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IMPACT OF FISCAL POLICY ON ECONOMIC GROWTH IN NIGERIA

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Abstract
This study examines the impact of fiscal policy on economic growth in Nigeria. It uses annual time-series data from 1980-2020 on six variables – Real Growth Domestic Product ($lnRGDP$), Government Capital Expenditure ($lnGCE$), Government Recurrent Expenditure ($lnGRE$), Tax Revenue ($lnTRV$), Total Debt Stock ($lnTDST$), and Total Debt Service Payments ($lnTDSP$). The ADF and PP Unit Root tests on the variables show that all the variables are I(1) process. The ARDL Bounds test shows that long-run relationships exist among the variables. Thus, the study applies the ARDL techniques. The empirical results show that $lnGCE$ has no influence on $lnRGDP$ in the short run. But, it has a significant positive impact in the long run. Similarly, in the short run, $lnGRE$ has a significant positive impact on $lnRGDP$, while in the long run, it has a significant negative impact. For the $lnTRV$, it has no impact on $lnRGDP$ in the short and long run. Also, $lnTDST$ has a significant positive impact on $lnRGDP$ in both the short and long run. Finally, $lnTDSP$ has a significant negative impact in both the short and long run. The study recommends that the Nigerian government should channel more funds to capital expenditure, while the recurrent expenditure should be reduced. It suggests fiscal improvements toward expanding the tax bases to encourage resources mobilization and discourage the rising tax rates. It recommends that funds from the public debt should be invested in productive sectors of the economy.
Keywords: fiscal policy, capital expenditure, recurrent expenditure, economic growth

1. Introduction

As a policy tool, fiscal policy involves the use of government revenue and spending to influence the aggregate economic activities of a country. The Federal Government of Nigeria uses the combination of fiscal and monetary policies to control the entire economy. Jeffrey (2019) believed that fiscal and monetary tools are used by the government to increase or decrease the level of aggregate economic activities to protect the economy from the effects of the business cycle's shocks on employment, income, and inflation. In 2020, the Nigerian economy was challenged by the twin shocks of failing oil prices and dual

waves of COVID-19 pandemic. In Q1 of 2020, GDP rose by 1.87% which kept in pace with average GDP growth rate of 1.88% over the period of 11 quarters (NBS, 2020). However, the said twin shocks stopped the GDP from growing in the end of the Q2 where GDP contracted by 6.1% and this decline continued into the Q3 of 2020 with the further contraction of 3.62% resulting in the economy sliding into recession (NBS, 2020). However, in the Q4, the economy experienced some respite with positive growth rate of 0.11% which extricated the economy from its from its second recession in five years and moderated the annual GDP growth rate to -1.92% (NBS, 2020). To mitigate the effects of these twin shocks, Nigeria's government implemented some fiscal policy interventions which included ₦2.3 trillion stimulus focused on job-intensive projects, an emergency loan of $3.4 billion from the IMF to support the economy, the enactment of Finance Act 2020, and the proposed establishment of an infrastructure company which totally focused on critical infrastructural investment in Nigeria (Obi, 2020).

Examining fiscal policy becomes important because it is used to achieve stable price level, full employment, reduction of poverty levels, favourable balance of payment, and low level of national debt (Obi, 2020). Yet, these fiscal policy objective have not been realised in Nigeria. The major policy syndromes that have constrained the success of these objectives include lack of sound fiscal discipline as portrayed by poor coordination of fiscal policies among the three tears of government; weak revenue base as a result of high-marginal tax rates with very narrow tax bases, resulting in low tax revenue and poor tax compliance (Nuhu, 2020). Unlike the previous studies reviewed where domestic and external debt were treated separately, this study integrated the two. The study also utilized only the tax revenue as against other studies that used all forms of revenue. In all, some previous studies found a significant positive relationship between the fiscal policy and the GDP, while others reported a significant negative relationship between the fiscal policy and the GDP. This inconclusive findings motivated this study

2. Theoretical Framework

This heading presents theoretical and empirical literature.

2.1 The Keynesian Theory

The idea of fiscal policy is rooted in the writings of John Maynard Keynes. Keynes, in his revolutionary book, The General Theory of Employment, Interest Rate and Money (1936), opined that a government could influence the level of macroeconomic activities by either increasing or decreasing the level of taxes and public expenditure. Keynes (1936) formulated most of his theories during the Great Depression of 1939. For this reason, his theories have been applied to fight recessionary pressures. The Keynesian Theories are based on the belief that proactive measures from the government are the cure-all solutions

for rescuing the economy from recession. This, therefore, suggests that the government should stimulate aggregate demand by increasing the level of spending and creating an easy-money environment, which would accelerate the growth rate by way of creating more employment, income, and productivity. Reem (2009) stated that government intervention in the management of the economy reduces inflation, increases employment, and strengthens the value of the currency.

Though the fiscal policy was successfully used during and after the Great Depression, the Keynesian theories came under intense criticisms in the 1970s. Leading monetarists such as Milton and supply-side economists claimed that government intervention has not succeeded in bringing an end to low growth rate, recession and unstable interest rate (Reem, 2009).

2.2 Empirical Literature

The relationship between fiscal policy and economic growth in Nigeria receives a significant attention from numerous economists and other researchers from social science. Findings from these researches have always appeared to be inconclusive. Therefore, the subject matter in question remains open for more researches. The mixed results could be attributed to many factors such utilization of different variables, different data, different times of study, and more. As such, this section presents empirical works from other scholars in Nigeria.

Omodero et al. (2016) used annual time-series data spanning from 1994 to 2014, and investigated the impact of fiscal policy on the Nigerian economy. By applying multiple regression of Ordinary Lest Squares methods, they found no significant relationship between capital expenditure, recurrent expenditure, tax revenue, and real Growth Domestic Product which proxied the economy. But, the study found a significant negative relationship between external debt and the real Growth Domestic Product.

Abdurrauf (2015) used annul time-series data from 1981 to 2013 and explored the relationship between fiscal policy and economic development in Nigeria. By applying the Pair-wise Correlation, Cointegration and Error Correction Mechanisms, the results showed that government recurrent expenditure and government investment have a significant positive impact on economic growth both in the short and long run. Capital expenditure has a short-run positive impact on economic development.

Agu et al. (2015) investigated the impact of different components of fiscal policy on the Nigerian economy. By using the Descriptive Statistics and an Ordinary Least Squares techniques on time-series data, they found that total government spending moved in the

same direction with the government revenue, but the expenditure moved faster than the revenue. Similarly, investment expenditure was found to be lower than recurrent expenditure.

Babalola and Aminu (2011) utilised time-series data that spanned from 1977-2009 and applied the Engle-Granger Cointegration, and the Error Correction method to investigate the impact of fiscal policy on economic growth in Nigeria. The results showed that, in the long run, public spending has a significant positive impact on economic growth.

Adefeso and Mobalaji (2010) utilised time-series data from 1970 to 2005 and applied the Error Correction techniques to examine the relationship between fiscal policy and economic growth in Nigeria. The findings indicated that public expenditure has a significant positive influence on economic growth.

Nuhu (2020) investigated the impact of fiscal policy on Nigeria's economic development which was proxied by GDP and Human Development Index (HDI) by using time-series data from 1990-2017. The study used OLS and found that fiscal policy variable such as government revenue and expenditure have a significant negative impact on GDP, but a positive significant influence on HDI. Similarly, debt stock has a significant positive effect on GDP and a significant negative effect on HDI.

Agbarakwe (2018) investigated the relationship between fiscal policy and economic growth in Nigeria. Government expenditure, tax revenue, and total debt stock were used as explanatory variables, while economic growth, inflation, and unemployment were employed as dependent variable. By using Vector Error Correction Model (VECM), the result showed that government expenditure has a significant positive relationship with GDP, while government expenditure and total debt stock have a significant negative long-run relationship with unemployment.

Fave and Dabari (2017) examined the nexus between the tax revenue and GDP in Nigeria. By using a quantitative research, the study showed that tax revenue collected from 2011-2015 such as capital gains tax, stamp duty, education tax, and petroleum tax have a significant impact on GDP, while company income tax and value added tax are not significant.

Okwara and Amori (2017) used a time-series data for a period of 1994-2015 and by applying the OLS, the study found examined the impact of tax revenue on economic growth

in Nigeria. GDP was used as proxy for economic growth. The result showed that tax revenue has a significant positive impact on economic growth.

Ibrahim and Ashiru (2019) used time-series data spanning from 1981-2017 by applying Johansen Cointegration and Engel-Granger ECM techniques, the study found a significant negative relationship between capital expenditure and economic growth.

Onifade et al. (2019) carried out an empirical analysis between on the impact of government expenditure on GDP in Nigeria. By using a time-series data from 1981-2017 and applying ARDL approach, the study found government recurrent expenditure has a significant impact on GDP, while capital expenditure has no significant influence on GDP.

Obi (2020) studied the impact of government recurrent expenditure on economic growth in Nigeria by using a time-series data from 1981-2018. By using VECM technique, the study found that expenditure on social and economic services were significant growth-drivers of the Nigerian economy.

Ibrahim and Shazida (2019) used a time-series data and examined a long-run relationship between the domestic debt and fiscal policy of economic growth in Nigeria. By applying ARDL and ECM techniques, the study found that domestic debt has a significant long-run positive impact on economic growth.

3. Methodology

This heading presents the research design, nature and sources of data, model specifications, and estimation techniques.

3.1 Research Design

This study uses descriptive and quantitative research designs based on existing data and investigates the impact of fiscal policy on economic growth in Nigeria.

3.2 Nature and Sources of Data

The study uses annual secondary time-series data. The data were sourced from the Central Bank of Nigeria (CBN) and Debt Management Office (DMO). The data were collected on the following six macroeconomic variables: Real Growth Domestic Product ($lnRGDP$), Government Capital Expenditure ($lnGCE$), Government Recurrent Expenditure ($lnGRE$), Tax Revenue ($lnTRV$), Total Debt Stock ($lnTDST$), and Total Debt Service Payments ($lnTDSP$). All the data were sourced from the CBN with exception of total debt stock and total debt service payment which were collected from the DMO. At levels, macroeconomic

variables tend to show geometric growth. Thus, the series have been logged to linearize their movements through time. This transformation allows for the interpretations of the coefficients as elasticities. All the variables in the study cover a period of 40 years – 1980 to 2020.

3.3 Variable Measurement

This subsection explains how each of the variables is measured based on how they have been measured by the previous studies.

3.3.1 Dependent Variable

The dependent variable for this study is the Real Growth Domestic Product ($lnRGDP$), and it is measured as a proxy for economic growth by dividing it by the number of people in the country; thus, $lnRGDP$ is measured as income per head (Okwara & Amori, 2017). The higher the income per head, the more will be the $lnRGDP$, vice versa (Okwara & Amori, 2017).

3.3.2 Independent Variables

The independent variables for this study are Government Capital Expenditure ($lnG\ CE$), Government Recurrent Expenditure ($lnGRE$), Tax Revenue ($lnTRV$), Total Debt Stock ($lnTDST$), and Total Debt Service Payments ($lnTDSP$). $lnGCE$, $lnGRE$, and $lnTRV$ are core fiscal policy variables, while $lnTDST$ and $lnTDSP$ are control variables. $lnGCE$ is proxied by total $lnGCE$ divided by $lnRGDP$; the rate indicates a reflection of $lnGCE$ that goes into promoting $lnRGDP$ (Modebe et al., 2012). $lnGRE$ is also proxied by $lnGRE$ divided by $lnRGDP$; the rate shows a reflection of $lnGRE$ that promotes $lnRGDP$ (Modebe et al., 2012). Also, $lnTRV$ is measured as a percentage of $lnRGDP$ (Aliyu & Mustapha, 2020). The higher the $lnTRV$, the more will be the $lnRGDP$. $lnTDS$ and $lnTDSP$ are measured as a percentage of $lnRGDP$, and they depress $lnRGDP$ after a certain threshold (Omotosho et al., 2016).

3.4 Model Specification

The specification of the model for this study is based on the objective of this study. The study adopted and modified the model of Nwankwo et al. (2017). The functional form of the model is specified as follows:

$$RGDP = f\ (GCE, GRE, TRV, TDST, TDSP) \quad (3.1)$$

To estimate the above specified functional form, it is transformed into a stochastic form in the below equation:

$$lnRGDP_t = \beta_0 + \beta_1 lnGCE_t + \beta_2 lnGRE_t + \beta_3 lnTRV_t + \beta_4 lnTDST_t + \beta_5 lnTDSP_t + u_t$$
……..…...… (3.2)

Where:
β_0 = Constant
$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ = Coefficients of the dependent variables
$lnRGDP_t$ = Real Growth Domestic Product
$lnGCE_t$ = Government Capital Expenditure
$lnGRE_t$ = Government Recurrent Expenditure
$lnTRV_t$ = Tax Revenue
$lnTDST_t$ = Total Debt Stock
$lnTDSP_t$ = Total Debt Service Payment
u_t = Error term

3.5 ARDL Model

This paper utilizes Autoregressive Distribute Lag (ARDL) technique to cointegration. This approach was developed by Pesaran and Shin (1999) and Pesaran et al. (2001) to test for short-run and long-run associations among variables of interest. It has some advantages over the traditional cointegration approaches – the single-equation techniques and the Maximum Likelihood methods developed by Engle and Granger (1991); Johansen (1995), and Juselius (1995) respectively. These methods are based on the system equations that require a sample period to be very large. They also require that all the variables under the study should be I(1) process. As for the ARDL model, long-run relationships can be established among the study variables irrespective of whether the series is the I(1) or I(0) process, or the mixture of both. The method is also more efficient in the case of small and finite sample data sizes. And, it also gives unbiased estimates of the long-run model. Therefore, the following ARDL model is specified and estimated to test for cointegration relationship among the variables of interest:

$$\Delta LnRGDP_t = C_0 + \delta_1 lnRGDP_{t-1} + \delta_2 lnGCE_{t-1} + \delta_3 l_n GRE_{t-1} + \delta_4 lnTREV_{t-1} + \delta_5 lnTDST_{t-1} + \delta_6 l_n TDSP_{t-1} + \sum_{i=0}^{q} \emptyset_7 \Delta\, lnRGDP_{t-1} + \sum_{i=0}^{q} \emptyset_8 \Delta lnGCE_{t-1} + \sum_{i=0}^{q} \emptyset_9 \Delta l_n GRE_{t-1} + \sum_{i=0}^{q} \emptyset_{10} \Delta\, lnTREV_{t-1} + \sum_{i=0}^{q} \emptyset_{11} \Delta lnTDST_{t-1} + \sum_{i=0}^{q} \emptyset_{12} \Delta l_n TDSP_{t-1} + ECM + u_t$$
……. (3.3)

Where: $\Delta LnRGDP_t$ = Dependent variable (a proxy for economic growth).
$lnGCE_{t-1}$, $lnGRE_{t-1}$, $lnTREV_{t-1}$, $lnTDST_{t-1}$, and $lnTDSP_{t-1}$ = Independent variables of the model.

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C_0 = Constant; δ_1, δ_2, δ_3, δ_4, δ_5, and δ_6 = short-run dynamic coefficients of the respective variables.
$\emptyset_7, \emptyset_8, \emptyset_9, \emptyset_{10}, \emptyset_{11}$, and $\emptyset_{12}$ = long-run coefficients to be estimated.
ECM = Error correction term which measures the speed of adjustment.
u_t = Error term
t = Time trend which consists of years spanning from 1980 to 2020.
$t-1$ = Lag indicator.
Δ = The first difference operator.

Base on the intuitions behind the economic theory, it is expected that $\emptyset_7$, $\emptyset_8$ and $\emptyset_{11}$should be positive (>0); $\emptyset_{12}$ should be negative (<0), while $\emptyset_9$ and $\emptyset_{10}$ should be either positive (>0), or negative (<0).

4. Empirical Results, Interpretations, and Discussions

Table 1

Optimal Lag Length Selection Criteria

Lag	Log L	LR	FPE	AIC	SC	HQ
0	-181.6682	NA	0.002509	11.03930	11.30866	11.13116
1	5.457491	297.1996	3.58e-07	2.149559	4.035064*	2.792570
2	52.70850	58.36890	2.28e-07*	1.487735*	4.989386	681898*

Source: Authors' compilation using Eviews 10 (2022).

Note. * indicates lag order selected by the criterion, LR: sequential modified test statistic, FPE: Final prediction error, AIC: Akaike information criterion, SC: Schwarz information criterion, HQ: Hannan-Quinn information criterion. The table 1 above shows that lag 2 and the AIC has been automatically chosen because the lower the value, the better the model.

Table 2

Stationary Tests Results for Variables

	ADF Test			KPSS		
Variables	Level	1st Diff.	Remark	Level	1st Diff.	Remark
$lnRGDP_t$	0.198333^{n}	-3.657740^{**}	I(1)	0.668172^{**}	0.426717^{n}	I(1)
$lnGCE_t$	$-1.92384($	-1.923840^{*}	I(1)	0.702091^{**}	0.435084^{n}	I(1)
$lnGRE_t$	$-1.92384($	-6.432407^{**}	I(1)	0.655239^{**}	0.381327^{n}	I(1)
$lnTREV_t$	-0.93248	-7.253839^{**}	I(1)	0.688968^{**}	0.163105^{n}	I(1)
$lnTDST_t$	0.170123	-7.178158^{**}	I(1)	0.633326^{**}	0.107042^{n}	I(1)
$lnTDSP_t$	0.854644^{n}	-6.160066^{**}	I(1)	0.640160^{**}	0.099061^{n}	I(1)

Source: Authors' compilation using Eviews 10 (2022).

Note. *, ** and *** represent significance levels at 10%, 5% and 1% respectively. The letter *n* denotes no significance. Table 2 above indicates that all the variables are I(1) process. This condition warrants the application of ARDL methods which accommodates series that are either I(1) or I(0) process or the mixture of both.

Table 3
ARDL Bound Test of Cointegration Results

Model	F-Statistic	K	Critical Values			Decision
$lnRGDP = f(lnGCE, lnGRE, lnTRV, lnTDST, lnTDSP)$			**%**	Lower Bound I(0)	Upper Bound I(1)	If H_0 is rejected, cointegration exists.
	8.432916	5	1%	3.41	4.68	
			2.5%	2.96	4.18	
			5%	2.62	3.79	
			10%	2.26	3.35	

Source: Authors' compilation using Eviews 10 (2022).

Table 3 above shows that long-run relationships exist among the variables of the study because the F-Statistic (8.432916) is greater than the lower I(0) and the upper I(1) bounds of the critical values.

Table 4
ARDL Long-run Estimated Results

Variable	Coefficient	Std. Error	t-Statistic	Probability
$lnGCE$	0.349909	0.164622	2.125535	0.0462
$lnGRE$	-0.116955	0.081498	-1.435066	0.1667
$lnTRV$	-0.053827	0.092069	-0.584637	0.5653
$lnTDST$	0.367499	0.110492	3.326036	0.0034
$lnTDSP$	-0.464936	0.198524	-2.341971	0.0296

Source: Authors' compilation using Eviews 10 (2022).

Table 4 above shows that, if all other things were held fixed, in the long run, the government capital expenditure ($lnGCE$) has a significant positive impact on the real growth domestic product ($lnRGDP$). It means that a unit increase in capital spending would increase real growth domestic product by about 35%. As for the government recurrent expenditure ($lnGRE$), it has an insignificant negative impact on the real growth domestic product ($lnRGDP$). That means, a unit increase in government recurrent spending would marginally reduce the real growth domestic product by about 12%. For tax revenue ($lnTREV$), it has insignificant negative influence on the real growth domestic product ($lnRGDP$). This implies that a unit rise in tax rate would depress the real growth domestic

product by about 5%. As for the total debt stock ($lnTDST$), it has a significant positive effect on the real growth domestic product ($lnRGDP$). It shows that a unit increase in total debt stock would increase the real growth domestic product by about 37%. Lastly, total debt service payment ($lnTDSP$) has a significant negative impact on the real growth domestic product. That means to say, a unit increase in total debt service payment would reduce the real growth domestic product by 46%.

Table 5

Short-run estimated ARDL Results (1, 1, 2, 0, 2, 2)

Variable	Coefficient	Std. Error	t-Statistic	Probability
$\Delta lnRGDP$(-1)	0.810650	0.045692	17.74167	0.0000
$\Delta lnGCE$	-0.027231	0.024496	-1.111640	0.2795
$\Delta lnGCE$(-1)	0.093487	0.019600	4.769603	0.0001
$\Delta lnGRE$	0.035492	0.013933	2.547396	0.0192
$\Delta lnGRE$(-1)	-0.016959	0.018315	-0.925980	0.3655
$\Delta lnGRE$(-2)	-0.040678	0.020290	-2.004856	0.0587
$\Delta lnTREV$	-0.010192	0.016708	-0.610005	0.5487
$\Delta lnTDST$	0.040020	0.015457	2.589134	0.0175
$\Delta lnTDST$(-1)	-0.008632	0.017626	-0.489748	0.6296
$\Delta lnTDST$(-2)	0.038198	0.015415	2.478010	0.0223
$\Delta lnTDSP$	-0.052924	0.023019	-2.299200	0.0324
$\Delta lnTDSP$(-1)	0.009440	0.019223	0.491098	0.6287
$\Delta lnTDSP$(-2)	-0.044552	0.018628	-2.391639	0.0267
ECM(-1)	-0.189350	0.023809	-7.952790	0.0000

R-squared	0.836444	Mean dependent var	0.038719
Adjusted Required	0.784106	S.D. dependent var	0.046473
S.E. of Regression	0.021594	Akaike info criterion	-4.610920
Sum squared resid	0.011657	Schwarz criterion	-4.206883
Log likelihood	87.38564	Hannan-Quinn criter	-4.473132
F-statistic	15.98158	Durbin-Watson stat	2.144032
Prob (F-statistic)	0.000000		

Source: Authors' compilation using Eviews 10 (2022).

From table 5 above, if all other things remained constant, the result shows that in the short run, real growth domestic product ($lnRGDP$) is positively and significantly influenced by its lag or the previous year's value. As for the current and previous value of the government

capital expenditure ($lnGCE$), the result shows that the current value of $lnGCE$ has a negative influence on $lnRGDP$, but it is statistically insignificant, while its one-period lag value has a significant positive influence on $lnRGDP$. This means that a unit increase in $lnGCE$ would reduce $lnRGDP$ by about 3%, while that of one-period lag would increase $lnRGDP$ by about 9%. The current value of government recurrent expenditure ($lnGRE$) has a significant positive impact on $lnRGDP$, while its one-period and two-period lagged values have insignificant negative impact on $lnRGDP$. That means to say, a unit increase in $lnGRE$ would increase $lnRGDP$ by about 4%, while its corresponding one-period and two-period lagged values would decrease $lnRGDP$ by about 2% and 4% respectively. As for the tax revenue ($lnTREV$), it has an insignificant negative impact on $lnRGDP$. This means that a unit increase in $lnTREV$ would reduce $lnRGDP$ by about 1%. As for the total debt stock ($lnTDST$), its current value has a significant positive influence on $lnRGDP$, while its one-period and two-period lagged values have an insignificant negative influence on $lnRGDP$. That means, a unit increase in $lnTDST$ would increase $lnRGDP$ by the current value of about 4%, while the first-period and the second-period lagged values would depress $lnRGDP$ by about 0.86% and 4% respectively. As for the total debt service payment ($lnTDSP$), its current value has a significant negative impact on $lnRGDP$, while its one-period and two-period lagged values have an insignificant positive influence and a significant negative influence on $lnRGDP$ respectively. This means that a unit increase in $lnTDSP$ would reduce $lnRGDP$ by about 5%, increase it by about 0.94%, and reduce it by about 4% respectively.

The error correction term (ECM(-1)) represents the speed of adjustment which is required to bring the economy back to equilibrium in the dynamic model after the disturbance. This condition follows a priori expectation that it must be less than zero, negative, and statistically negative. These three conditions have been satisfied by this model. Its value stands at -0.189350, which implies that a shock to the real growth domestic product in the current period would be restored at a speed of adjustment of about 19% in the next period. In other words, the level of adjustment of a short-run disequilibrium in the real growth domestic product is about 19% of the disturbance in the real growth domestic product due to the current period shocks and which will converge towards the long-run equilibrium in the next period.

The coefficient of determination (R^2) is 0.836444, or 84%. This suggests that the explanatory variables have adequately explained the dependent variable. As for the Durbin-Watson (DW) test, the value is 2.144032 which lies within the range of 1.5 to 2.5, and which is relatively normal or it suggests weak presence of autocorrelation. As for the F-test, it shows there are no omission of relevant variables in the model with a p-value (F-

statistics) of 0.000000, which is significant at 5%. Therefore, the model does not suffer from mis-specification problem.

4.1 Diagnostic Test

To check the adequacy of the model, this study conducts diagnostic tests to obtain valid results and inferences.

Table 6
Linearity Test

	Value	Df	Probability
t-Statistic	0.487707	19	0.6313
F-statistic	0.237858	(1, 19)	0.6313

Authors' compilation using Eviews 10 (2022).

Ramsey reset test holds that the F-statistic and the t-statistic test the hypothesis that the coefficients on the powers of the fitted values from the regression are jointly zero. Therefore, the null hypothesis cannot be rejected since the probability values are greater than 0.1. This implies that the model used in this study is well-specified.

Table 7
Breusch-Godfrey Serial Correlation LM Test

	Value	Df	Probability
F-statistic	1.505009	Prob. F(2,18)	0.2487
Obs*R-squared	4.871039	Prob. Chi-Square(2)	0.0876

Source: Authors' compilation using Eviews 10 (2022).

In order to confirm the validity or the opposite of the estimates, the model is subjected to serial correlation test. The null hypothesis is that there is no serial correlation in the residuals up to a specified lag order. Therefore, the above results show that the null hypothesis cannot be rejected because the p-value is greater than the 5% significance level. Thus, the model does not suffer from serial correlation.

Table 8
Breusch-Godfrey Heteroscedasticity Test

	Value	Df	Probability
F-statistic	0.924432	Prob. F(13,20)	0.5466

Obs*R-squared	12.76169	Prob. Chi-Square(13)	0.4664
Scaled Explained SS	5.505942	Prob. Chi-Square(13)	0.9623

Source: Authors' compilation using Eviews 10 (2022).

In order to test whether the variance of the disturbance term is not the same for all the observations, the heteroscedasticity test has been conducted. The null hypothesis of this test is that the there is no heteroskedasticity. Therefore, the null hypothesis cannot be rejected since the p-value of the chi-square statistics is greater than 5% significance value. Hence, the model is homoscedastic.

4.2 Stability Test

Finally, it becomes imperative to test the stability of the model. Therefore, CUSUM residual test, CUSUM-of-square test, and AR characteristic root have been conducted. For CUMUM and CUSUM-of-square test, a model becomes stable if the green line lies within the two opposite red lines. As for the AR characteristic root, a model is considered stable if the values of the root are less than one, or if they lie inside the unit circle. As such, the CUSUM and CUSUM-of-square test adequately satisfy the stability condition as the green line lies within the graph. Similarly, based on Eigen-value, the model of this study is stable because all the values of the root of the model lie inside the unit circle. Hence, the model of this study is dynamically stable. Thus, the graphs describing this stability conditions are shown in figure 1, 2, and 3 respectively below:

Figure 1

CUSUM Test

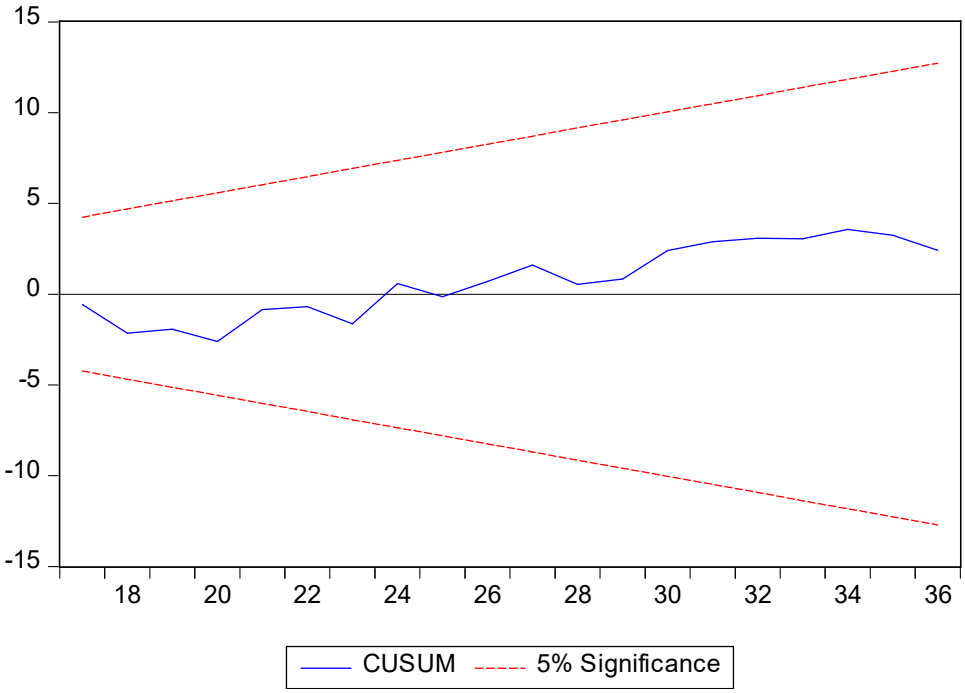

Figure 2
CUSUM of Squares Test

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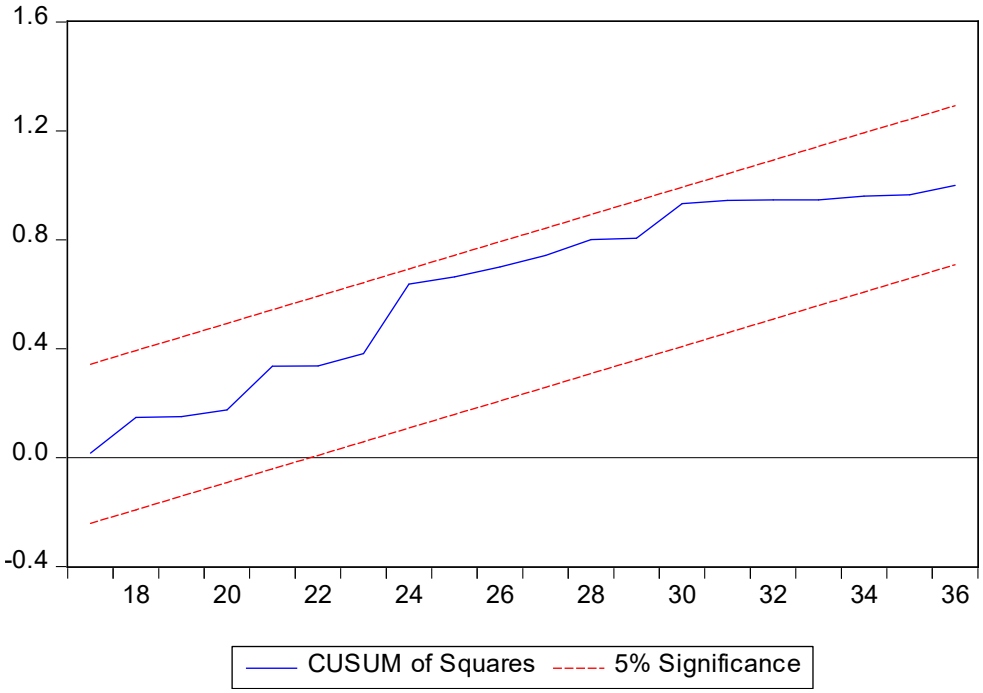
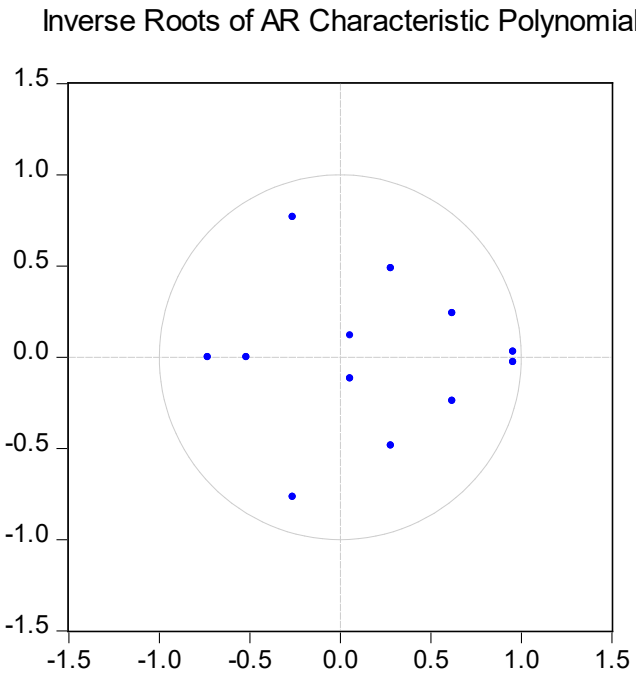


Figure 3
Inverse Roots of AR Characteristic Polynomial



5. Conclusion and Policy Recommendations

This paper investigates the impact of fiscal policy on economic growth in Nigeria. It uses an annual time time-series data from 1980 to 2020 – 40 observations. Findings from this study show that some core fiscal policy instruments have significant long-run impact on real growth domestic product within the period of the study. More pointedly, in the short run, the government capital expenditure has no influence on the real growth domestic product, while the government recurrent expenditure has a significant positive influence on the real growth domestic product. The tax revenue has no influence on the real growth domestic product. As for the total debt stock, it has significant positive influence on the real growth domestic product, while total debt servicing has significant negative influence on the real growth domestic product.

In the long run, the government capital spending has a significant positive influence on the real growth domestic product, while the recurrent has no influence on the real growth

domestic product. The tax revenue has no influence on the real growth domestic product. Finally, total debt stock has a significant positive influence on the real growth domestic product, while total debt service payment has a significant negative influence on the real growth domestic product.

From the above findings, the policy recommendation suggests that the Nigerian government should increase more spending on capital expenditure since it is a growth promoter in the long run, and it should reduce recurrent spending as it has no significant positive long-run impact on the real growth domestic product. With respect to tax revenue, the government should undertake fiscal reforms to boost domestic revenue generation by widening the tax net of the revenue bases, while the policy of increasing tax rates should be discouraged to enhance the disposable income of the citizens, thereby promoting their welfare standards.

Finally, since debt stock induces economic growth, all capital projects to be financed with borrowed funds should be critically appraised. Their technical feasibility, financial viability, and economic desirability should be adequately ascertained before the funds are channeled to them. This will help in curtailing mismanagement of public debts. Furthermore, the government should ensure that all borrowings are based on terms that are consistent with debt sustainability, and all borrowed funds should be productively invested in the growth-enhancing sectors of the economy to engender more growth rate in the long run. This will help the government to reduce the high rate of debt serving which consumes huge government revenue and depresses economic growth simultaneously. More pointedly, it will help the government to address its fiscal policy bottlenecks and achieve sustainable economic growth.

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