

Fiscal Sustainability, Economic Growth, and the Sustainable Development Goals: Evidence from Nigeria

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ABSTRACT

The study analyses the interrelationships among fiscal deficits, fiscal sustainability indicators and economic growth in Nigeria from the point of view of achievement of the United Nations' Sustainable Development Goals (SDGs). Special attention is paid to SDG 8 (Decent Work and Economic Growth) and SDG 17 (Domestic Resource Mobilization). Annual time series data were applied to apply the Autoregressive Distributed Lag Approach (ARDL) and Error Correction Model (ECM). Empirical results show a dual effect of fiscal deficits on growth in the context of SDG 8 goals. On one hand, deficit financing leads to increase in growth rate because of stimulation of aggregate demand and support for productive expenditures in the short run. However, fiscal deficits exert a negative influence on growth in the long run due to increase in government debt, domination of recurrent expenditures and reduction of private sector investments. Results also indicate that there is an insignificant relationship between the debt to GDP ratio and growth in Nigeria at the level of 5 percent significance but at the level of 10 percent this relationship becomes marginal. This study highlights the importance of fiscal sustainability as a foundation for inclusive and resilient growth, calling for improved fiscal discipline, prioritization of SDG-aligned spending, debt sustainability, and increased revenue generation.

Keywords: Fiscal Sustainability; Economic Growth; Sustainable Development Goals (SDGs); Macroeconomic Stability; Nigeria.

INTRODUCTION

Fiscal policy has a great deal to do with macroeconomics, especially within developing countries like Nigeria, where the government's expenditure and mobilization of revenue are key instruments that can be used to promote economic stability and growth. Fiscal deficit is an indication of the difference between the expenditure of the government and its revenues excluding borrowing, and this indicates the fiscal position of a country. Fiscal sustainability on the other hand, measures how well a government can sustain its expenditures and taxes without posing a risk to insolvency and failure to meet its responsibilities (Central Bank of Nigeria, 2023). One of the major concerns within the fiscal system of Nigeria is that there is usually a persistent budget deficit that is financed using borrowed funds, thus prompting important issues surrounding fiscal sustainability and economic growth. Although fiscal deficits can be used as a tool to boost economic activities during poor economic performance, such unsustainable deficits could lead to increasing public debts, high inflation levels, and lower investment in the economy (Olushola, Beyai and Anagbado, 2023; Tanzi, 2020).

The fiscal management of Nigeria for the last four decades has experienced structural mismatch in its revenues and expenditures as a result of volatility in the prices of crude oil, leakage in tax revenues, and growth in the public sector (Olushola et al., 2023). However, the deficit in Nigeria's fiscal management continues to rise despite attempts at reforming its policies and reducing its debts. The coronavirus outbreak also contributed to its fiscal challenges by increasing its deficit financing needs (World Bank, 2022; UNCTAD, 2022). Indicators of fiscal sustainability like the debt-to-GDP ratio, interest payment-to-revenue ratio, and primary balance provide vital information about the ability of the government to sustain its fiscal policies without over-borrowing and defaulting. In Nigeria, fiscal sustainability indicators have exhibited divergent trends based on both government policies and external influences. However, no empirical evidence exists on how fiscal sustainability indicators interact with fiscal deficit to influence economic growth in Nigeria. Some literature suggests that deficits may

positively impact economic growth by creating more capital investments and infrastructural developments (Taiwo & Agbatogun, 2011), while others have cautioned against crowding out, where increased borrowings by governments reduce credit for businesses and increase interest rates (Siyanbola, Egbetunde, & Azeez, 2020).

The financial situation in Nigeria involves a situation of consistent deficit, increase in public debt, and susceptibility to economic shocks that continue despite several changes in policy. This makes it difficult for the government of Nigeria to realize fiscal sustainability and economic growth. It is essential to look at how fiscal policy influences various economic factors because such an analysis will be essential in tackling issues of structural and macroeconomic imbalance in Nigeria. One major problem that is common with the fiscal situation in Nigeria is that of consistent deficits in its budgets. Although deficits may be considered an instrument for achieving growth, the persistent and structural nature of deficits in Nigeria has increased fiscal vulnerability and posed a major concern about debt sustainability. The increasing use of borrowing might even affect private investment and thus undermine the process of economic growth (Ariyo & Raheem, 2020). Additionally, another problem that needs to be noted in the context of deficits in Nigeria is the increase in the country's total public debt burden. Despite being low relative to that of some other countries, the rising trend of the debt burden and the corresponding cost of servicing pose a significant constraint on the fiscal budget (Debt Management Office, 2022).

However, indicators of fiscal sustainability such as the primary balance indicator and the difference between interest rates and growth rates have shown worrying trends. This clearly suggests that the fiscal policies practiced by the country are not sustainable (IMF, 2021). Unless there is significant improvement in the indicators, it can be said that the country is going to damage its reputation as well as its capability to weather any future economic storm. All this highlights the necessity for a complete fiscal policy strategy which helps to address problems related to deficits and debt as well as facilitate SDG financing in Nigeria. Keeping in view the significance of fiscal sustainability and sustainable SDG financing, it becomes important to analyze the interplay of fiscal deficits and fiscal sustainability indicators on economic growth in Nigeria.

Aim and Objectives

The main aim of this study is to examine fiscal sustainability, economic growth, and the sustainable development goals within the Nigerian context.

The specific objectives of the study are to:

- i. Analyse the relationship between fiscal deficits and economic growth in Nigeria
- ii. Examine the extent to which the debt-to-GDP ratio influences economic growth in Nigeria.
- iii. Evaluate the impact of debt service obligations, measured by the debt service-to-revenue ratio, on economic growth in Nigeria.

LITERATURE REVIEW

Fiscal Sustainability

Fiscal sustainability as an issue of concern for both academic and policy circles has become very popular in the recent past. This is in light of the increased levels of debt and fiscal deficits among the developed and developing nations alike. Generally, fiscal sustainability can be defined as the ability of the government to pursue its existing fiscal policies in terms of expenditure, taxation, among others without creating a fiscal crisis or undergoing changes in the fiscal policies (International Monetary Fund [IMF], 2023). Therefore, fiscal sustainability involves the ability of the government to meet its financial obligations in the current and future periods without resorting to high borrowings, monetizing debts, or increasing taxations. In the view of Velnampy and Achchuthan's (2013), fiscal policy is considered sustainable if the proportion of the government's net assets relative to Gross Domestic Product (GDP) remains stable or is increasing. This definition emphasizes the balance sheet position of the government. On the other hand, Woswei (2013) offers a technically-oriented definition,

claiming that the fiscal policy is sustainable if the discounted value of future primary surpluses (revenues less non-interest expenses) is equal to or exceeds the existing stock of public debt. From this definition, one may conclude that the sustainability of fiscal policy is directly connected with the idea of solvency.

Also, sustainability of fiscal policy depends on the manner in which finances can be raised. Gale and Orszag (2004) argue that the below-the-line financing of fiscal policies, which involves financing of the budget in relation to how the deficit will be financed, is an important part when analysing fiscal sustainability. The main forms of below-the-line financing include borrowings by government, asset sell-offs, and monetary finance. Stevan (2010) builds up on the government budget constraint, which describes the mathematical relationships between revenues (taxes), spending, and borrowing in relation to changes in public debt. Financing of fiscal deficits, defined as the difference between revenue and spending, occurs in four major ways, including taxes, domestic loans, external loans, and money creation. However, in the case of developing countries, there are a number of factors that prevent the efficient raising of finances. Such factors include limited tax base, predominance of informal activities, poor tax compliance, and lack of adequate capacity (OECD, 2022). Benjamin & Olanipekun (2013) explain that such factors force countries to adopt unsustainable financing techniques, including monetary financing.

Theoretical Framework

The Keynesian Economic Theory, propounded by John Maynard Keynes (Keynes, 1936), offers a strong theoretical framework to examine the interaction between fiscal policy and economic growth, especially within developing nations such as Nigeria. The Keynesian school of thought lays emphasis on the importance of government involvement in the economic process of stabilization and growth, especially during recessions or inherent structural problems within the economy. This theoretical framework is relevant in this study since it backs the idea that fiscal deficit, when properly used, can be utilized as a means of increasing aggregate demand, creating jobs, and fostering economic growth. In the case of Nigeria, given the infrastructural deficit, unemployment problem, and economic instability, government spending assumes great importance in bridging the investment gap created by the private sector.

Furthermore, the Keynesian approach explains the implications of indicators of fiscal sustainability, such as debt to GDP ratio and debt servicing. Although recognizing the possible dangers posed by excessive borrowing, Keynesian approach underscores the importance of public borrowing in case such debt is invested in productive sectors like infrastructure, education, and healthcare that will ensure future economic benefits to compensate for the cost incurred. This is very crucial especially in Nigeria in which development expenditure via budget deficit is inevitable because of lack of adequate non-oil revenues. It is also worth noting that Keynesian economics allows for both short and long-term analysis of the impact of fiscal policies. This theory recognizes the fact that government spending has not only short but also long-term impact on national output and that depends on how fiscal policy is implemented and utilized. Embracing the Keynesian approach ensures that this study is conducted with a critical eye towards assessing the level of influence fiscal deficits and indicators of fiscal sustainability have on the growth rate of Nigeria's economy, as well as understanding how fiscal policy tools can be used effectively to promote sustainable development.

Empirical Review

Several empirical studies have been carried out with a view to investigating the magnitude and direction of linkages between fiscal deficit and macroeconomic performance in Nigeria. In their study, Uzo, Obansa, Ihuoma, and Olushola (2024) focused on empirical analysis of fiscal policies and their impacts on economic growth in Nigeria. Using the econometric method of Autoregressive Distributed Lag (ARDL), the researchers analysed time-series data including economic growth rate, government capital spending, government recurrent spending, petroleum profit tax, corporate income tax, and budget deficit for the period between 1981 and 2022. The results show that government capital spending has a strong positive correlation with economic growth rate. On the other hand, government recurrent spending has a negative and statistically insignificant correlation with economic growth rate. Therefore, the authors recommend efficient management of petroleum profit tax since it showed a positive correlation with economic growth rate.

A thorough analysis of the role of taxation in promoting fiscal sustainability was made by Olushola, Beyai and Anagbado (2023) using Nigeria, a developing country endowed with abundant resources, as a case study. The researchers used an array of tools, including the Autoregressive Distributed Lag (ARDL) method of data analysis, augmented dickey fuller unit root test and ARDL cointegration bounds test, to conduct the analysis. The results of this study reveal the significant role of taxation in influencing economic growth in Nigeria during the entire research period. Although petroleum profit tax had a negative effect on economic growth, the positive impacts of corporate tax and VAT were observed. Most importantly, the role of VAT in boosting productivity surpassed that of the corporate tax.

Using econometric ARDL technique, Utile and Olushola (2023) studied the effect of fiscal policy on economic growth in Nigeria. This is how the findings reveal some important relationships among these variables. There is a significant and positive relationship between government CAPEXP and economic growth rate in the long term, whereas there is a negative and insignificant relationship between government CUREXP and economic growth. CIT is negatively related to economic growth but shows an insignificant relationship. PPT and BUDEF show a significant and positive relationship with economic growth at different levels of significance. Based on the above results, some policies were recommended by the study. According to the researchers, government spending on CAPEXP should be increased in order to increase economic growth, given the significance and positive nature of their relationship. Also, it should be noted that the study calls for the reduction in the cost of governance and other recurrent expenditures due to their significant and negative relationship with economic growth.

Olusoga et al. (2023) investigate intrinsic reasons for tax evasion from the perspectives of behavioural economics and the theory of the social contract. Acknowledging the role of government trust and fairness in tax systems, the paper highlights the significance of paying careful attention to tax policies and rules, which would take into account societal preferences and norms. Government-citizen relations highlight the role of government transparency and accountability in gaining trust and confidence. Overall, the results demonstrate that there is a shift from conventional economic deterrence models to behavioural models to promote voluntary tax compliance, particularly in developing countries such as Nigeria. The policy implications suggested based on the findings imply active participation of citizens in the creation of tax policies, fostering transparency and linkages, and generating a sense of ownership. Moreover, tax policies should be regarded as socially attractive and fair.

The study conducted by Adekanmbi, Dauda, and Olaniyi (2022) explored the influence of tax components on sustainable growth in Nigeria through time series analysis from 1987-2019, utilizing the ARDL approach for cointegration to determine both the long-term and short-term influences. It was found that petroleum profit tax, company tax, value-added tax, and personal income tax have a positive relationship with GDP in the short term, while custom and excise duties and personal income tax have a negative relationship both in the short and long terms. The recommendation of this study is the adoption of institutional reforms within the customs department to address the existing gaps in order to ensure that the revenues collected by the unit reach the optimal level required for sustainable development in Nigeria by the year 2030.

Imoisi (2021) conducted research on the effect of fiscal policy on public debt sustainability in Nigeria using multivariate analysis between 1970 and 2019. The ARDL bounds test is adopted in the study to identify the existence of long run relationship between the variables. It is found out from the findings of the ARDL test that there exists a long run relationship between the variables adopted in the study.

In particular, the findings show that budget deficit is positively related to public debt, whereas interest rate, real GDP and inflation rate have no effect on public debt since their effects were insignificant in both the short and long runs. Therefore, it is advisable that budget planning in Nigeria should be restructured to ensure efficiency in the process.

Siyanbola et al. (2020) explored the difficulty faced by Nigeria in ensuring sustainable economic development even though this is an important goal for the citizens of Nigeria. The study pointed out that Nigeria has faced numerous challenges ranging from infrastructural decay, high unemployment rate, and growing public debts in the face of various fiscal policies designed to improve government revenues and spending. This study focused on how fiscal policy sustainability affected economic development. GLS regression analysis of 38 years' time

series data (1981-2018) revealed that fiscal policy sustainability significantly influenced the real GDP in Nigeria. On this premise, Siyanbola et al. (2020) argued that there should be a sound economic diversification policy, adequate anti-corruption strategies and a responsible debt borrowing regime, where the country only borrows when it is necessary for the development of its economy and under proper accountability practices.

Ogiji and Ajayi (2020) sought to examine the factors behind the establishment of the fiscal balance, and the effect of the chosen macroeconomic variables on the primary balance of the government. The study intended to derive the fiscal reaction function for Nigeria and check its sustainability over the long term. A Fiscal Reaction model was constructed and ARDL method was employed to identify the relationship and interaction among the variables. The study assessed the adequacy of the fiscal policies implemented by the government from 2000:Q1 to 2018:Q4 in dealing with excessive debt. Based on the stylized facts presented, it can be seen that the budget deficit remained a feature throughout most of the periods under consideration, apart from some periods. The government debt to GDP, one of the key variables determining the primary balance, was statistically significant but negative indicating that a fiscal rule emphasizing a drastic cut in debt-to-GDP ratio would result in huge pressure on Nigeria to achieve a high primary surplus in the future. The study thus, recommends that, apart from the urgent need for the fiscal authorities to adopt urgent reforms to discourage huge debt accumulation, improve revenue generation capacity and more fundamentally, expenditure switching to improve the quality of expenditure, the transition from primary deficits to primary surpluses should follow a gradual process.

Evans (2020) tested empirically the impact of fiscal prudence in terms of policy uncertainty, corruption, budget reform, fiscal policy sustainability, and crowding-out effect on financial development and economic growth using the ARDL bounds test approach for the Nigerian economy over the period of 1980-2017. This study found out that policy uncertainty, corruption, and fiscal deficits significantly negatively impact financial development and economic growth. Higher uncertainty, corruption, and fiscal deficits will result in low levels of financial development and economic growth.

Otonne, Emmanuel and Asogwa (2019) sought to introduce new findings regarding the issue of public debt sustainability in Nigeria following the exit from Paris Club. The study contributes significantly to the existing body of knowledge by considering the existence of structural breaks in the series. Data were obtained for the period between 1988 and 2016, and the modified Augmented Dickey-Fuller unit root test was applied to capture the impact of the structural breaks on the series. Furthermore, the bounds cointegration approach based on ARDL fiscal reaction function was employed to model the short and long-term relationship of public debt sustainability in Nigeria. The results revealed that there are no sustainable fiscal policies adopted by the Nigerian government. Although we noted that the government has experienced a decreasing level of revenue over the years,

its fiscal expenditure continued to increase. The study, therefore, recommended that government must stop relying excessively on income generated from crude oil sales, and explore other revenue sources such as agriculture sector.

Saibu (2018) carried out a study on fiscal sustainability in Nigeria in terms of economic performance within the country. Applying an intertemporal budget constraint to the government framework, a fiscal sustainability model is developed and the conditions required to achieve fiscal sustainability are specified. Using the unit root test, cointegration test and dynamic OLS (DOLS) regression method, the sustainability of fiscal policy is assessed within the period of 1961 to 2016. It was established from the empirical analysis conducted that there is a presence of weak fiscal sustainability based on the result generated from DOLS regression. Likewise, from the analysis, weak economic performance to fiscal sustainability is indicated. Generally speaking, the results from this study are consistent with the current state of knowledge in the literature. From this research, one significant policy recommendation that can be made is the need for the Nigerian government to create a strong link between taxes and expenditure policies.

The research conducted by Ubi and Inyang (2018) examined the role played by fiscal deficit on Nigeria's economic development over the period 1980 to 2016. The study focused on how fiscal deficit influences development indicators which include the level of per capita income, economic growth represented by GDP, rate of unemployment and BOP. The results of the study concluded that fiscal deficit positively influenced the level of per capita income, economic growth and BOP stability. Fiscal deficit was unable to reduce

unemployment and inflation in the same period. As such, the study proposed massive investments in capital spending rather than recurring spending because it has the potential to increase production and reduce unemployment and inflation through the multiplier effect.

Ali, Mandara and Ibrahim (2018) conducted research on the effect of deficit financing on the growth rate of Nigeria's economy using data between 1981 and 2016. Secondary data was collected from the statistical bulletin of the Central Bank of Nigeria and was analyzed using Augmented Dickey Fuller for the determination of stationarity of the time-series data and ARDL Technique for regression analysis. The findings from the analysis indicated a mixture of degrees of integration of the variables (I(0) and (1)) and showed that there is a significant effect of government deficit financing on the output growth of the country's economy. The study concluded that the variables selected are significant together in influencing the output growth of the economy and recommended that government should be efficient in its public spending processes, fiscal discipline and maintain macroeconomic stability for development of the country's economy.

METHODOLOGY

Research Design

The current study utilizes an ex post facto research design, which is suitable for conducting empirical studies using existing data wherein there is no control over the variables of interest by the researcher. Ex post facto research is also known as a causal comparative study and is classified as a type of non-experimental research designed to find cause-and-effect relations through the use of data that is recorded in history. The use of the term ex post facto in describing this research design comes from the Latin phrase “from after the fact,” indicating that the study looks into the past. In this research design, the independent variables are not manipulated since the events being studied have taken place already.

This method will be more applicable when conducting research in macroeconomics and finance, since in these cases, it is impossible for the researcher to manipulate or control variables such as gross domestic product, inflation, money supply, or stock market indicators. In this case, therefore, it becomes necessary to rely on secondary data collected from credible sources using econometric analysis to explore the relationships between the variables. The reason for using this method stems from its capacity to enable objective and systematic evaluation of events in the real world, hence, ensuring external validity. Using this method, the researcher will be able to study the effects of independent variables on dependent variables in the real world. The main weakness associated with the use of this method is that causation cannot be determined since the research lacks controlled experimentation. Nevertheless, employing sophisticated econometric tools, including unit root tests, cointegration analysis, and ARDL model, will go a long way in ensuring reliability and validity.

Model Specification

The model adapted for this study derives from the work of Siyanbola et al. (2020). They critically investigated the effect of fiscal policy sustainability on economic growth. The study employed quantitative methodological framework and specifically draws on econometric technique to find the relationship between fiscal sustainability and economic growth in Nigeria. The model estimated by Siyanbola et al. (2020) is stated as follows:

$$GRGDP_t = \alpha_0 + \beta_1 GTR_t + \beta_2 GPD_t + \beta_3 GPE_t + \mu_t \text{ -----(3.1)}$$

$GRGDP_t$ represents the Growth in Real Gross Domestic Product (GDP) in time t

GTR_t represents the Growth in Tax Revenue (TR) in time t

GPD_t represents the Growth in Public Debt (PD) in time t

GPE^t represents the Growth in Public Expenditure (PE) in time t

Modifications were made to the model in consonance with the stated objectives of this study. The explicit forms of the model specified for this study are presented as follows:

$$RGDP_t = \alpha_0 + \alpha_1 FSD_t + \alpha_2 TD_GDP_t + \alpha_3 DS_TGR_t + \varepsilon_t \dots \dots \dots 3.2$$

Where:

RGDP = Real Gross Domestic Product

FSD = Fiscal Deficits

TD_GDP = Debt to GDP Ratio

DS_TGR = Debt Service to Revenue Ratio

The ARDL specification of the model in 3.2 is expressed as follows:

$$RGDP_t = \alpha_0 + \sum_{i=1}^p \alpha_i RGDP_{t-i} + \sum_{j=0}^{q1} \beta_1 FSD_{t-j} + \sum_{k=0}^{q2} \beta_2 LTD_RGDP_{t-k} + \sum_{l=0}^{q3} \beta_3 DS_TGR_{t-l} + U_t \dots \dots \dots 3.3$$

By theoretical postulation, the coefficients of Fiscal Deficits (FSD), Debt to GDP Ratio (TD_GDP), and Debt Service to Revenue Ratio (DS_TGR) are expected to be positive in Equation 3.2.

$\alpha_1 > 0$, $\alpha_2 > 0$, and $\alpha_3 > 0$.

Nature and Sources of Data

The research relied mainly on secondary data published by the Central Bank of Nigeria (CBN). These annual time series data for analysis relate to fiscal deficit, fiscal sustainability indicators and economic growth in Nigeria. The annual time series data with respect to Domestic Product (RGDP), Fiscal Deficits (FSD), Debt to GDP ratio (TD/GDP), and Debt Service to Revenue Ratio (DS/TGR) will be obtained from the statistical bulletin of the Central Bank of Nigeria (CBN). The period covered for this study is from 1986 to 2023.

Methods of Data Analysis

The analysis of the data collected for the purpose of this research was carried out using quantitative analytical technique which involves running a regression of the specified econometric model using appropriate estimation techniques. In a bid to avoid the phenomenon of spurious regression, the data were subjected to diagnostic investigations to determine their stationarity status as well as the trend trajectory of the data.

The choice of estimation techniques and methods of data analysis in this study is primarily informed by the nature of the data, the objectives of the research, and the structure of the econometric model. Given the study's focus on fiscal deficits, fiscal sustainability indicators, and economic growth, a time series econometric framework is adopted. This approach allows for an empirical investigation of the short- and long-run dynamic relationships among the variables over time.

DATA ANALYSIS AND DISCUSSION

Unit Root tests

The results of the Augmented Dickey Fuller test for unit root at level and at first difference are presented in table 4.1.

Table 4.1: Unit Root tests

Augmented-Dickey Fuller test							
At Level				At First Difference			
Variables	t-statistic	Critical value at 5%	P-value	t-statistic	Critical value at 5%	P-value	Order of Int.
FSD	-4.754560	-2.971853	1.0000	-4.857434	-4.443649	0.0148	I(1)
RGDP	-3.712918	-3.552973	0.0354				I(0)
TD_RGDP	4.616123	-2.943427	1.0000	-7.577053	-5.175710	0.01	I(1)
DS_TGR	-1.639925	-1.639925	0.4526	-8.424283	-3.540328	0.000	I(1)
Significance level is 5%							

Source: Author's Computation using E-views 10, (2025).

The results of the Augmented Dickey–Fuller (ADF) test reveal that the variables exhibit mixed orders of integration, meaning that some series are stationary at level while others become stationary after first differencing. The ADF unit root test results show that the variables are integrated of mixed orders. Specifically, RGDP is stationary at level [I(0)], while FSD, TD_RGDP, and DS_TGR are stationary at first difference [I(1)]. The presence of both I(0) and I(1) variables implies that the data series are suitable for estimation using econometric techniques such as the Autoregressive Distributed Lag (ARDL) model, which accommodates variables with mixed integration orders.

Cointegration test

Based on the results of unit root tests presented in table 4.1, we resort to testing for cointegration, to determine whether or not we would estimate a short run or a long run model. Because the variables are integrated at different levels, that is, a combination of I(0) and I(1); this study would employ the use of ARDL bounds test to check for co-integration. The summarized results are presented in table 4.2.

Table 4.2: Bounds test result

F-Statistic	Level of Sig.	I(0)	I(1)
6.707491	10%	2.72	3.77
	5%	3.23	4.35
	2.5%	3.69	4.89
	1%	4.29	5.61

Source: Computed by author using E-views 10 (2024).

The calculated F-statistic (6.707) is greater than the upper bound critical values at all conventional significance levels, including 10% (3.77), 5% (4.35), 2.5% (4.89), and 1% (5.61). This indicates that the null hypothesis of no long-run relationship can be rejected at all these levels of significance. Therefore, the result confirms the existence of a long-run equilibrium relationship among RGDP, FSD, TD_RGDP, and DS_TGR. In other words,

the variables move together over time, implying that fiscal deficit, debt servicing, and debt-to-GDP dynamics jointly influence real economic growth in Nigeria in the long run.

Model Estimation

The generalized ARDL model estimated allows for both short-run and long-run relationships between the dependent and independent variables in this study. The Regression estimates are extracted and presented in table 4.5 and table 4.6 below.

Analysis of the Long Run Model

The estimated long-run coefficients of the Autoregressive Distributed Lag (ARDL) model are presented in Table 4.3, with Real Gross Domestic Product (RGDP) serving as the dependent variable. The explanatory variables include Fiscal Deficit (FSD), Debt Service to Revenue Ratio (DS_TGR), and Debt-to-GDP Ratio (TD_RGDP). The table reports the estimated coefficients, standard errors, t-statistics, and probability values.

Table 4.3: ARDL Long Run Form Regression Estimates tests results

ARDL Long Run Form				
Dependent Variable: RGDP				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
FSD	-52.501762	22.043016	-2.381787	0.0309
DS_TGR	-320652.205174	122695.132870	-2.613406	0.0196
D(TD_RGDP)	-747438.399516	388548.894731	-1.923666	0.0736
C	97948.157157	26970.008150	3.631744	0.0025

Source: Computation by author using E-Views 10 (2025)

These long-run estimations show the effects of variations in the variables of fiscal deficit and debt on Nigeria's Real Gross Domestic Product (RGDP). In interpreting these coefficients, the following considerations have been made in relation to the magnitude and the statistical significance. The first one is the coefficient of fiscal deficit (FSD), which is -52.50 and has a p-value of 0.0309 , hence statistically significant at 5 percent level of confidence. The negative coefficient of -52.50 shows that an increase in fiscal deficit causes a reduction in RGDP in the long run.

The coefficient of DS_TGR is $-320,652.21$ and has a p-value of 0.0196 , making it statistically significant at 5 percent level of confidence. Since the coefficient is negative, it means that an increase in government expenditure on debt service reduces economic growth. On the other hand, the coefficient of the debt-to-GDP ratio is $-747,438.40$ with a p-value of 0.0736 , implying it is marginally significant at 10 percent level of confidence. From the negative coefficient, we can infer that an increase in debt-to-GDP ratio causes reduction in economic growth.

The coefficient of the constant term (C) is statistically positive and significant at a value of 97,948.16 ($p = 0.0025$). This implies that holding all other explanatory variables constant, there is still an underlying growth potential in the Nigerian economy in terms of real GDP that is positive and independent of fiscal deficit and public debt. It could be argued that there are other macroeconomic and structural determinants of economic growth, apart from the fiscal deficit and public debt, that contribute to the growth potential of the economy. Generally, it can be stated that the econometric estimations show that the variables such as fiscal deficit, debt service, and debt to GDP have negative impacts on the economic growth of Nigeria.

Analysis of the Error Correction Model

Dynamic relations between RGDP, FSD, DS_TGR, and TD_RGDP in the short run have been analysed through ECM, which has been calculated from the ARDL approach. The output generated by running the model, as presented in Table 4.4 shows short-run parameters as well as the error correction term indicating the rate of adjustment towards long-run equilibrium after short-run disturbances.

Table 4.4: ARDL ECM Regression Estimates tests results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(RGDP(-1))	0.323723	0.166855	1.940144	0.0714
D(FSD)	1.723082	0.615314	2.800330	0.0135
D(FSD(-1))	2.231652	0.956273	2.333699	0.0339
D(FSD(-2))	-2.044673	0.987829	-2.069864	0.0561
D(FSD(-3))	2.562327	0.825784	3.102902	0.0073
D(DS_TGR)	-3167.782897	2902.768454	-1.091297	0.2924
D(DS_TGR(-1))	4345.473243	2709.736691	1.603651	0.1296
D(DS_TGR(-2))	2185.134094	2715.471839	0.804698	0.4336
D(DS_TGR(-3))	3566.220254	2845.721488	1.253187	0.2293
D(TD_RGDP, 2)	-39.697562	2964.691835	-0.013390	0.9895
D(TD_RGDP(-1), 2)	10098.407850	9072.961170	1.113022	0.2832
D(TD_RGDP(-2), 2)	-17451.148228	8794.965532	-1.984220	0.0658
D(TD_RGDP(-3), 2)	36630.707582	9105.709918	4.022828	0.0011
CointEq(-1)	-0.043947	0.021289	-2.064336	0.0567

Source: Computation by author using E-Views 10 (2025)

The estimated short-run coefficients are the direct impact of changes in the independent variables on Nigeria's real gross domestic product (RGDP). The coefficient associated with the lagged dependent variable D(RGDP(-1)) is 0.324 with a p-value of 0.071, implying that there is a positive effect on current economic growth based on prior growth experience at a marginal level of significance. It means that past performance has an effect on current growth, thus implying growth persistence in Nigeria's economy.

Fiscal deficit shows contemporaneous and lagged relationships with RGDP in the short run. Contemporaneous fiscal deficit, $D(FSD)$, shows positive and statistically significant relationship with RGDP (1.723, p -value=0.0135). This indicates that an increase in fiscal deficit in the short run results in economic growth. First lag, $D(FSD(-1))$, shows positive and statistically significant relationship with RGDP (2.232, p -value=0.0339). This confirms the expansionary impact of fiscal policy in the short run. Second lag, $D(FSD(-2))$, on the other hand, shows negative and statistically significant relationship with RGDP (-2.045, p -value=0.056). It seems that growth effect of fiscal deficit may turn out negative after some period of time due to increased cost of borrowings or rise in price level. Third lag, $D(FSD(-3))$, shows positive and statistically significant relation with RGDP (2.562, p -value=0.007). Fiscal stimulus effect may continue through time lag with some effect on RGDP.

The coefficients of Debt Service to Revenue Ratio $D(DS_TGR)$ and its lags have no statistical significance (values of p larger than 0.1), which implies that short-run changes in the magnitude of debt service payments have no influence on the country's economic performance immediately. Therefore, it is possible to assume that the negative impact of debt servicing on the economy operates in a longer period since it requires some time before the effects become evident.

Neither the current indicator of debt-to-GDP ratio nor its lagged one show any statistical significance regarding RGDP, which means that their impacts are weak in the short run. But the second lag of this variable $D(TD_RGDP(-2))$ appears to be negative and insignificantly negative at -17,451.15 with a significance level p equal to 0.066, suggesting that an increased debt burden starts to influence the economic performance after some time elapses. As for the third lag $D(TD_RGDP(-3))$, it is significant at +36,630.71 and has p equal to 0.001, which means that in certain situations the accumulated debt can even foster growth if properly used.

The coefficient of the error correction term ($CointEq(-1)$) is -0.0439, which is statistically significant at 10 percent significance level (p -value is 0.0567). From the negative sign, we confirm that a long-run equilibrium exists among the variables, which was demonstrated through the bounds test. From the coefficient value, about 4.4 percent of the deviation will be corrected per period, which shows that adjustments in the system take place at a relatively slower pace. This means that whenever there are deviations from the long-run equilibrium in the economy, the Nigerian economy converges slowly toward stability.

From the results of the ECM, we can note that the short-run fiscal deficits positively affect economic growth in Nigeria. It therefore shows how important fiscal policy is as a countercyclical tool for managing economic growth. On the other hand, the short-run effect of debt service and debt-to-GDP ratio on growth remains insignificant, implying that their effects will manifest only in the long run.

Findings

The results show that fiscal deficit has a double effect on the growth process in Nigeria. In the short term, a reasonable fiscal deficit may promote growth through investments in productive projects by the government. On the other hand, a continuous or high fiscal deficit might inhibit growth through the build-up of debts and interest costs. Thus, the outcome emphasizes the need for fiscal responsibility and proper budgeting processes. It is imperative for policymakers to focus their deficit spending on growth-inducing areas like infrastructure, education, and agriculture. From the results of the research analysis, it can be seen that the debt to GDP ratio has no significant impact on the growth of the economy in Nigeria at the 5 percent level of significance. However, the presence of marginal significance indicates that under proper management and investment of debt, it has a positive contribution towards the growth of the economy. This indicates that poor management of the increasing amount of debt has affected the growth of the economy.

The result of the regression analysis indicates that there is a positive association in the long run between the debt service to revenue ratio and economic growth in Nigeria. From the result, we can infer that an increase in the debt service to revenue ratio negatively impacts long-term economic growth due to the limitation placed on government spending to finance productive activities by a large proportion of revenue being used in paying off the debt service. The insignificant short-term effects of these variables show that there is no immediate impact on the negative effects of debt servicing, but it occurs gradually as the budget constraint increases. This finding

is consistent with the debt overhang concept, where large amounts of debt and debt servicing may cause the economy to underperform due to a lack of investments.

The findings have significant relevance to the Sustainable Development Goals (SDGs) set by the United Nations. The outcomes indicate that there is a dual relationship between the impact of the fiscal deficit on the economic growth of Nigeria. In the short run, fiscal deficit may foster economic growth when the budget deficit is used constructively and spent in productive sectors like infrastructure development, education, and agricultural development. The findings support SDG 8 aimed at ensuring sustained economic growth and development. Similarly, they relate to SDG 9 focused on building resilient industries, infrastructure, and innovation. The importance of government deficit expenditure on educational developments is relevant to SDG 4 concerned with ensuring quality education because increased expenditure in this area enhances human development and improves production activities. Further, prioritizing agriculture in fiscal deficits has relevance to SDG 2 related to zero hunger. Investment in agriculture fosters food security, reduces poverty, and fosters national development.

Additionally, the research findings indicate that while the debt-to-GDP ratio does not have a statistically significant impact on economic growth at the 5 percent significance level, proper management of debt and efficient usage of borrowed money can be beneficial to economic development. Inadequate management of debts has affected economic growth in Nigeria. This highlights the need for good governance, accountability, and fiscal responsibility, which are key elements of SDG 16. It is further evident from the study that debt servicing is a hindrance to economic growth in the long run as the amount of debt servicing takes up a huge percentage of government budget. This is consistent with the concept of debt overhang, which states that too much debt discourages investments and hinders economic growth. The conclusion drawn from the findings is that there should be sustainable management of debts in order for public debt to be beneficial to development.

CONCLUSION AND RECOMMENDATIONS

Conclusion

According to the findings of this study, Nigeria's fiscal and debt policies prove to be vital factors affecting economic growth in a positive way. Indeed, the findings show that economic growth can be strongly influenced by fiscal deficit levels, both in the short and long-run periods. In particular, in the short run, it has been proven that an appropriate amount of fiscal deficit can contribute to economic growth. The latter confirms Keynesian ideas that fiscal deficit during a recession period contributes to the creation of more aggregate demand and, therefore, increases output. At the same time, in the long run, it has been established that fiscal deficit proves to have negative effects on economic development due to the mentioned factors as excess borrowing, inflation tendency, and crowding out. As for the effect of the debt/GDP ratio, it can be assumed that the impact of this factor is insignificant and inconsistent as well. Even though there is an insignificant impact of the ratio on economic growth at the 10 percent level of significance, such impact fails to be confirmed at the 5 percent level of significance.

The debt service-to-revenue ratio, however, showed a clear and statistically significant negative association with economic growth. This result reveals that with an increasing portion of revenues devoted to debt service, there is less available funds for capital expenditure and development expenditures. In the long term, this has an adverse effect on the productivity of the economy, thus limiting its future growth potential. From the perspective that the effects are insignificant in the short term, it can be interpreted that the adverse effects of debt servicing build up slowly. This could be related to the fact that the country is facing increasing problems in fiscal terms because of its increasing debt burden. Overall, these results demonstrate that there is a complex relationship between fiscal policies, debt, and economic growth in Nigeria.

Recommendations

Taking into account the research outcomes and policy implications, some recommendations can be offered to foster fiscal sustainability, strengthen debt management, and ensure sustained economic development in Nigeria:

1. There should be an effort on the part of the government in emphasizing the importance of being fiscally disciplined by ensuring that a balance is struck between expenditure and income. Fiscal rules such as the establishment of caps on the level of deficit and debt would help in achieving fiscal discipline.
2. Given that the rise in the level of debt to GDP ratio is harmful to the country's economy, Nigeria should take a more proactive approach when it comes to borrowing. The government should use its money borrowed for purposes such as infrastructure, agriculture, and manufacturing. The functions of the Debt Management Office need to be strengthened.
3. For Nigeria to reduce its borrowing and create more room for fiscal manoeuvring, it is important that there be an expansion in the sources of government income by making reforms in tax policy. This can be achieved by diversifying the economy.
4. Given that the government is spending a lot of money in servicing its debts, it becomes necessary to explore other ways through which to negotiate, restructure and forgive debt.

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