

B. Empirical Perspective

Benos (2009) examined the fiscal policy-growth effects for EU countries. Government spending and revenues were decomposed into many sub-divisions to estimate the influence of the variables on GDP. The study showed a positive fiscal policy-growth effect. Bouakez (2007) is also a study on the fiscal policy-growth nexus. The result showed that increases in government expenditure stimulated economic activities more than tax-cuts did. The study by Yepez (2017) was during a period of liquidity trap that was associated with a large multiplier effect. The expansionary fiscal policy prevented a deeper and longer recession. By implication, expansionary fiscal policy tends to positively influence economic growth through its multiplier effect, which tends to rescue the economy out of recession.

Using relevant datasets for the period 1994-2014, Brunela (2015) investigated the fiscal policy-growth effects in Albania. The study employed a co-integration technique and error correction mechanism. Fiscal policy was captured with three indicators: government expenditure, profit tax, and external debt. The result showed all three measures to have a positive effect on economic growth. The study concluded that fiscal policy improved the growth of the economy. Anvar and Mohammad (2010) investigated the interrelationship among monetary policy, fiscal policy, and economic growth in Iran using the ARDL cointegration technique. The result shows that fiscal policy, among other variables, cointegrated with economic growth. Government expenditure as a proxy for the fiscal policy had a significant positive effect on the growth of the Iranian economy.

Using the Johansen cointegration test and ARDL approach on quarterly data over the period 1998Q4-2012Q3, Hasanov (2013) explored non-oil value-added effects of fiscal policy and private investments on the growth of the Azerbaijani economy. The result showed fiscal policy as having a positive growth effect and

established the existence of a long-run equilibrium relationship between fiscal budget and economic growth. Dehning, Khatai, and Orkhan (2016) explored the output effects of budgetary expenditure in relation to the non-oil sector-led economic growth using the ARDL bound testing technique on disaggregated fiscal data. The result from the study suggests that data on the fiscal variables employed have a positive and significant effect on the non-oil output, which was used to proxy economic growth and hence lends support to the Keynesian theory.

Using ARDL bound test, Hasanov, Mikayılov, Yusifov, and Aliyev (2016) examined the effect of fiscal decentralization on non-oil growth in Azerbaijan over 2002Q4-2013Q4. The share of local expenditures to total revenues was used to capture fiscal decentralization. The study established a negative coefficient for the proxy of fiscal decentralization and thus having a negative effect on non-oil GDP. Still, on Azerbaijan, Hasanov and Alirzayev (2016) applied system-based, single equation-based, and residual-based cointegration techniques on a dataset for the period 2001Q1-2012Q4. The study showed that government budget expenditure and foreign direct investment were statistically significant both in the short-run and the long-run. The two variables produced positive effects on the non-oil GDP in Azerbaijan. Gurbanov, Jeffrey, and Jeyhun (2017) investigated the effect of investments on the non-oil sector during 2000Q1-2013Q4. The study showed non-oil production being a little relative to the huge investment into the sector. However, the result also showed that a 1 percent rise in government expenditure contributed to a 0.4 percentage rise in non-oil GDP. The study upheld the positive fiscal policy-growth effect.

Fakhri, Fuad, and Nayef (2018) also investigated the fiscal policy-growth effects on the non-oil sector in Azerbaijan. The study incorporated a low oil price sample using different test and estimation methods and handled the related small-sample bias issues. The effect was positive and statistically significant, not only in the long-run but in the short-run also. Mykola (2017) explored the effects that fiscal stimulus and austerity measures generated on economic growth. Government spending could be unanticipatedly high or low. High fiscal spending yielded greater multiplier effects during the credit bust period. A similar economic growth effect was observed during rapid credit expansion, although at a lesser degree when compared to the former. In contrast, low fiscal spending produced a nil effect. Fakhri *et al*. (2018), Gurbanov *et al*. (2017), Kojo, Emmanuel and Mensah (2016), Chugunov and Makogon (2016), Hasanov and Elvin (2016), Boholib (2015), Lisyak (2009), and Zapatrina (2007) have all come up with findings that confirmed the statistically positive fiscal policy-growth effect. However, this current study differs from these reviewed and existing studies by the way it introduces changes in fiscal balance and debt-GDP ratio over time to proxy fiscal policy following an ARDL procedure within the period 1981-2017 in Nigeria.

III. DATASET AND METHODOLOGY

Data on variables such as real GDP, population, government expenditure, government revenue, external government debt, domestic government debt, broad money, exchange rate, real interest rate, and consumer price index 2010 base year were collected. These selected macroeconomic variables are pertinent to the objective of this study. The secondary time series data were obtained from multiple sources and used as variables required in the specification of the model for this study. The main sources are the latest editions of the Statistical Bulletin of the Central Bank of Nigeria, the World Development Indicators (WDI), the World Economic Outlook Database, and the International Monetary Fund.

A. Empirical Models

Given the simple production function of the form

$$Y_t = f({k_t}^{\phi}) \quad (1)$$

In this simple model, Y_t stands for economic growth; k_t represents factor determinants of growth; ϕ is growth elasticity of factor *k* while *t* is time subscript.

Following the endogenous growth model, $\phi \geq 1$ although k can be decomposed as

$$k = (K_1, K_2, K_3, \dots\dots\dots\dots, K_n) \quad (2)$$

Substituting (2) into (1),

$$Y_t = f(\{K_{1t}, K_{2t}, K_{3t}, \dots\dots\dots\dots, K_{nt}\}^{\phi}) \quad (3)$$

Each of the variables in the set $k = \{K_{1t}, K_{2t}, K_{3t}, \dots\dots\dots\dots, K_{nt}\}$ are growth factors suggested in the growth literature. The variations in growth are due to variations in factors belonging to set k.

The focus of this study is to account for the dynamic interaction between some selected fiscal policy variables and economic growth in conjunction with some selected growth variables used as fixed exogenous in the estimated models. Four growth variables were selected from set k; two fiscal policy variables were used as endogenous, while two other variables were incorporated into the model as fixed exogenous.

From (2),

$$k_t = (K_{1t}, K_{2t}, K_{3t}, K_{4t}) \quad (4)$$

and $\phi = (\phi_1, \phi_2, \phi_3, \phi_4)$ (5)

Accordingly, $Y_t = {K_{1t}}^{\phi_1} {K_{2t}}^{\phi_2} {K_{3t}}^{\phi_3} {K_{4t}}^{\phi_4}$ (6)

Linearizing (6),

$$InY_t = \phi_1 InK_{1t} + \phi_2 InK_{2t} + \phi_3 InK_{3t} + \phi_4 InK_{4t} \quad (7)$$

Expressing (6) in its econometrics form

$$InY_t = \phi_1 InK_{1t} + \phi_2 InK_{2t} + \phi_3 InK_{3t} + \phi_4 InK_{4t} + \mu_0 + \varepsilon_t \quad (8)$$

μ_0 = the intercept term

ε_t = the stochastic error term

Estimating (8) with the ordinary least square method seems inappropriate since the variables might not be all found to be stationary. This necessitated the use of another estimation technique which has been considered to be

appropriate by a growing body of literature to model a mixture of I(0) and I(1) variables. The study therefore advanced by specifying the ARDL model to capture the objective of determining the existence of long-run equilibrium relation and short-run dynamics of fiscal policy-growth effects. The ARDL model is specified as (9).

$$\Delta InY_t = \phi_0 + \phi_1 InY_{t-1} + \phi_2 InK_{1t-1} + \phi_3 InK_{2t-1} + \sum_{i=1}^{p} \Psi_i \Delta InY_{t-i} + \sum_{j=0}^{p} \varphi_i \Delta InK_{1t-j} + \sum_{s=0}^{p} \Omega_s \Delta InK_{2t-s} + In\beta' X_t + \epsilon_i \quad (9)$$

From (9), $X_t = \{K_{3t}, K_{4t}\}$ and β' is the parameters of fixed exogenous variables in the model.

The error correction model (ECM) is specified to capture the short-run dynamics in this study. After ascertaining the long-run equilibrium characteristics of the model, the study develops the error correction version of the ARDL model as specified in (10).

$$\Delta Y_t = \sum_{h=1}^{p_1} \lambda_h \Delta Y_{t-h} + \sum_{j=1}^{p_2} \psi_j \Delta K_{1t-j} + \sum_{s=1}^{p_3} \Omega_s \Delta K_{2t-s} + \gamma^* ECM_{t-1} + In\beta' X_t + \epsilon_t \quad (10)$$

The variables in (10) are in first differences. The included error correction term is lagged one period. Going by a priori expectation, coefficient of the error correction term, γ^*, should be negative, significant, and fall within the range $0 < \gamma^* < 1$. After a short-run deviation, γ^* Captures the speed of adjustment in a year to restore long-run equilibrium. The coefficient explains the short-run dynamics of fiscal policy variables on economic growth.

The study analyzed the trend of fiscal policy variables employed in this study before estimating the possible effects of the trend on economic growth. After estimating the ARDL model, various post-estimation tests, namely: stability, linearity, normality, autocorrelation, and heteroskedasticity tests, were conducted. To account for whether the ARDL model is dynamically stable, a correlogram of residuals test with their respective Q-statistic were obtained. The study verified the various tests of residual normality, absence of autocorrelation, and heteroscedasticity. The test statistics employed were Jaque-Bera for normality test**,** Breusch-Godfrey Serial Correlation LM for autocorrelation, and ARCH heteroscedasticity for homoscedasticity in the residuals.

IV. EMPIRICAL ANALYSIS

A. The trend of Variables of the Model

Figure 1 revealed the trend of real per capita income (RGNPPCN), money supply (MM2), and inflation (CPI). The slope of the three variables could be said to be more or less similar. It can easily be concluded that these three variables are mostly dominated by upward trend, although none of the curves was smoothened out as a straight line due to some observed fluctuations along their respective growth path.

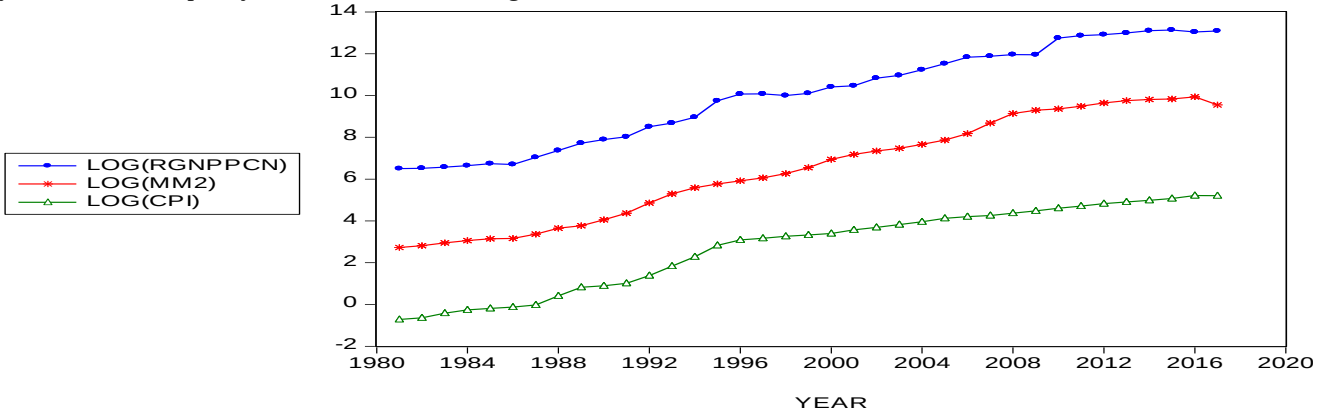

Fig. 1 The plotted trend of Real Per Capita Income, Inflation and Money Supply in Nigeria (1981 – 2017)
Source: Authors' Compilation

Figure 2 revealed the trend of fiscal balance (FPRGM) measured as total government expenditure minus total revenue divided by real GNP multiplied by 100 and debt-GDP ratio (DEBTGDPR) measured as domestic debt plus external debt divided by real GNP multiplied by 100 during 1981- 2017. The two variables at the initial stage were moving together very closely until fiscal balance fell and rose, intersecting debt-GDP ratio at five different points over the range that debt-GDP ratio had relatively steady rise before the two variables finally diverged widely around 2015 through 2017.

The trends confirm the existing economic conditions of the Nigerian economy where the debt profile has been relatively considered to be on the high side. Spending hike in the wake of oil price fluctuations resulted into inability of revenue to cope with expenditure. The Nigerian government resorted to debt-financing in order to meet some basic fiscal and political obligations, which in effect, led to a hike in debt-GDP ratio. Consequently, fiscal balance staggered over almost two decades and eventually nose-dived sharply into the negative zone for a couple of years.

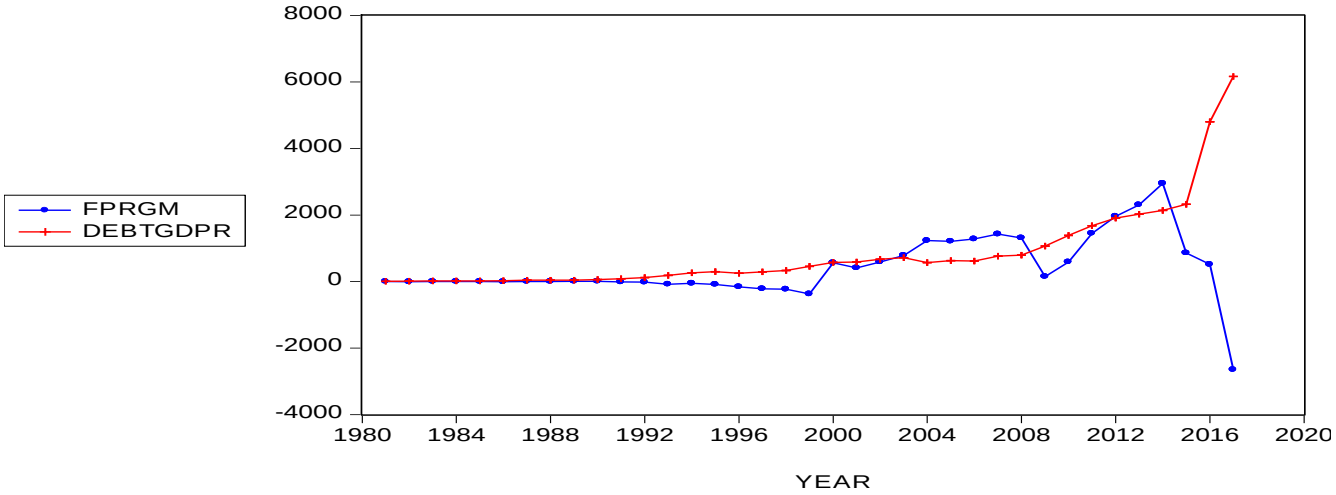

Figure 2: Plotted Trend of Fiscal Balance and Debt-GDP Ratio in Nigeria (1981-2017)
Source: Authors' Compilation

B. Unit Root Tests

Empirical literature asserts time-series data to exhibit unit root problems, in which the mean and variance vary over time. This non-constancy of mean and variance usually creates a problem in time series econometrics modeling, and as such, the unit root test is an important pre-estimation test to avoid spurious regression. It is, therefore, a necessary condition to meet in modeling time series variables. Two types of unit root tests were used. First is Augmented Dickey-Fuller (ADF) with the null hypothesis of non-stationarity in the known series. The second alternative unit root test is popularly called KPSS, the null hypothesis of which specifies the known series as stationary. The decision on the order of integration, I(d), of each of the variables, is based on these two types of unit root tests. The combined results from the two tests, displayed in Table 1, indicate that the variables are a combination of I(0) and I(1).

Table 1. ADF and KPSS Unit Root Tests

Variables	ADF	KPSS	DECISION
LOG(RGNPPCN)	I(1)**	I(2)*	I(1)
FPRGM	I(1)**	I(1)**	I(1)
Debt-GDP-ratio	I(1)***	I(0)**	I(0)
LOG(MM2)	I(2)*	I(1)**	I(1)
LOG(CPI)	I(1)**	I(0)**	I(0)

***, **, *** statistical significance at 10%, 5% and 1% levels respectively*
Source: Authors' Compilation

C. ARDL Cointegration Bound Test

This study applied an ARDL bound test as proposed by Pesaran, Shin, and Smith (2001), followed the series of studies reviewed, to detect if the variables cointegrate. The result presented in Table 2 reveals that the F-statistic for the model exceeded the upper critical bound. This means rejection of the null hypothesis and that cointegration relationships exist among the variables. This result corroborates Anvar and Mohammed (2010) for the Iranian economy, Brunela (2015) for the economy of Albania, and Aliyev, *et al*., (2016) for the Azerbaijani economy.

Table 2. Result of ARDL Bound Tests

Model	
Test Statistics	
F-stat	10.98
Critical Value Bounds at 5% Significance Level	
I(0)	3.79
I(1)	4.85

Source: Authors' Compilation

D. ARDL - Error Correction Model Estimate

The result of the ARDL-based error correction model presented in Table 3 confirmed that long-run equilibrium relationships exist between fiscal policy and economic growth. It also revealed the short-run dynamics between the two variables. The error correction term lagged one period is -0.7453 with a probability value of (0.000). It is statistically significant, negative, and has a value below 1. This provides strong support for a long-run equilibrium relationship in the fiscal policy-growth nexus. It also suggests that about 75 percent of disturbances in the model in the previous year are currently corrected. This

speed of adjustment is considerably high and good for the model.

Also, the short-run coefficients of all the variables, particularly the fiscal policy variables, were found to be significant. This implies that fiscal policy, among other variables, has a significant influence on economic growth in the short-run, although the sign was negative.

This result agrees with the findings of prior studies that conclude that fiscal policy produces negative effects on economic growth. Such studies include Olawunmi and Ayinla (2007), Barro (1991), Easterly and Rebelo (1993), Odedokun (2001), Bose, Haque, and Osborn (2003), and Jafari, Alizadeh, and Azizi (2006). However, the negative effect of fiscal policy on economic growth in this study is only in the short-run.

Table 3. Result of ARDL-Error Correction Model Estimate

Short-run Model			
Variable	**Coefficient**	**Std Error**	**Prob-value**
DLOG(RGNPPCN(-1))	0.313396	0.128966	0.0226
D(FPRGM)	0.000108	0.000047	0.0295
D(FPRGM(-1))	-0.000285	0.000089	0.0039
D(DEBTGDPR)	-0.000380	0.000117	0.0034
DLOG(MM2)	0.302419	0.095227	0.0039
DLOG(CPI)	0.420060	0.106962	0.0006
ECM(-1)	-0.745290	0.140657	0.0000

Source: Authors' Compilation

E. Long-run Fiscal Policy-Growth Effects

The ARDL bound test results, displayed in Table 2, provided support for a long-run relationship between the two variables. Similarly, the ARDL long-run coefficients, presented in Table 4, showed that fiscal policy variables positively influenced economic growth in the long-run since the sign of the long-run coefficients for all the variables were positive. This result confirms Adesuyi and Falowo (2013), Iya and Gabdo (2014), Lance *et al*. (2011) but negates Akinmulegun (2013) for the Nigerian economy; and Kojo, Emmanuel, and Mensah (2016) for the Ghanaian economy. The result also corroborates Fakhri *et al*. (2018) and Hasanov and Elvin (2016) for the Azerbaijani economy.

F. Post Estimation Result

Having estimated the ARDL models, the study conducted different kinds of post-estimation tests to confirm that the models meet up with all their underlying assumptions. These tests ensured that all the required conditions are satisfied for the acceptance of the findings and made this study acceptable and reliable for policy direction and guidance. The results of the post estimation tests for the estimated model are summarized in Table 5.

Table 4. Result of ARDL Long-Run Estimate

Long-run Model			
Variable	**Coefficient**	**Std Error**	**Prob-value**
FPRGM	0.000122	0.000122	0.1431
Debt-GDP-ratio	0.000362	0.000084	0.0002
LOG(MM2)	0.405773	0.098646	0.0004
LOG(CPI)	0.563619	0.105525	0.0000
C	5.605422	0.332476	0.0000

Source: Authors' Compilation

The result of the linearity tested the general misspecifications of the estimated models. The linearity is the Regressions Specification Error Test (RESET). It is propounded by Ramsey (1969). The null hypothesis investigates no specification error in the models. For the model, Ramsey RESET result shows that the probability value of t-statistic (1.5327) is revealed to be (0.1384) which is greater than 0.05. Similarly, the probability value of the F-statistic (2.3492) is (0.1384), greater than 0.05. By implication, the model was correctly specified as validated by the non-rejection of the null hypothesis of no specification error.

Table 5. Diagnostic Tests Result

TEST	Statistic	Prob-value
Linearity Ramsey RESET	t-stat (1.532697)	0.1384
	F-stat (2.349160)	0.1384
Autocorrelation Breusch-Godfrey	F-stat (1.392939)	0.2685
Heteroscedasticity ARCH-LM	F-stat (0.581900)	0.4512
Normality Test	JB-stat (1.558)	0.459

Source: Authors' Compilation

Also, the result of the normality test revealed that the models satisfied the assumption of normality. The Jaque-Bera statistic (1.558) has a probability value of (0.459). It is, by far, greater than 0.05. The residuals of the series were normally distributed, and the assumption of normality was not violated for this model. The result also shows that there was no heteroskedastic problem. Results of the test confirmed that the variations in the error term were constant overtime. There was no dependence between the error terms and the explanatory variables. The study adopted the Autoregressive Conditional Heteroscedasticity Lagrangian Multiplier (ARCH-LM) test. From the estimated model, the probability value of the F-statistic (0.5819) was (0.4512) which is greater than 0.05. Therefore, the null hypothesis of homoscedasticity cannot be rejected. The result ascertained that the variances of the error term were equal.

The possibility of correlation among the error terms was tested. The autocorrelation ascertained the independence or otherwise of the error terms on one another. The null hypothesis of Breusch-Godfrey test

indicated non-serial correlation of the error terms. The F-statistic (1.3929) on the test has a probability value (0.2685). The F-statistic also upheld the null hypothesis of no serial correlation.

V. CONCLUSION

This study employed the ARDL modelling procedure to examine the dynamic effect of fiscal policy on economic growth in Nigeria between 1981 and 2017. Specifically, the study adopted the ARDL Bound test to determine the existence of cointegration relationship among investigated fiscal policy variables and economic growth. It also employed ARDL error correction modelling technique to investigate the extent of cointegration between fiscal policy and economic growth; and the relational effects both in the short-run and in the long-run. The result showed no cointegrating relationship between fiscal policy and economic growth. This implies that a long-run equilibrium relationship existed between fiscal policy and economic growth in Nigeria. The result of the ECM showed that there was strong long-run relationship and dynamics between fiscal policy and economic growth. The long-run equilibrium was restored after a short-run deviation in the variables. Fiscal policy had negative and significant influence on economic growth in the short-run. However, the long-run effect of fiscal policy on economic growth was positive and significant. The result of this study also showed that inflation and monetary policy rate had positive and significant growth effect in both the short-run and long-run. This study found basis for the mix of fiscal policy and monetary policy to boost long-run economic growth in Nigeria. Fiscal policy showed the potentials to enlarge the production capacity of the economy by absorbing the mass unemployed and under-employed human and non-human resources. The study conclusively provided a convincing evidence of significantly positive effect of fiscal policy on long-run economic growth process of the oil-rich Nigerian economy.

REFERENCES

[1] Adesuyi, O. O. and Falowo, E., Impact of fiscal deficit financing on macroeconomic growth in Nigeria. International Journal of Research Management, 3(5)(2013) 2249-5908.

[2] Akinmulegun, S. O., Deficit financing and economic growth in Nigeria: Preliminary investigation. British Journal of Economics, Management and Trade, 4(11)(2013) 1624-1643.

[3] Aliyev, K., Bruce D. and Orkhan, N., Modelling the Impact of Fiscal Policy on Non-Oil GDP in a Resource Rich Country: Evidence from Azerbaijan. Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis 64(2016) 1869–78.

[4] Anvar, K. and Mohammad, S. K., To Investigation the Relationship between Monetary, Fiscal Policy and Economic Growth in Iran: Autoregressive Distributed Lag Approach to Cointegration. American Journal of Applied Sciences, 7(3)(2010) 415-419.

[5] Barnett, S. A. and Ossowski, R. (2002). Operational Aspects of Fiscal Policy in Oil-Producing Countries. International Monetary Fund. WP/02/177

[6] Barro, R. (1990). Government Spending in a Simple Model of Endogenous Growth. Journal of Political Economy, 98(5) 103-125.

[7] Barro, R. (1991). Economic Growth in Cross-Section of Countries. Quarterly Journal of Economics, 106(2): 407-443.

[8] Barro, R. J. and Sala-i-Martin, X., Economic Growth, MIT Press., (2004).

[9] Barro, R. and Sala-i-Martin, X., Public Finance in Models of Economic Growth. Review of Economic Studies, 59(1992) 645-661.

[10] Benos, N., Fiscal Policy and Economic Growth: Empirical Evidence from EU Countries; University of Ioannina, Greece., (2009).

[11] Boholib, T., Fiscal policy as an Instrument of Macroeconomic Stability. Economic Annals, XXI, 3-4(1)(2015) 84-87.

[12] Bose, N., Haque, M. E. and Osborn, D. R., Public Expenditure and Economic Growth: A Disaggregated Analysis for Developing Countries. Centre for Growth and Business Cycle Research Discussion Paper Series, University of Manchester., (2003).

[13] Bouakez, H. and Rebei, N., Why Does Private Consumption Rise After a Government Spending Shock. Canadian Journal of Economics. 40(2007) 954-979. 10.1111/j.1365-2966.2007.00438.x.

[14] Brunela, T., Does Fiscal Policy Matters for Economic Growth? Empirical Study of Albanian Situation; Interdisciplinary Journal of Research and Development, 2(2)(2015) 9-12.

[15] Chugunov, I. and Makogon, V., Budget Policy under Economic Transformation. Economic Annals, XXI, 3-4(2)(2016) 66-69.

[16] Dehning, B., Khatai, A. and Orkhan, N., Modelling 'productivity' of budget expenditure items - before-and-after the oil boom in a resource rich country: Evidence from Azerbaijan. International Journal of Economic Research, 13(2016) 1793–806.

[17] Easterly, W. and Rebelo, S., Fiscal Policy and Economic Growth: An Empirical Investigation. Journal of Monetary Economics, 32(1993) 417-458.

[18] Ekpo, A. H., The Relative Contribution of Public Sector and Private Sector Growth Investment to Nigeria's Economic Development since 1960, in Iyoha, M. and Itsede, C. (eds) Nigerian Economy: Structure, Growth and Development of the Nigerian Economy. Mindex, Benin, (2003) 187 –202.

[19] Ekpo, A., The Macroeconomic Policy Framework: Issues and Challenges, in Central Bank of Nigeria Third Annual Monetary Policy Conference Proceedings on Issues in Fiscal Management: Implications for Monetary Policy in Nigeria, (2003) 11-12 (Lagos, Central Bank of Nigeria Publications)

[20] Ezeoha, A. and Uche, C., Rethinking Monetary and Fiscal Policies in Nigeria. Journal of Sustainable Development in Africa. Accessed on 13, from https://www.researchgate.net/publication/237382650 (2006).

[21] Fakhri, H., Fuad, M. and Nayef, A., The Effects of Fiscal Policy on Non-Oil Economic Growth. Economies, 6(27)(2018) 1-21.

[22] Fischer, S., The Role of Macroeconomic Factors in Growth. Journal of Monetary Economics 32, M.I.T. Cambridge, USA., (1993).

[23] Gruen, D., The Return of Fiscal Policy. A Paper Presented at Australian Business Economists Annual Forecasting Conference, (2009) 8.

[24] Gurbanov, S., Jeffrey, B. N. and Jeyhun, M., Management of Oil Revenues: Has That of Azerbaijan Been Prudent? Economies 5(19)(2017) doi: 103390/economies5020019.

[25] Hasanov, F., Mikayılov, C., Yusifov, S., and Aliyev, K., Impact of Fiscal Decentralization on Non-Oil Economic Growth in a Resource Rich Economy. Eurasian Journal of Business and Economics 9(2016) 87–108.

[26] Hasanov, F. and Elvin, A. (2016). Is Fiscal Policy Supportive for Non-oil Sector Development: The Case of Azerbaijan, Society of Policy Modeling, EconModels Working Papers. Accessed from http: //www.econmodels.com/public/dbArticles.php, November 15, 2017.

[27] Hasanov, F., The Role of the Fiscal Policy in the Development of the Non-Oil Sector in Azerbaijan. Hazar Raporu, 4(2013) 162–173

[28] Iqbal, Z., Macroeconomic Effects of Adjustment Lending in Pakistian. The Pakistian Development Review. 33(4)(1994) 1011-1031.

[29] Iqbal, Z., Constraints to the Economic Growth of Pakistan: A Three-Gap Approach. The Pakistan Development Review 34(4)(1995) 1119–1133.

[30] Iqbal, Z. and Zahid, G. M., Macroeconomic Determinants of Economic Growth in Pakistan. The Pakistan Development Review 37(2)(1998) 125–148.

[31] Irmen, A. and Kuehnel, J. (2008). Productive Government Expenditure and Economic Growth. Discussion Paper Series No. 464, Department of Economics, University of Heidelberg. Accessed from www.universityofheidelberg.org on October 12, 2016.

[32] Iya, I. B., Aminu, U. and Gabdo, Y., An Empirical Analysis of the Effects of Fiscal Deficits on Economic Growth in Nigeria. International Journal of Emerging Technology and Advanced Engineering. 4(8)(2014).

[33] Jafari, S. A., Alizadeh, M. and Azizi, K. (2006). Long-run Relationship between Budget Deficit and Macroeconomic Performance of the Iranian Economy: A Theoretical and Empirical Analysis. Quarterly-Journal of the Economic Research. 10(4), 25-46.

[34] Joseph, C. O. and Uma, K. E. (2013). The Relationship Between Budget Deficit and Interest Rate. European Journal of Business and Social Sciences, 2(1): 158-167.

[35] Judd, K. (1985). Credible Spatial Preemption. RAND Journal of Economics. 16. 153-166. 10.2307/2555407.

[36] Kojo, O. N., Emmanuel, O. and Mensah, O. A. (2016). Exploring the Budget Deficit-Economic Growth Nexus: New Evidence from Ghana. Journal for the Advancement of Developing Economies., 5(3):

[37] Lance, T., Christian, R. P., Laura, D. and Nelson, B. (2011). Fiscal Deficits, Economic Growth and Government Debt in USA. The New School for Social Research, Working Paper 2011-10, Schwartz Center for Economic Policy Analysis Department of Economics .

[38] Lisyak, L. (2009). Budget Policy in the System of Government Socioeconomic Regulation in Ukraine. Kyiv: DNNU AFU

[39] Mykola, P. (2017). Empirical Study of the Fiscal Policy Impact on Economic Growth; Problems and Perspectives in Management, 15(3), 316-323.

[40] Odedokun, M. O. (2001). Public Finance and Economic Growth: Empirical Evidence from Developing Countries. Finland UNU/Wilder. Discussion Paper No.2001/72.

[41] Okonjo-Iweala, N. (2003). Issues in Fiscal Management: Implications for Monetary Policy in Nigeria, Third Annual Monetary Policy Conference Proceedings on Issues in Fiscal Management: Implications for Monetary Policy in Nigeria, 11-12 December 2003 (Lagos, Central Bank of Nigeria Publications)

[42] Olawunmi, O., and Ayinla, T. A. (2007). Fiscal policy and Nigerian economic growth. Journal of Research in National Development, 5(2): 19-29.

[43] Omoruyi, O. (2000). The Politics of Oil: Who Owns Oil, Nigeria, States or Communities? Accessed from http://www.nigerdeltacongress.com/particles/politics_of_oil.htm on December 12, 2015

[44] Pesaran, M. H. and Shin, Y. (1998). An Autoregressive Distributed Lag Modeling Approach to Cointegration Analysis. Econometric Society Monographs 31: 371–413

[45] Pesaran, M. H., Shin, Y. and Smith, R. J. (2001). Bound Testing Approaches to the Analysis of Level Relationships. Journal of Applied Econometrics 16: 289–326.

[46] Simplice Gael TONMO, Mélissa Grace WOUMKEP TCHAPDA, Glwadys MEFENZA PINTA, Willi Faustin DJOUFOUET, Stocks Market and Economic growth: a reexamination of the relationship on a panel of African countries, SSRG International Journal of Economics and Management Studies 7(9) (2020) 1-14.

[47] Rena, R. (2005). Gender Disparity in Education – An Eritrean Perspective, USA: The Global Child Journal, 2(1): 43-49. (A Biannual Journal of the To Love Children Organisation).

[48] Taylor, J. B. (2018). Rules versus Discretion: Assessing the Debate over the Conduct of Monetary Policy. Economics Working Paper 18102, Stanford University, January.

[49] Zapatrina, I. (2007). Budget Mechanism of Economic Growth. Kyiv: Institute of Socio-Economic Strategy.

[50] World Bank, (2003). World Development Report 2003: Sustainable Development in a Dynamic World. Transforming Institutions, Growth, and Quality of Life. Oxford University Press, New York

[51] Yépez, M. (2017). Proyecto de Investigación presentado ante el Instituto de Posgrado y Educación Continua de la ESPOCH, como requisito parcial para la obtención del grado de: Magister en gestión del marketing y servicio al cliente. Escuela superior politécnica de Chimborazo. Ecuador.