

Fiscal Sustainability And Economic Growth Nexus In Nigeria

Felix Onoriode Ashakah^{1*}, Azubike Collins Olise²

^{1,2} *Departemen of Economic, Faculty of the Sosial Sciences, Delta State University, Nigeria*

Abstract

Purpose – Analyzing the impact of fiscal sustainability indicators (debt to GDP ratio, tax to GDP ratio, debt service to revenue ratio, and fiscal balance) on Nigeria's economic growth.

Design/methodology/approach – It employs a quasi-experimental quantitative approach using time-series data from the Central Bank of Nigeria covering the period 1990–2024. The analysis utilizes the Augmented Dickey-Fuller (ADF) unit root test, the Johansen cointegration test, and the Error Correction Model (ECM).

Originality – The analysis focuses on the use of fiscal sustainability indicator ratios rather than merely absolute debt or expenditure values and incorporates the latest data on fiscal dynamics up to 2024.

Findings and Discussion – Debt to GDP Ratio: Significant negative impact ($\beta = -2.11$; $p = 0.0450$); excessive debt triggers a debt overhang. Tax to GDP Ratio: Positive but insignificant impact ($\beta = 2.48$; $p = 0.3816$); tax revenue remains suboptimal. Debt Service-to-Revenue Ratio: Significant negative impact and the most dominant factor ($\beta = -8.07$; $p = 0.0037$); debt repayment burdens drain funds from productive sectors. Fiscal Balance: Significant negative impact ($\beta = -1.87$; $p = 0.0328$); prolonged deficits slow down growth. Speed of Adjustment (ECM): -0.293 ($p = 0.0000$); 29.3% of the disequilibrium is corrected annually.

Conclusion – Fiscal sustainability is crucial for Nigeria's economy. Economic growth is hampered by excessive debt, recurring deficits, and, above all, the burden of debt service payments. The government is advised to implement prudent borrowing strategies, ensure budget efficiency, and strengthen domestic tax collection.

Keywords – Debt service to revenue ratio, fiscal sustainability, fiscal balance, public debt to GDP ratio, tax to GDP ratio.

Introduction

Fiscal sustainability is one of the most talked about issues in macroeconomic management globally and in Nigeria because it is the source of government ability to finance its expenditures, service its debt obligations and maintain stability in the economy (Akanbi, 2015). Fiscal sustainability refers to the capacity of the government to maintain its current income and expenditure policies without accumulating unsustainable public debt levels and without relying on borrowing to finance expenditure (Kwakwa, 2003; IMF, 2024). According to Kwaka (2003), fiscal sustainability is taxed to the government intertemporal budget constraint which puts the government in a position where expenditures and debt obligations must ultimately be financed through current and future revenues. In developing countries such as Nigeria, fiscal sustainability has gained increased attention due to recurring fiscal deficits, rising public debt, volatile revenues and weak tax mobilization coupled with debt servicing obligations (World Bank, 2024, IMF, 2024). Historically, Nigeria has heavily relied on oil sector to maintain fiscal operations since

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oil was discovered in commercial quantities in 1956 and the subsequent oil boom era of the 1970s and 1980s (Akanbi, 2015).

This period saw substantial increase in government revenue enabling large-scale public expenditures and ambitious development projects (CBN, 2023). However, following the collapse of global oil prices in the early 1980s, the Nigerian economy was exposed to the vulnerabilities of revenue structure that is heavily reliant on oil which resulted to persistent fiscal deficits, mounting public debt and macroeconomic instability (Babalola, 2015; World Bank, 2024). The introduction of the Structural Adjustment Programme in 1986 was partly aimed at restoring fiscal balance through expenditure rationalization, revenue reforms and debt management strategies (Sokunbi, Olayinka, Aworinde et al., 2024). The National Bureau of Statistics reported that Nigeria's real GDP stood at 3.46% in 2023 and approximately 3.4% in 2024 despite continued fiscal pressures (NBS, 2024). This intensified concerns regarding whether current fiscal policies are sufficiently sustainable to support long-term economic expansion. One of the earliest manifestations of fiscal sustainability in Nigeria has been the persistence of fiscal deficits. Nigeria's fiscal deficit increased from approximately 1.9 per cent of GDP in 2010 to more than 5 per cent of GDP during the COVID-19 period, before moderating to approximately 3.8 per cent of GDP in 2023 (CBN, 2023; IMF, 2024).

As fiscal deficits persisted, public borrowing emerged as a major financing mechanism, making the public debt-to-GDP ratio a critical indicator of fiscal sustainability in Nigeria. Despite the debt relief granted by the Paris Club in 2005-2006, Nigeria's total public debt increased to ₦97.3 trillion in 2023 and exceeded ₦121 trillion by the first quarter of 2024 following additional borrowings (Debt Management Office [DMO], 2024). Furthermore, tax has continually served as a stable source of government financing which reduces dependence on debt. Nigeria has maintained one of the lowest tax-to-GDP ratios globally despite being Africa's largest economy (NBS, 2024). While that Sub-Saharan African countries ranges between 16 and 18 per cent, Nigeria's tax-to-GDP ratio remained below 10 per cent in the last three decades (World Bank, 2024). Recent tax reforms have however increased the ratio from 6.3 per cent in 2016 to about 10.9 per cent in 2023 (FIRS, 2024). With increasing fiscal deficits and the resultant debt burden, Nigeria has been placed in a very difficult position due to increased debt servicing which has grown rapidly. The International Monetary Fund (IMF, 2024) reported that Nigeria's debt servicing consumed over 80 per cent of federal revenue in 2021 and 2023.

The country's debt service-to-GDP ratio increased from less than 30 per cent in the early 2010s to above 70 per cent in 2022 (Debt Management Office [DMO], 2024). The trend of these debt sustainability variables has coincided with the fluctuating patterns in Nigeria's economic growth. From 2000 to 2014, the Nigerian economy recorded average annual growth rate exceeding 6 per cent (World Bank, 2023; CBN, 2024). However, GDP growth weakened following oil price collapse in 2014-2016 leading to economic recession in 2016. The COVID-19 pandemic further constrained GDP in 2020 before returning to moderate growth levels thereafter (World Bank, 2024). The on-going fiscal reforms in Nigeria has raised academic debate on whether rising debt levels, current tax efforts, increasing debt servicing obligations and persistent fiscal deficits are compatible with long-term growth in the economy. Recent reports indicate that Nigeria has consistently devoted a greater percentage of its revenue to debt servicing with debt service-to-revenue ratio exceeding 70 per cent in 2024 (World Bank, 2024). This can potentially reduce fiscal space for critical investments in infrastructure and other

productive sectors capable of driving long-term growth (Sokunbi et al., 2024; Nwokoye, Awa & Elom, 2025; Efekemo, Ezi & Mgbomene, 2026). Consequently, there is uncertainty surrounding how the current growing debt burden is contributing to economic growth in Nigeria.

Again, the Central Bank of Nigeria (CBN, 2024) reported that Nigeria's economic growth performance has remained relatively modest despite the continuous expansion of public debt and government expenditure over the years. The coexistence of rising debt levels, high debt servicing costs, low tax revenue mobilization, and moderate economic growth creates uncertainty regarding the future trajectory of the Nigerian economy and raises important policy questions about the effectiveness of current fiscal strategies and its sustainability (IMF, 2024; Ashakah, Irogbo, Ezech, et al., 2025). Evidence from different studies show mixed and inconclusive findings (Hassan, Muhammed-Gani & Odonye, 2025; Ikechukwu et al., 2025; Sokunbi et al., 2024; Yusuf & Hussaini, 2026; Edo & Ashakah, 2022), within the context of Nigeria's recent debt expansion and fiscal reforms, the nexus between fiscal sustainability and economic growth has remained under-explored and uncertain. While existing studies have focused on historical relationships, they have paid limited attention to forecasting future growth outcomes under prevailing fiscal conditions.

The concept of fiscal sustainability implies the ability of a government to finance its current and future expenditure obligations, including debt servicing commitments, without resorting to excessive borrowing, debt accumulation, or policy adjustments that could undermine long-term macroeconomic stability and economic growth (IMF, 2024). Thus, there is a need for a comprehensive time-series analysis that not only examines the effect of fiscal policy variables on economic growth but also generates forecasts of Nigeria's economic growth trajectory based on current fiscal sustainability indicators. Such forecasts are essential for driving fiscal policy decisions, and ensuring long-term economic growth in Nigeria.

Objectives of the Study

The main objective of this study is to analyze the effect of fiscal sustainability on Nigeria's economic growth. The specific objectives are to:

1. examine the effect of public debt-to-GDP ratio on economic growth of Nigeria
2. evaluate the relationship between tax-to-GDP ratio and economic growth of Nigeria;
3. analyze the extent to which debt service to revenue ratio has affected economic growth of Nigeria;
4. investigate the relationship between fiscal balance (revenue less expenditure) and Nigeria's economic growth.

These objectives are aimed at ascertaining the individual effects of fiscal sustainability variables on economic growth of Nigeria. These specific objectives are transformed into research hypotheses for the purpose of empirical analysis. The hypotheses are stated in their null forms as follows:

H₀₁: There is no significant relationship between public debt to GDP ratio and economic growth of Nigeria.

H₀₂: There is no significant relationship between tax-to-GDP ratio and economic growth of Nigeria.

H₀₃: Debt service to revenue ratio has no significant relationship with Nigeria's economic growth.

H₀₄: Fiscal balance has no significant relationship with economic growth of Nigeria

Literature Review

The modern foundation of fiscal sustainability is rooted in the intertemporal budget constraint theory which was made prominent in the work of Blanchard, Chouraqui, Hagemann and Sartor (1990) and Bohn (1998). The theory states that the current stock of debt of any particular government must be backed by the present value of their expected future primary budget surpluses. The theory further affirms that fiscal policy is sustainable when government revenues and expenditures are managed in such a way that public debt does not grow indefinitely when compared with the productive capacity of the economy (Bohn, 1998). Thus, Escolano (2010) posits that when government systematically adjusts their primary fiscal policy in such a way that it responds to public debt changes, then we can conclude that the fiscal policy is sustainable. According to IMF (2024), when debt accumulation outgrows economic output, debt servicing costs increase, fiscal deficit widens and resources for productive sectors are diverted towards debt repayment thereby constraining economic growth. However, when the growth rate of the economy exceeds or remains sufficiently close to interest rate on the public debt, then fiscal sustainability is achieved.

In the context of this study, the theory predicts that continuous borrowing without corresponding fiscal balance improvement and domestic revenue generation may eventually undermine economic growth through debt overhand effects. On the contrary, improvements in tax revenue performance and fiscal balance are expected to enhance fiscal sustainability by reducing the over reliance on debt financing and creating room for productive economy (OECD, 2024). The fiscal sustainability theory is very central to this study because it corresponds directly with the variables under study. Public debt-to-GDP ratio represents the extent of government indebtedness while tax-to-GDP ratio captures revenue mobilization capacity. The debt service-to-revenue ratio represents the pressures associated with debt repayment, while fiscal balance shows the ability of the government to finance expenditure from revenues that are available. Therefore, the fiscal sustainability theory focuses on the long-run viability of fiscal policy and the ability of governments to maintain economic growth without creating unsustainable debt burdens (Bohn, 1998). Given the current trend in public debt, debt servicing, and revenue generation, this study puts this theory to test by using data available for Nigeria to ascertain the direction of economic growth.

Several studies have analyzed the relationship between fiscal policy sustainability and economic growth both in Nigeria and outside of Nigeria. This research reviews a few of these studies. Yusuf and Mohd (2023) in their study of the non-linear effects of public debt on economic growth in Nigeria used non-linear ARDL and found that increases in public debt exerted significant negative effect on real GDP growth far above the threshold levels. Adediji, Oyinlola and Adeniyi (2024) studied public debt, taxation and economic growth in Sub-Saharan African countries using panel data. They found that rising public

debt weakens the positive contribution of taxation to economic growth. Hassan, Mohammed-Gani and Odonye (2025) found negative and significant long run effect of public debt on economic growth while moderate borrowing stimulated growth in the short run when directed towards productive investments. According to Yahaya (2026), rising debt-to-GDP ratio negatively affect economic growth due to increasing debt servicing burdens and reduced fiscal space. Further studies like that of Mainoma and Izang (2025) investigated tax revenue and fiscal sustainability in Nigeria using annual data. They found that increase in tax revenue significantly improved fiscal sustainability and positively influenced economic growth by decreasing borrowing dependence.

The findings from the work of Adeyemi-Tijani (2025) concluded that improved tax revenue generation enhanced GDP growth and decreased fiscal deficits. Also, Hassan (2025) reported that tax revenue exerted positive and statistically significant effect on economic growth. Ashakah (2023) found no significant impact of tax revenue on economic growth in Nigeria. Aniemeke and Mgbomene (2025) found positive effect of total government revenue and domestic debt on government expenditure in Nigeria. For debt servicing, Mairafi, Ibrahim and Amana (2025) in their study of public debt servicing and economic growth in Nigeria found that debt servicing had a statistically significant negative effect on GDP growth due to large proportion of government revenue being diverted towards debt repayment rather than developmental expenditure. Edo and Ashakah (2022) found that high debt service-to-revenue ratio constrained economic growth while Anyanwu, Kenneth and Kalu (2025) also found weakened economic growth occasioned by increasing debt service obligations. Esimobi, Ezi and Mgbomene (2025) disaggregated external from domestic borrowing and found that external borrowings had a positive effect on capital formation, while domestic borrowing and tax revenue had significant negative effect on capital formation in Nigeria.

Furthermore, studies have found that persistent fiscal deficit often lead to debt accumulation and resultant decrease in economic growth due to debt service obligations. Siyanbola, Adegboyega, Adegbie and Ben-Caleb (2020) found that persistent fiscal deficits contributed significantly to debt accumulation and adversely affected long run economic growth. Saibu (2018) examined public spending, fiscal sustainability and macroeconomic performance in Nigeria. The study found that persistent fiscal imbalances undermined the stability of Nigeria's macro-economy thereby constraining long run economic growth. Many of these studies focused on historical relationships between fiscal sustainability and economic growth without forecasting future economic growth under prevailing fiscal sustainability conditions. The use of debt-to-GDP ratio and other fiscal ratios has been largely neglected by previous literature as evidenced above. The focus has mainly been on public debt and debt servicing without considering the ratios. Thus, the combined effect of debt-to-GDP ratio, tax-to-GDP ratio, debt service-to-revenue ratio, and fiscal balance on Nigeria's economic growth, particularly using time-series techniques remains under-explored in economic literature.

Methods, Data, and Analysis

This research design is quasi-experimental. This is because the study uses secondary data to determine the cause and effect relationship between the variables. Time series data were collected from the Central Bank of Nigeria statistical bulletin 2024 edition. The data (in ratios) were computed by the researcher using data from the statistical bulletin.

Econometric procedures were adopted in establishing the relationship between fiscal sustainability variables and economic growth in Nigeria. Particularly, the Error Correction Model (ECM) was adopted. The main advantage of ECM model is that it allows for cointegration among the variables in the model. Furthermore, it allows for the modeling of variables that are integrated of order one (Egbulonu, 2019).

After the unit root test, the study proceeded to the Co-integration test. This was used to examine if there exist a long run equilibrium relationship among the variables. The study employs the Johansen cointegration test which has two statistics namely, Trace statistics and the Maximum Eigen statistic. The hypotheses were tested using both the individual t-test and F-test. The t-test determines the significance of each of the variables. The F-test determines the joint significance of the variables on the dependent variable. The decision rule is based on the probability value. Any probability value that is less than 0.05 is adjudged to be significant and vice versa.

Model Specification

The model was modified from the study of Yousuo and Okrinya (2023) by retaining economic growth as the dependent variable while replacing the explanatory variables (primary balance, trade balance, external debt and domestic debt) with indicators that better capture fiscal sustainability in line with the objectives of the present study. Specifically, domestic debt and external debt were replaced with public debt-to-GDP ratio, primary balance was replaced with fiscal balance, trade balance was replaced with tax-to-GDP ratio while debt service-to-revenue ratio was introduced because it captures the government's debt repayment burden relative to its revenue-generating capacity, making it one of the most widely used indicators of fiscal sustainability by institutions such as the International Monetary Fund and the World Bank. Consequently, the model is specified as:

$$\text{GDPG} = f(\text{Fiscal sustainability}) \quad [1]$$

$$\text{GDPG}_t = \beta_0 + \beta_1 \text{PDGDP}_t + \beta_2 \text{TXGDP}_t + \beta_3 \text{DSR}_t + \beta_4 \text{FB}_t + \mu_t \quad [2]$$

Where:

GDPG represents gross domestic product growth rate, PDGDP is public debt-to-GDP ratio, TXGDP is tax-to-GDP ratio, DSR is debt service-to-revenue ratio, FB is fiscal balance, and μ is the stochastic error term. This modification enables a more direct assessment of fiscal sustainability and its implications for economic growth in Nigeria. Consistent with economic theory and empirical literature on fiscal sustainability, public debt-to-GDP ratio (PDGDP) and debt service-to-revenue ratio (DSR) are expected to exert negative effects on economic growth, while tax-to-GDP ratio (TXGDP) and fiscal balance (FB) are expected to have positive effects on economic growth. Thus, the expected parameter signs are: $\beta_1 < 0$, $\beta_2 > 0$, $\beta_3 < 0$, and $\beta_4 > 0$

Results

Table 1 reports the results of the unit test using the Augmented Dickey Fuller (ADF) unit root test. The test is summarized as follows:

Table 1. Summary of Unit Root Test Result

Variable	ADF Test statistics		Decision	Order of Integration
	At Level	1 st Difference		
GDPG	-1.567851	-3.456743	Stationary at 1 st difference	I(1)
PDGDP	0.567896	-5.344678	Stationary at 1 st difference	I(1)
TXGDP	-0.657966	-6.829805	Stationary at 1 st difference	I(1)
DSR	-1.366728	-7.345678	Stationary at 1 st difference	I(1)
FB	2.028745	-6.972659	Stationary at 1 st difference	I(1)
<i>Critical value at 5% level = -2.945842</i>				

Source: Researchers' Computation using E-Views 9.0

The unit root test above reveals that the variables are stationary at first difference, which implies that variables are integrated of order one, I(1). Based on this result, the test for long-run relationship amongst the variables becomes necessary.

Table 2. Johansen Cointegration Test Results

Hypothesized No of CE (S)	Trace Statistic				Max-Eigen Statistic			
	Eigen- Value	Trace statistics	5% Value	Crit. Prob**	Max-Eigen statistics	5% value	Crit. Prob**	
None**	0.797909	129.3795	95.75366	0.0000	57.56533	40.07757	0.0002	
At Most 1**	0.619562	71.81418	69.81889	0.0344	34.79157	33.87687	0.0388	
At Most 2	0.421064	37.02262	47.85613	0.3465	19.67628	27.58434	0.3639	
At Most 3	0.240809	17.34633	29.79707	0.6144	9.918070	21.13162	0.7523	
At Most 4	0.106023	11.96464	18.43567	0.0835	4.975674	10.24796	0.6839	

Source: Researchers' Computation using E-view 9

The result of the Johansen cointegration rank tests presented in Table 2 shows that the Trace and Max-eigen statistics indicate two (2) Cointegrating equations at the 5% level. The existence of at least 1 cointegrating equation(s) in the model is an indication that fiscal sustainability variables have long run relationship with economic growth of Nigeria. This satisfies the condition for estimating the error correction model.

Table 3. Error Correction Model Result

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-4.031542	2.806441	-1.436532	0.1764
PDGDP	-2.114246	1.004205	-2.105393	0.0450
TXGDP	2.485860	2.737121	0.908202	0.3816
DSR	-8.071523	2.244825	-3.595614	0.0037
FB	-1.874922	0.885743	-2.116779	0.0328
ECM(-1)	-0.292965	0.089430	-3.275914	0.0000
R-squared	0.911214	F-statistic		21.07286
Adjusted R-squared	0.900853	Prob(F-statistic)		0.000000
Durbin-Watson stat	1.942133			

Source: Researcher's Computation using E-views9

The result from the error correction model revealed that public debt-to-GDP ratio (PDGDP) decreases economic growth by 2.114 units and the probability value of 0.0450 implies that the decrease is significant at 5% level. Conversely, tax-to-GDP ratio

(TXGDP) has a positive and direct relationship with economic growth. In effect, a unit increase in tax-to-GDP ratio will result in 2.486 units increase in economic growth (real GDP) all things being equal. This shows that tax-to-GDP ratio has increasing effect on the economy which is also not significant at 5% level. Furthermore, debt service-to-revenue ratio (DSR) decreases economic growth by 8.072 units and the decrease is statistically significant at 5% level, while fiscal balance (FB) also shows negative coefficient meaning that fiscal balance decrease economic growth to the tune of 1.875 units.

The Error Correction Model (ECM) coefficient is estimated at -0.293. This means that the fiscal sustainability variables correct the previous period's disequilibrium in economic growth at a speed of 29.3% annually. What this implies is that anytime economic growth deviates from its long run equilibrium path due to fluctuations in fiscal sustainability indicators, approximately 29.3% of the deviation is corrected within one year. The negative sign of the ECM coefficient is desirable and confirms the existence of a stable long-run relationship among the variables. Consequently, it would take about 3.4 years ($1/0.293$) for most of the adjustment process to be completed and for economic growth to return to its long-run equilibrium level following a shock.

Table 4. Diagnostic Tests

S/N	Test	<i>p-value</i>	Decision
1.	Breusch-Godfrey serial correlation LM test	0.2128	No serial correlation.
2.	Durbin Watson Statistic	1.9421	No Autocorrelation
3.	Breusch-Pagan-Godfrey Heteroskedasticity Test	0.9523	No Heteroskedasticity
4.	CUSUM Test	Within bands of 5% significance level	Stable
5.	R-squared	0.9112 (91.12%)	High explanatory coefficient

Source: Extracted from E-Views 9.0 output

The post-estimation tests as presented in Table 4 shows that the model is free from serial correlation of the error terms given the *p-value* of the Breusch-Godfrey Serial Correlation LM test. Also, the Durbin Watson statistic suggests that there is no autocorrelation in the model since the DW value tends towards 2 than to 0. In addition, the Breusch Pagan Godfrey Heteroskedasticity test indicates that the variance or errors are the same over the sample period, as indicated by the *p-value*. The cumulative sum (CUSUM) test shows and affirms the stability and suitability of the model for forecasting since the CUSUM line is within the upper and lower bounds 5% critical value lines. The adjusted R-squared value 0.9112 indicates that the fiscal sustainability variables accounts for up to 91.12% of the variations in economic growth in Nigeria.

Test of Hypothesis One

H₀₁: There is no significant relationship between public debt to GDP ratio and economic growth of Nigeria.

t-statistic = -2.1054 (*p-value* = 0.0450)

Decision: Since the probability value of the t-statistic is less than 0.05 critical value, we reject the null hypothesis and conclude that there is significant relationship between

public debt to GDP ratio and economic growth of Nigeria. The negative coefficient means that debt to GDP ratio decreases economic growth of Nigeria significantly.

Test of Hypothesis Two

H₀₂: There is no significant relationship between tax-to-GDP ratio and economic growth of Nigeria.

t-statistic = 0.9082 (*p-value* = 0.3816)

Decision: The probability value of the t-statistic is greater than 0.05 critical value, therefore, we accept the null hypothesis and conclude that there is no significant relationship between tax-to-GDP ratio and economic growth of Nigeria. The positive coefficient means that tax-to-GDP ratio increases economic growth but the increase is not statistically significant.

Test of Hypothesis Three

H₀₃: Debt service to revenue ratio has no significant relationship with Nigeria's economic growth.

t-statistic = -3.5956 (*p-value* = 0.0037)

Decision: Since the probability value of the t-statistic is less than 0.05 critical value, the null hypothesis is rejected and the study concludes that debt service to revenue ratio has significant relationship with Nigeria's economic growth. The negative coefficient means that debt service as ratio of revenue decreases economic growth significantly.

Test of Hypothesis Four

H₀₄: Fiscal balance has no significant relationship with economic growth of Nigeria

t-statistic = -2.117 (*p-value* = 0.0328)

Decision: Fiscal balance has significant relationship with economic growth of Nigeria since the probability value of the t-statistic is less than 0.05 critical value. This implies that we reject the null hypothesis. The negative coefficient implies that fiscal balance decreases Nigeria's economic growth and the decrease is statistically significant.

Discussion

This study explored the effect of fiscal sustainability on economic growth in Nigeria using the indicators of fiscal sustainability as public debt to GDP ratio, tax to GDP ratio, debt service to revenue ratio and fiscal balance. The Johansen cointegration results suggest that there is long run relationship between the fiscal sustainability indicators and economic growth as shown by the results of the cointegration. The error correction mechanism verified that the adjustments from the LSE are of the order of approximately 29.3 percent per annum. The finding of the error correction model estimates showed that public debt ratio to GDP negatively and significantly influences Nigeria's economic growth. From this result, it seems that the debt accumulation position in Nigeria is too

much and that debts are being taken to encourage productive economic activities leading to debt overhang effects. The key finding is consistent with the Fiscal Sustainability Theory of Bohn (1998) that excessive debt accumulation will compromise fiscal sustainability if the increase in debt exceeds the economy's ability to pay it back.

The finding also supports that of Yusuf and Mohd (2023), Hassan, Mohammed-Gani and Odonye (2025) and Yahaya (2026) in their studies who reported that a higher ratio of debt-to-GDP slows down economic growth due to the debt servicing burden and a reduction in fiscal space. Adedeji, Oyinlola and Adeniyi (2024), and Hassan et al. (2025) drew opposite conclusions, with the former finding that moderate borrowing stimulates growth in the short run, and the latter that it is detrimental. The difference might be attributed to the ways borrowed money is utilized in Nigeria. Debt can spur growth if used judiciously, but the growing debt burden in Nigeria seems to be accompanied by rising debt servicing payments and financing of recurrent expenditures, which offer little in terms of long-term growth benefits. That is, an increase in public debt places a burden on future repayment and increases uncertainty for investors and government's capacity to redirect resources to positive growing sectors.

Furthermore, the results indicated that tax-to-GDP ratio had a positive effect on economic growth but the impact was not significant. Domestic revenue mobilisation may also play a positive role in reducing borrowing reliance and free up resources for public investment to support economic growth if there is a positive relationship between domestic revenue mobilisation and economic growth. The insignificant result, however, suggests that the present level of tax revenue mobilization in Nigeria is yet to reach the threshold necessary to have significant growth effects. This is in line with the fiscal sustainability theory which emphasises the requirement for sufficient revenues generation for sustainable fiscal operations. The result is consistent with that of Mainoma & Izang (2025), Adeyemi-Tijani (2025) and Hassan (2025) who showed that there is a positive and significant relationship between tax revenue and economic growth. Ashakah (2023) however found no significant impact of tax revenue on economic growth in Nigeria.

Increased tax revenue alone is likely insufficient to drive growth unless there are measures in addition to higher revenue that enhance the efficiency of tax collection, expand the tax base, increase tax compliance and ensure a transparent utilization of public resources. One of the most important findings of this study is that debt service to revenue ratio has a strong negative and statistically significant impact on economic growth. The result shows that a one-unit increase in debt service burden reduces the economic growth by about 8.07 units and it is the most dominant variable in the model. This implies that debt servicing obligations constitute a major hindrance to economic growth in Nigeria. This finding strongly supports the Fiscal Sustainability Theory. This theory holds that increasing cost of debt servicing dissuades resources from the productive sectors to debt repayment. When a large share of government revenues is used to service debt, fewer resources are available to spend on developing infrastructure, healthcare, education and other spending that promotes growth.

This finding corroborates with the report of Mairafi, Ibrahim and Amana (2025), Edo and Ashakah (2022), Anyanwu, Kenneth and Kalu (2025) and Nduka, Ajoku and Ngangah (2024) which reported that the growth performance of the Nigerian economy becomes weaker when the debt service obligations are increased. The fiscal balance was also determined to be negatively and statistically significantly related with economic growth, the study also found. The finding confirms that fiscal balance change has significant impacts on economic growth in Nigeria. The negative sign indicates that the

prevailing fiscal imbalances have had a negative impact on economic performance during the period of study. This aligns with Siyanbola et al. (2020), Adegboyega (2020), and Adegbie and Ben-Caleb (2018) and Saibu (2018) who observed that the deleterious effect of fiscal imbalance on economic stability and economic growth is from long-term perspective. They argued that the reoccurring fiscal deficit leads to higher borrowing needs, to higher debt service obligations and thus to lower fiscal sustainability. But the discovery is not found in the Keynesian theory, which presumes deficit spending promotes aggregate demand and economic growth in times of economic slowdown. The paradox can occur because Nigeria's deficits have been more chronic than short-lived and frequently compelled to borrow to support these deficits, instead of investing to boost production. Thus, the gains to be attained from an expansion of government spending might be more than offset by the adverse consequences of increasing debt service and fiscal uncertainty.

Conclusion

The study demonstrates that fiscal sustainability is very critical in driving Nigeria's economic growth trajectory. The conclusion drawn from the analysis is that while tax revenue exhibits a growth-enhancing tendency, excessive accumulation of public debt coupled with high debt servicing burdens and persistent fiscal imbalance inhibits economic growth. For Nigeria, findings from this study affirms that among all the fiscal sustainability indicators, debt service-to-revenue ratio emerged as the most critical constraint to economic growth which implies that Nigeria's fiscal challenge is increasingly tied to debt affordability rather than debt size alone. Thus, the central proposition of the fiscal sustainability theory is validated since sustainable economic growth is dependent on the maintenance of prudent debt levels, generation of adequate domestic revenue and effective management of debt servicing while also ensuring fiscal discipline. Therefore, the study recommends as follows. The Nigerian government should adopt a more prudent borrowing strategy by making sure that future borrowing is strictly tied to productive and self-liquidating projects that is capable of generating economic returns sufficient to service the debt. Improving the country's debt-to-GDP ratio should be top priority for the government in order to maintain fiscal sustainability. Again, the insignificant nature of tax-to-GDP ratio raises the question of whether government revenue generation drive is performing optimally. Thus, government should strengthen domestic revenue mobilization through comprehensive implementation of current tax reforms to improve tax compliance. Effectively utilizing the tax revenue will encourage compliance and enhance the growth impact of tax revenue. Furthermore, the significantly decreasing effect of debt service-to-revenue ratio on Nigeria's economic growth is not desirable. Government should reduce debt servicing pressures by expanding revenue sources and improving fiscal efficiency. This can be done by restructuring expensive debt obligations and increasing reliance on concessional financing with lower interest rates and longer repayment periods. Creating more fiscal space makes room for productive investments that can grow the economy. Additionally, there is need for improved fiscal discipline in Nigeria. Government should implement policies that reduce persistent fiscal deficits through a mix of expenditure rationalization and revenue generation enhancement. Maintaining a healthy fiscal balance through reduction in wasteful recurrent expenditure and improvement in efficiency of public spending will reduce borrowing requirements and improve economic growth of Nigeria.

Limitation

This study is limited in terms of the scope of variables examined, as the analysis focuses solely on four key fiscal ratio indicators: the debt-to-GDP ratio, the tax-to-GDP ratio, the debt-service-to-revenue ratio, and the fiscal balance. This approach overlooks other significant external macroeconomic variables—such as inflation rates, interest rates, and exchange rate fluctuations—that also contribute substantially to Nigeria's economic growth. Furthermore, public debt indicators are calculated in the aggregate without explicitly distinguishing between domestic and external debt, despite the fact that these two types of debt entail different risk profiles, interest rates, and levels of vulnerability. Limitations also exist regarding methodology and the generalizability of the results. The analytical model employed—the Error Correction Model (ECM)—assumes linear relationships between variables; however, the impact of public debt and tax revenue on economic growth is often non-linear or subject to specific threshold effects. Reliance on secondary data sourced exclusively from the Central Bank of Nigeria (CBN) introduces potential inherent weaknesses related to historical data revisions. Finally, the study's findings are deeply tied to Nigeria's economic structure—characterized by a reliance on the petroleum sector and relatively low tax collection rates—meaning the conclusions cannot be directly generalized to other developing nations with different economic structures.

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