

Fiscal Deficit and Nigeria Economic Growth: An Investigation of Longrun Impact

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Abstract- *The study examined the impact of fiscal deficit on Nigeria economic growth between 1981 to 2020 through autoregressive distributed lag approach (ARDL). The study used gross domestic product (GDP) as the dependent variable. Government deficit financing (GDF), interest rate (INT) exchange rate (EXR) and inflation rate (INF) as the independent variables. The variables were tested for unit root using augmented dickey-fuller test (ADF). The unit root test showed a mix of integration of order I(0) and I(1) which satisfied the condition for the adoption of ARDL model. More so, the cointegration test revealed the presence of long run relationship. As such, the result of the long-run ARDL cointegration revealed (GDF) exert negative impact on (GDP). This shows that a 1% rise in (GDF) depresses (GDP) by 18.6%. more so, INT and EXR also exhibited inverse relationship with (GDP). Only INF was found to exert positive impact on (GDP). As such, based on the finding, the study concluded that fiscal deficit financing (GDF) exerts negative impact on (GDP). Hence, the study recommended that government borrowing should be capital and infrastructural investment focused, that is, such borrowing should be received inform of projects and not liquid cash.*

Indexed Terms- *Fiscal deficit, economic growth, inflation rate, exchange rate, interest rate*

I. INTRODUCTION

Fiscal policy plays a key role in the sustenance of economic growth and achievement of macroeconomic stability. According to (Siegal, 1979), the magnitude of government fiscal surplus or deficit is probably one

of the most important statistics used to measure the impact of government fiscal policy on the economy.

It is important to understand budget deficit and its impact on the economic growth in Nigeria. The argument over the involvement of government in running the economic affairs of a country was put to rest by a renowned British economist, John Maynard Keynes. Before Keynes, emphasis had been placed on the concept of the invisible hand where the economy is self-adjusting. The role of the government as embodied in its fiscal operations in determining aggregate demand, income, prices and more recently, the balance of payments, is the outcome of Keynesian economists which came into being after the Great Depression of the 1930s. A major recognition by Keynes is that an economy could converge to a stable equilibrium which may be undesirable, since it might involve some involuntary unemployment and, in the Keynesian model, only government has the will and means through fiscal policy to move the economy towards the regulation of its revenue and expenditures. There has been urgent need for rapid economic development in most developing countries. The need for the government to be involved in the process is more pronounced because the question of development cannot be answered without a conscious planning. Although in some of the countries, particularly in Nigeria, government often tends to pre-occupy itself with the issue of development and the breaking of vicious cycle of poverty, (that is, low income per capita leading to low saving, low investment, and eventually low productivity). However, it is known that a very sound financial and capital market is needed as prerequisite for development. But due to structural problems associated with financial markets (credit institutions)

in Nigeria such as inhibitive policy environment; capital inadequacy; liquidity problem and management; necessary funds needed for development have not been forthcoming coupled with low revenue from taxation and non-tax sources resulting from a generally low income, under-developed tax and accounting system, inadequate external aid, and many others, hence, the need for in-depth study of the impact of deficit budgeting.

Sometimes large deficit can affect county's economic growth adversely. However, in spite of Nigerian government efforts at devising policy measures aimed at overcoming fiscal deficit, fiscal deficit has persisted in Nigeria's economy with its adverse effects on key macro-economic variables such as interest rate, exchange rate and inflation. Incidentally, it is worthy of note that since the beginning of civilian rule in 1999 and post economic crisis of 2008, output growth in Nigeria has improved significantly. As such, the last fourteen years spanning from 2000 to 2014 witnessed average growth rate of about 6 percent (CBN, 2015). However, economic growth has not yielded any appreciable decline in unemployment and poverty prevalence despite the huge fiscal deficits by the federal government. From the foregoing, it becomes necessary to appraise Nigeria's fiscal deficits since 1980 to 2020 with a view to finding out its contributions in the development efforts of the nation. This period is chosen given that it is a mix of 15 years of military government and 21 years of civilian or democratic government. Consequently, the aim of this study is to examine the long run impact of fiscal deficit on Nigeria economic growth.

II. CONCEPTUAL LITERATURES REVIEW

- Fiscal Deficit

According to Jeffrey (2019) fiscal policy is the means by which the government adjusts its spending and revenue to influence the broader economy. By adjusting its level of spending and tax revenue, the government can affect the economy by either increasing or decreasing economic activity in the short term. For example, when the government runs a budget deficit, it is said to be engaging in fiscal stimulus, spurring economic activity, and when the government runs a budget surplus, it is said to be

engaging in a fiscal contraction, slowing economic activity

Fiscal deficit, therefore, can be seen as a situation where government plans to spend more in a year than the revenue it expects to collect. In this case, the government experiences a budget deficit equal to the amount by which the expenditure exceeds the revenue. In other words, budget deficit is the amount of that extra expenditure the government wants to undertake above the expected revenue (Akpakpan, 1999).

Fiscal policy simply refers to actions taken by government with a view to controlling government expenditure and income in order to achieve some predetermined macro-economic objectives. These objectives include, but are not limited to reduction in unemployment level, price stability, rapid economic development and a healthy balance of payments position. In developing countries, fiscal policy is regarded as a tool for moving backward economies to the path of sustained economic growth and development. The fiscal system is generally viewed as one with a package of instruments for translating development policy objectives into practice (Oyinlola and Adam, 2003).

- Economic Growth

Seer (2013) narrated economic growth as the quantitative increase in the monetary value of goods and services produced in an economy within a given year. Dwivedi (2004), argues that economic growth is a sustained increase in per capita national output or net national product over a long period of time. It implies that the rate of increase in total output must be greater than the rate of population growth

Economic growth is measured as a percentage change in the gross domestic product or gross national product. Other concepts are: exchange rate; which is the value of country's currency when compare with the currencies of other countries; inputs of labour; which are the efforts of labour in the production process while input of capital refers to the contribution of the various machines and equipment used in production process as well.

- Theoretical Literature Review

Theoretical literatures offer the opportunity of examining some critical theories regarding the linkage between fiscal deficit, and economic growth. One critical tool of fiscal policy is budget operations. As such, budget operations affect the level of aggregate demand, and changes in aggregate demand affect the level of employment and of prices. Like it or not, the budget thus has important repercussions on the macro behaviour. Moreover, budget policy affects the division of total output between consumption and capital formation and thereby the rate of economic growth (Musgrave & Musgrave, 2004).

Ricardian equivalent theorem believes that, a decrease in government savings (that is, a current budget deficit) leads to an offsetting increase in desired private saving, and to no change in desired national saving, in a closed economy; hence there is no effect on investment, and no burden of the public debt. And in an open economy there would also be no effect on the current account balance because desired private savings raise enough to avoid having to borrow from abroad. Therefore, budget deficit will not cause current account deficits.

The Neoclassical posits that there exist three central features that play an important role in determining the impact of budget deficits. They maintained that, first, the consumption of each individual is determined as the solution to an inter-temporal optimization problem, where both borrowing and lending are permitted at the market rate of interest. Second, individuals have finite lifespan; and thirdly that, market clearing are generally assumed in all periods. However, Hall's (1978) formulation of the stochastic permanent income hypothesis that investigates the empirical validity of the neoclassical first feature. (King, 1983) and (Hayashi, 1985) states that consumers behave as though they solve an intertemporal optimization problem with access to perfect capital markets. The neoclassical second characteristic (finite lifespan) defines the central difference between the neoclassical and Ricardian frameworks. And the third characteristic (full employment) is the primary distinction between the neoclassical and Keynesian paradigms.

Moving away from the above contentions, Harrod-Domar Model on economic growth is most relevant in developing countries as an easy way of studying the relationships between growth and capital requirements. The model explained the combined result of the rate of savings and the resultant physical capital accumulation on one hand and the capital-output ratio (physical production of new investment) on the other.

It, thus, suggests that savings provide the funds which are borrowed for investment purposes. The economy's rate of growth depends on: the level of savings and the savings ratio; the productivity of investment that is, economy's capital-output ratio. In some further analysis Harrod-Domar model is applied to explain the business cycles. For a given aggregate capital-output ratio, therefore, the rate of national output and employment growth could be maximised by maximising the rate of savings and investment (Todaro, 1980). From this perspective, the conclusion is the typical Harrod-Domar and new classical type models of capital accumulation and economic growth and the kinds of economic policies may and often do lead to rapid output growth but with lagging employment generation.

- Empirical Literature

Olisaji & Onuora (2021) examined the impact of fiscal policy on the growth of Nigerian economy between 2015 and 2019 using the ordinary regression model. Government Expenditure and Government revenue through Companies Income Tax (CIT) were regressed against dependent variable Economic Growth proxied by GDP growth. The result revealed, that there is a significant and positive relationship between Companies Income Tax (CIT) and Economic Growth (EG) measured using Gross Domestic Product (GDP) with a p-value of 0.030 which is less than the 5% level of significance adopted. On the same note, the study found an insignificant and negative relationship between Government Expenditure (GE) and Economic Growth (GDP) with a p-value of 0.334 which is greater than the 5% significant level adopted. Olisaji & Onuora (2021) recommended that government should formulate and implement workable fiscal policy options that will enhance economic growth.

Abdurrauf (2015) examines fiscal policy and economic development in Nigeria. This study examined the short and long run impact of fiscal policy on economic development in Nigeria between a period of 1981 and 2013 using annual time series data sourced from World Development Indicators (2014) and the Central Bank of Nigeria (2014). The model was estimated using Pair-wise Correlation to ascertain the relationship and then Co integration and Error Correction Mechanism for impact after confirming the data's stationarity using Unit Root. The result showed that government recurrent expenditure and government investment have significant positive impact on economic development in both the short and long run within the period under consideration. Capital expenditure appeared to have a short run positive impact but not in the long run. Tax revenue had an inverse significant impact in both short and long run. The speed of adjustment to equilibrium was found to be high. The results are all in line with theories and previous studies.

Greg and Okoiarikpo (2015) employed Chow endogenous break test, unit root and co-integration tests to examine the impact of fiscal deficits on macroeconomic performance in Nigeria spanning the period 1980-2013. The results derived from the Chow test analysis reveal that there is a difference between the growth-impact of fiscal deficit in the two regimes. In particular, the study finds that fiscal deficit had a significant growth-impact during the military regime, while it has no significant impact on economic growth during the democratic regime. On the other hand, the study's results indicate that the interest rate had no significant growth-impact during both regimes, while gross fixed capital formation had a significant growth impact during both regimes base on the findings.

Adeneye and Isa (2014) study the impact of budget deficit on Nigeria's economic growth, between the period 1983 – 2014, using time series data to establish the long-run effect of deficit budgeting and the inflationary pressure in Nigeria. OLS was used to analyse the data and the result shows that there is a significant relationship between the deficit budget and inflation as well as money supply and inflation. The study therefore, recommends, among others, that the Nigerian government should display a high sense of transparency in fiscal operations to bring about

realistic fiscal deficit and the need to strengthen monetary policies to act as checks and balances used to complement fiscal policies.

Agu et al (2015) examines the impact of various components of fiscal policy on the Nigerian economy. The study uses descriptive statistics to show contribution of government fiscal policy to economic growth, and to ascertain and explain growth rates, and an ordinary least square (OLS) in a multiple form to ascertain the relationship between economic growth and government expenditure components. Findings revealed that total government expenditures have tended to increase with government revenue, with expenditures peaking faster than revenue. Investment expenditures were much lower than recurrent expenditures evidencing the poor growth in the country's economy. Hence, there is some evidence of positive correlation between government expenditure on economic services and economic growth. Therefore, in public spending, it is important to note that the effectiveness of the private sector depends on the stability and predictability of the public incentive framework, which promotes or crowds out private investment.

III. MODEL SPECIFICATION

The mathematical model for the study is stated as:

$$GDP = f(GDF, INF, EXR, INT) \dots\dots\dots (1)$$

The Econometric Model used for estimate in a Linear Form is:

$$\log GDP_t = \alpha + \beta_1 GDF_t + \beta_2 INF_t + \beta_3 EXR_t + \beta_4 INT_t + e_t \dots\dots\dots (2)$$

Where:

GDP = gross domestic product, proxy for economic growth

INF = inflation rate

GDF = government deficit financing

INT = Interest rate

EXR = Exchange rate

Δ = difference operator

α = intercept parameter

β 's = partial slope parameters.

e_i = error term

To regress the Autoregressive Distributed Lag Techniques for long run co-integration causality of the hypothesized variables, bound test technique of the

ARDL specification is critical. As such, the ARDL representation of the fiscal deficit and economic growth can be specified as:

$$\Delta \ln(\text{GDP}_{t-1}) = \alpha_0 + \gamma_1 \ln(\text{GDP}_{t-1}) + \gamma_2 \ln(\text{GDF}_{t-1}) + \gamma_3 \ln(\text{INF}_{t-1}) + \gamma_4 \ln(\text{EXR}_{t-1}) + \gamma_5 \ln(\text{INT}_{t-1}) + \sum \gamma_i \Delta \ln(\text{GDP}_{t-1}) + \sum \gamma_j \Delta \ln(\text{GDF}_{t-1}) + \sum \gamma_k \Delta \ln(\text{INF}_{t-1}) + \sum \gamma_m \Delta \ln(\text{EXR}_{t-1}) + \sum \gamma_n \Delta \ln(\text{INT}_{t-1}) + \lambda \text{ECM}(-1) + e_t \dots (3)$$

The benefit of the above model is that it produces accurate result irrespective of whether the regressors in the model are of different order of integration or jointly cointegrated. As such, Δ is the difference notation, while $\gamma - 5$ are the long run multipliers, α_0 is the intercept and e_t is the stochastic error term. As such, the hypothesis to be tested in the study is stated as $H_0; \alpha_0 = \gamma_1 = \gamma_2 = \gamma_3 = \gamma_4 = \gamma_5 = 0$ against the alternative $H_1; \alpha_0 \neq \gamma_1 \neq \gamma_2 \neq \gamma_3 \neq \gamma_4 \neq \gamma_5 \neq 0$

IV. PRESENTATION AND INTERPRETATION OF REGRESSION RESULT

Table 1: Unit Root Test

Variables	ADF Statistic	Critical Value (5%)	Order of Integration	Probability	Remarks
INF	-5.23263	-2.95142	1(1)	0.0001	Stationary
GDF	-6.13791	-2.95142	1(1)	0.0000	Stationary
EXR	-4.11462	-2.95142	1(1)	0.0000	Stationary
INT	-6.71326	-2.92215	1(0)	0.0000	Stationary

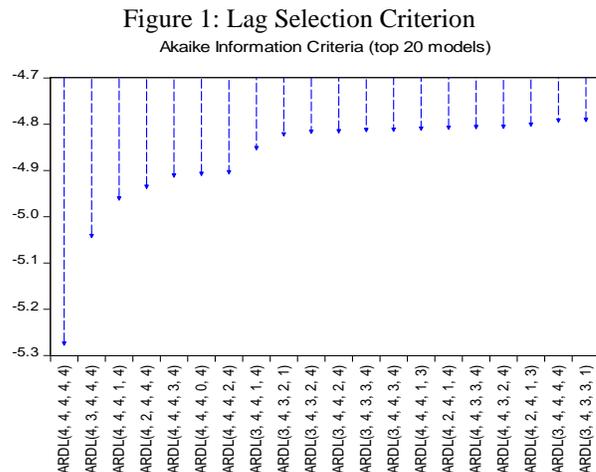
GDP	-3.91101	-2.95142	1(1)	0.0000	Stationary
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Source: Authors computation using Eviews 10, 2021

Table 1 presents the summary of the Augmented Dickey Fuller (ADF) test result for all the time series data. The result of the stationarity test carries out on inflation (INF), Government deficit financing (GDF), Exchange Rate (EXR), interest rate (INT), and Gross domestic product (GDP) showed a mixture of 1(0) and 1(1) stationarity. Moreover, further evidence of stationarity was also revealed from the result of p-value which is less than 5% for all the variables. It can be inferred from the result that unit root exists for most of the variables (INF, GDF, EXR and GDP) at their levels. Only INT was found to be stationary at level 1(0), while other variables become stationary only in the first difference 1(1). As such, the ARDL bound test and ARDL co-integration tests was used for detecting long run relationship between fiscal deficit and inflation.

• Model Selection Criterion

The model selection criterion is used to determine the optimum lag length for the best results in analysis. From figure 1, the Akaike information criterion shows that for model 1 (LogGDP model), the best model fit is ARDL (4, 4, 4, 4, 4). This implies that for the ordering, each variable will have a lag up to the 4th period. The result from this model will be used to generate the bounds test f-statistic.



• Bounds Test for Cointegration

The bounds test for cointegration is used to test for long run relationship between variables. There is cointegration in variables in a case where the calculated f-statistic is greater than the upper bounds critical value by Pesaran *et al.* (2001).

Table 2: Bounds Test
Dependent Variable: INF

	F-statistic= 4.571420 K= 4	
Critical Values	Lower Bound	Upper Bound
10%	1(0) 2.2	1(1) 3.09
5%	2.56	3.49
2.5%	2.88	3.87
1%	3.29	4.37

Source: Authors computation using Eviews 10, 2021

It can be observed that the f-statistics of 4.471420 are both greater than the upper bound value of 3.49 with a degree of freedom, K=4. This implies that, in this model, there exist long run relationships between the dependent and independent variables. Based on this, the long run and short run error correction models can be estimated.

Table 4: Long-Run ARDL Estimates

Variable	Coefficient	Std. Error	t-Statistic	Prob.
INT	-0.611206	0.010413	-2.51454	0.013
INF	0.001912	0.014801	0.03118	0.6209
GDF	-0.827912	0.061462	-2.23403	0.0412
EXR	-0.018742	0.001125	-0.33120	0.5104
Constant	10.15210	0.301142	25.2205	0.0000

Source: Authors computation using Eviews 10, 2021

it is observed that government deficit (GDF) has a coefficient of -0.186888 which implies that there is a negative relationship between fiscal deficit and economic growth proxied by Log of GDP in the long run which is similar to the finding of Awe and Funlayo (2014) and Ezeabasili *et al.* (2012). The coefficient suggests that a percentage increase in fiscal deficit will lead to a decrease of about 0.19 billion naira in GDP. This effect may be explained as a situation where due to large excess of revenue over expenditure, reckless spending and importation ensues and this adversely affects the economy. The effect is statistically significant following the decision rule that a variable is statistically significant if its t-statistic is greater than the table value, which in this case is 2.042 with a degree of freedom of 40-5 and this is consistent with Humera (2008).

Furthermore, Inflation (INF) from table 5 has a coefficient of 0.000562 which suggests a positive relationship in the long run between inflation and economic growth. The size of the coefficient implies that for a 1 percent increase in inflation rate, there is a corresponding 0.005 billion naira increase in GDP. Although some argue that inflation is deterrent to economic growth, however, a level of inflation is required to keep the economy running as long as it does not exceed the economy's threshold level hence the justification for the small coefficient size. Also, slight increase in prices may be attributed to increase in demand in which if met with increased investment, will bring about expansion of output and consequentially, increased GDP. This effect however, is not statistically significant looking at the small t-statistics.

Interest rate (INT) shows a coefficient of -0.114316 which implies a negative relationship in the long run between interest rate and economic growth. In this, a percent increase in interest rate in the long run, will decrease the level of GDP by 0.11 billion naira. This stems from the fact that a high interest rate will discourage borrowing and by extension, investment. This leads to a decrease in economic growth as those who have ideas and are willing to go into productive ventures are unable to access funds due to high level of interest on credits. This finding is in compliance with Greg and Okoiarikpo (2015).

With a coefficient of -0.001544, exchange rate (EXR) is seen to have a negative relationship with economic growth in the long run. A unit increase in the naira to dollar exchange rate will give rise to a decrease by 0.002 billion naira in GDP. This is reflective of the current quagmire in which Nigeria finds herself as the higher exchange rate means that the naira is devalued and since Nigeria is a net importer of consumer goods, purchasing from outside world will mean expending more since the importers will require more naira in exchange for few dollars. This impact however, due to the small t-statistics is seen to be insignificant. Meanwhile the coefficient of the intercept term (constant) which is -10.13267 indicates that in a situation where inflation, interest rate, exchange rate and government deficit are held constant, the GDP will reduce by about 10.13 billion naira in the long run.

Table 5: ARDL Short-run Estimate

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOGGD	0.32416	0.1467	3.5783	0.00
P(-3))	1	79	00	47
D(INT)	0.00632	0.0003	6.6756	0.00
	7	61	29	01
D(INT(-1))	-	0.0012	-	0.01
	0.00218	43	2.3780	32
	5		11	
D(INT(-3))	0.00045	0.0002	3.2550	0.00
	1	71	47	71
D(INF)	0.00045	0.0002	2.4020	0.01
	8	58	39	46
D(INF(-1))	0.00211	0.0002	9.3275	0.00
	8	81	01	00
D(INF(-2))	0.00612	0.0003	6.1256	0.00
	3	34	13	01
D(INF(-3))	0.00132	0.0001	3.4342	0.00
	1	31	21	58
D(GDF)	0.01517	0.0027	5.6284	0.00
	9	34	81	02
D(GDF(-1))	0.00423	0.0022	1.6895	0.06
	0	30	10	41
D(GDF(-2))	0.01245	0.0068	4.0035	0.00
	0	41	34	24
D(GDF(-3))	0.01022	0.0027	3.7651	0.00
	1	15	52	37

D(EXR)	-	0.0001	-	0.00
	0.00090	33	5.8719	02
	1		69	
D(EXR(-3))	0.00119	0.0002	5.1654	0.00
	0	30	91	04
ecm (-1)	-	0.0133	-	0.00
	0.08118	21	6.1515	01
	4		05	

R²=0.921417, Adj. R²=0.884418, Durbin-Watson stat = 2.281032

Source: Authors computation using Eviews 10, 2021

It can be observed that the current period inflation as well as the first through third period lag inflation have positive coefficients which signifies a positive relationship with GDP. In the current period, a percent rise in inflation leads to 0.0008 billion increases in GDP in the short run. This may be due to the fact that, in the short run, people try to adjust to the rising price levels and that is when firms will find ways of increasing output so as to make more profit from the rising prices and by so doing, they unconsciously bring about increase in economic growth.

Likewise, government deficit (GDF) at current period is seen to have a positive relationship with GDP in the short run. This is concluded as seen from the coefficient of 0.015779 which implies that a percent increase in government deficit brings about a rise in the GDP to a tune of 0.02 billion naira. This may not be unrelated to the position of Keynesian school of thought which attribute high level of economic growth to state expenditure and fiscal financing. This relationship is also true for government deficit at one, two and three period lags as they also have positively signed coefficients. This finding contradicts Mugume and Obwona (1998) and supports the findings of Umaru and Gatawa (2014) as well as Ojong and Owui (2013).

Current period exchange rate has a negative coefficient of -0.000921 which signals that a rising exchange rate has a detrimental effect on GDP in the short run. According to the coefficient, a naira increase in naira to dollar exchange rate leads to a 0.0009 billion naira decrease in GDP. This is evident from the fact that a high exchange rate, especially in an underdeveloped country which is a net importer, will lead to higher importation costs and consequentially,

lower growth. However, the positive coefficient of the 3 period lag exchange rate indicates that although, there may be some good to come out of any devaluation policies, it would only take a while, maybe up to three years before it is evident, this is indicative of the positive relationship from its coefficient of 0.001190.

For each of the coefficients in the model, the t-statistics is greater than the tabular value of 2.042 at 5 percent level of significance with a 35 degree of freedom. This simply means that all variables included in the model have significant impact on the dependent variable, except the one period lag of government deficit which has a t-statistics of 1.99 which is lower than the table value of 2.042. Furthermore, the error correction term ecm (-1) which measures the speed of adjustment towards long run equilibrium should there be a disturbance in the system has a desired sign (negative coefficient) and is statistically significant. By the coefficient -0.078184, any disequilibrium in the system gets adjusted back towards long run equilibrium at a speed of 7.8percent. Meanwhile, the coefficient of determination (R^2) is 0.942417 which implies that about 94percent of the variations in GDP in the short run are explained by the variables in the model.

• Diagnostic Tests

Test Statistics	P-value
Serial Correlation: F-statistic(2, 8)	0.7132
Heteroskedasticity: F-statistic(24, 10)	0.4332
Normality: Jarque-Bera	0.211640
Specification Error: F-statistic(1, 9)	0.0636

Source: Authors computation using Eviews 10, 2021

The serial correlation test conducted using the Breusch-Godfrey Serial Correlation LM Test has a probability value of 0.7132 which indicates the acceptance of the null hypothesis that there is no serial correlation in the residuals. Also, the heteroskedasticity test conducted using the Breusch-Pagan-Godfrey test has a probability value of 0.4332 which implies the acceptance of null hypothesis of no heteroskedasticity at 5 percent level of significance.

Furthermore, the Jarque-Bera normality test has a probability value of 0.211640 which implies the acceptance of the null hypothesis which states that the residuals follow a normal distribution pattern while the misspecification test conducted using the Ramsey RESET test has a probability value of 0.0636 which means that the model is free from any misspecification error.

• Stability Test

the result of stability test conducted using the CUSUM and CUSUM sum of squares test. Since the trend line does not exceed the upper- and lower-5 percent boundaries I the two tests, then it is concluded that the system is stable over time. By these, it is evident that the model is free from all time series problems, the obtained estimates can be relied upon for decision making.

Figure 3: CUSUM Test for Stability

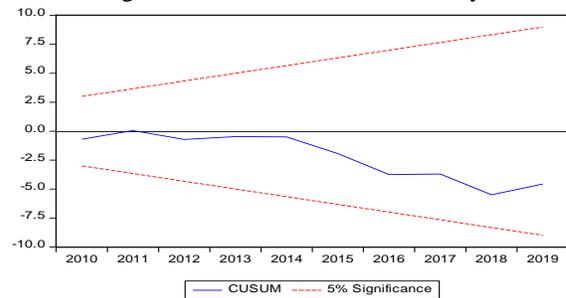
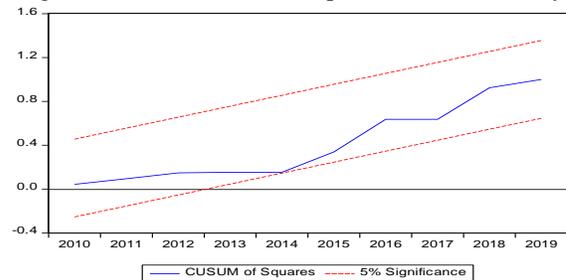


Figure 4: CUSUM Sum of Square Test for Stability



CONCLUSION AND RECOMMENDATIONS

The study investigated the impact of fiscal deficit on economic growth in Nigeria between 1981 to 2020. As such, the long run estimates show that only interest rate and government deficit are statistically significant in explaining GDP, where both have negative relationships with GDP. Whereas in the short run, all included variables including the lags have positive

relationship with GDP except for current period exchange rate and one period lag of interest rate which both have negative relationship with GDP. The system corrects deviations towards long run equilibrium at a speed of adjustment of 7.8 per cent. In line with this finding, it can be concluded that fiscal deficit decreases GDP in the long run.

The study also found that the positive GDP feedback takes up to three years to kick in, but the impact of the fiscal deficit on GDP is instantaneous. Consequently, the study recommended that government borrowing should be capital and infrastructural investment focused, that is, such borrowing should be received in form of projects and not liquid cash. The ripple effect of this would depress the burden of debt servicing, create enabling business environment and hence, stimulate economic growth.

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