EFFECT OF DEBT SERVICE, FISCAL DEFICITS, AND COST OF DEBT ON FISCAL SUSTAINABILITY IN NIGERIA

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Abstract
Rising public debt exposure continues to pose significant challenges to fiscal sustainability in Nigeria. This study examined the effect of debt service, fiscal deficits, and cost of debt on fiscal sustainability in Nigeria. An ex post facto research design was adopted using annual time-series data spanning 1981 to 2023, obtained from the Central Bank of Nigeria, Debt Management Office, National Bureau of Statistics, Federal Ministry of Finance, World Bank, and International Monetary Fund. Data were analysed using descriptive statistics, the Augmented Dickey-Fuller unit root test, ARDL Bounds testing approach, and the Heteroskedasticity and Autocorrelation Consistent (HAC) estimator to obtain robust long-run estimates. The findings revealed that debt service exerted a significant negative effect on fiscal sustainability, indicating that increasing debt servicing obligations weaken the government's fiscal capacity. Fiscal deficits had a significant positive effect on fiscal sustainability, suggesting that deficit financing can enhance fiscal outcomes when resources are efficiently channelled into productive investments. However, the cost of debt exhibited a positive but statistically insignificant effect, implying that borrowing costs alone did not significantly influence fiscal sustainability during the study period. The study concludes that fiscal sustainability in Nigeria is primarily influenced by debt servicing obligations and the effective management of fiscal deficits rather than borrowing costs. It recommends strengthening debt management strategies to reduce debt service burdens, ensuring that deficit financing is directed towards productive investments capable of generating future revenue, and maintaining prudent borrowing policies that prioritise concessional financing and efficient debt portfolio management to support long-term fiscal sustainability.

Keywords: Fiscal sustainability, debt service, fiscal deficits, cost of debt, public debt, ARDL, Nigeria.

1.0 Introduction
Fiscal sustainability has become a fundamental objective of sound public financial management because it reflects the ability of governments to finance current expenditure, meet debt

obligations, and provide essential public services without compromising future economic stability. A fiscally sustainable economy maintains a balance between government revenue, expenditure, and borrowing, ensuring that public debt remains manageable over time. However, achieving fiscal sustainability has become increasingly difficult due to the lingering effects of the COVID, 19 pandemic, inflationary pressures, geopolitical tensions, climate related shocks, and tighter global financial conditions. These challenges have weakened public revenues, increased government spending, and intensified dependence on borrowing, raising concerns about the long term sustainability of public finances (Nguyen & Su, 2022; Chudik et al., 2022; World Bank, 2024).

Public borrowing plays an important role in financing infrastructure, supporting economic growth, and bridging fiscal gaps where government revenue is inadequate. For developing economies, debt provides resources needed to fund development projects and improve public welfare. Nevertheless, borrowing contributes to economic development only when it is prudently managed and invested in productive activities capable of generating future returns. Excessive borrowing, combined with weak revenue mobilisation and inefficient public expenditure, exposes governments to growing fiscal risks through increasing debt service obligations, persistent fiscal deficits, and rising borrowing costs. Thus, policy discussions have shifted from the size of public debt to the sustainability of debt management and its implications for fiscal performance (Kose et al., 2022; Ekeocha & Asongu, 2023; Paniagua et al., 2023).

These fiscal challenges are particularly evident in Sub Saharan Africa, where many countries operate within constrained fiscal environments characterised by low domestic revenue, dependence on commodity exports, and vulnerability to external shocks. To finance infrastructure and social programmes, governments increasingly rely on domestic and external borrowing. Although such borrowing has supported development efforts, it has also contributed to expanding public debt, increasing debt service commitments, and declining fiscal flexibility. As more government revenue is devoted to debt repayment, fewer resources remain available for productive investment, thereby threatening fiscal sustainability across the region (African Development Bank, 2024; UNCTAD, 2023; Agyapong & Bedjabeng, 2024).

Nigeria exemplifies these fiscal challenges. Despite its vast economic potential, the country continues to face persistent fiscal deficits, heavy dependence on oil revenue, and inadequate non oil revenue mobilisation. Fluctuations in oil prices, declining government revenue, and increasing expenditure have widened fiscal financing gaps, leading successive governments to rely heavily on domestic and external borrowing. Thus, public debt and debt servicing obligations have increased substantially, reducing fiscal space for infrastructure, education, healthcare, and other developmental priorities (Debt Management Office, 2024; Central Bank of Nigeria, 2024; World Bank, 2024).

Debt service, fiscal deficits, and the cost of debt are among the major channels through which public debt exposure influences fiscal sustainability. Rising debt service obligations consume an increasing share of government revenue, leaving fewer resources for productive investment. Persistent fiscal deficits require continuous borrowing to finance expenditure beyond available revenue, creating a cycle of debt accumulation that weakens fiscal resilience. Likewise, rising borrowing costs increase future repayment obligations and place additional pressure on public

finances. Collectively, these factors reduce fiscal flexibility and undermine governments' ability to maintain sustainable fiscal operations (Nguyen & Su, 2022; Chudik et al., 2022).

Although Nigeria has implemented several fiscal and debt management reforms, concerns regarding fiscal sustainability remain as debt servicing continues to absorb a substantial proportion of government revenue, while persistent fiscal deficits and rising borrowing costs have further constrained fiscal capacity. Despite the growing body of literature on public debt, empirical evidence remains mixed. For example, Agyapong and Bedjabeng (2024), in their systematic review of Sub Saharan Africa, concluded that the relationship between public debt and fiscal sustainability varies across countries depending on institutional quality and debt management practices. Similarly, Ekeocha and Asongu (2023) found that rising public debt weakens macroeconomic sustainability in many African economies, although the magnitude differs across countries. In the Nigerian context, studies such as Matthew and Mordecai (2022) and Ojong, Ogar, and Arikpo (2023) focused primarily on the relationship between public debt and economic growth rather than fiscal sustainability. Other studies examined individual debt indicators, including debt service or fiscal deficits, in isolation without assessing their combined effects on fiscal sustainability. These divergent findings, differences in model specification, and the changing fiscal environment in Nigeria indicate the existence of empirical and methodological gaps that warrant further investigation.

Against this background, this study examines the effect of debt service, fiscal deficits, and the cost of debt on fiscal sustainability in Nigeria. Specifically, it evaluates whether these dimensions of public debt exposure significantly influence the sustainability of Nigeria's fiscal operations. The findings are expected to provide evidence that will support more effective debt management, strengthen fiscal discipline, improve resource allocation, and promote sustainable public financial management in Nigeria. On this basis, the study tests the following hypotheses:

H_{01}: Debt service has no significant effect on fiscal sustainability in Nigeria.
H_{02}: Fiscal deficits have no significant effect on fiscal sustainability in Nigeria.
H_{03}: Cost of debt has no significant effect on fiscal sustainability in Nigeria.

2.0 Literature Review

Fiscal sustainability refers to a government's ability to maintain sound public finances without jeopardising future economic stability. Nguyen and Su (2022) define it as the capacity to implement fiscal policies that keep public debt at a manageable level over time. Similarly, Eyraud and Wu (2022) view fiscal sustainability as maintaining fiscal balance while avoiding excessive debt accumulation that requires drastic policy adjustments. Chudik et al. (2022) emphasise governments' ability to service debt obligations without impairing future fiscal performance. According to Kose et al. (2022), fiscal sustainability exists when borrowing supports development without exceeding repayment capacity. Agyapong and Bedjabeng (2024) broaden the concept by stressing efficient revenue mobilisation, prudent expenditure management, and strong fiscal institutions. Likewise, Ekeocha and Asongu (2023) associate fiscal sustainability with preserving macroeconomic stability while maintaining fiscal resilience. The International Monetary Fund (2023) considers fiscal sustainability as the ability to sustain existing fiscal policies indefinitely without creating unsustainable debt. Similarly, the World Bank (2024) links fiscal sustainability with maintaining sufficient fiscal space to respond to

future economic shocks. Although these definitions differ slightly, they consistently emphasise prudent debt management, fiscal discipline, and long term stability. Therefore, this study conceptualises fiscal sustainability as the ability of the Nigerian government to finance public expenditure, honour debt obligations, and maintain fiscal balance without compromising future fiscal capacity and macroeconomic stability.

Concept of Debt Service

Debt service refers to the total amount a borrower is required to pay periodically to meet both the principal and interest obligations on outstanding debt. Essers et al. (2021) define debt service as the scheduled repayment of principal and interest on public debt, representing the direct financial obligation arising from government borrowing. Similarly, Mustapha and Prizzon (2021) describe debt service as the proportion of government revenue devoted to honouring debt commitments. UNCTAD (2023) views debt service as a critical indicator of debt sustainability because rising debt repayments reduce fiscal space for development expenditure. According to the International Monetary Fund (2023), debt service measures a country's capacity to fulfil its debt obligations without disrupting fiscal stability or economic performance. The World Bank (2024) explains that increasing debt service obligations constrain governments' ability to finance infrastructure and essential public services. Likewise, Agyapong and Bedjabeng (2024) argue that high debt service burdens weaken fiscal flexibility and increase the risk of fiscal distress in developing economies. Ekeocha and Asongu (2023) further contend that excessive debt service diverts public resources from productive investment, thereby undermining long term fiscal sustainability. Although these definitions differ in emphasis, they consistently describe debt service as the financial burden associated with repaying public debt. Therefore, this study conceptualises debt service as the annual principal and interest payments made by the Nigerian government on its domestic and external debt obligations, reflecting the fiscal burden imposed by public borrowing.

Concept of Fiscal Deficits

Fiscal deficit refers to the excess of government expenditure over government revenue within a fiscal year, excluding borrowing receipts. It is widely regarded as an indicator of fiscal imbalance and often necessitates additional borrowing to finance the shortfall. Eyraud and Wu (2022) define fiscal deficit as the gap between government expenditure and revenue that must be financed through borrowing or other means. Similarly, the International Monetary Fund (2023) describes a fiscal deficit as a situation where government spending consistently exceeds its revenue, resulting in an increase in public debt if sustained. Kose et al. (2022) argue that fiscal deficits are not inherently detrimental, provided borrowed funds are invested in productive sectors capable of generating future returns. In contrast, Nguyen and Su (2022) maintain that persistent fiscal deficits weaken fiscal sustainability by accelerating debt accumulation and reducing fiscal flexibility. The World Bank (2024) further explains that prolonged fiscal deficits increase governments' financing needs and expose them to greater debt servicing burdens. Likewise, Agyapong and Bedjabeng (2024) contend that recurring fiscal deficits heighten fiscal vulnerability, particularly in developing economies with weak domestic revenue mobilisation. African Development Bank (2024) also associates persistent fiscal deficits with declining fiscal resilience and increasing macroeconomic risks. Although these definitions vary in emphasis, they consistently identify fiscal deficit as a fiscal imbalance arising when government expenditure exceeds revenue. Therefore, this study conceptualises fiscal deficit as the excess of

government expenditure over government revenue that necessitates borrowing and influences the sustainability of Nigeria's public finances.

Concept of Cost of Debt

Cost of debt refers to the expense incurred by a borrower for obtaining funds through debt financing and is commonly measured by the effective interest paid on borrowed funds. In the public sector, it represents the financial cost borne by governments in servicing domestic and external debt. Bua et al. (2022) define the cost of debt as the interest expense associated with public borrowing, which reflects both market conditions and the perceived creditworthiness of a country. Similarly, Kose et al. (2022) describe the cost of debt as the price governments pay for accessing financial resources, influenced by macroeconomic conditions, sovereign risk, and investor confidence. According to Nguyen and Su (2022), higher borrowing costs increase fiscal pressure by raising debt servicing obligations and reducing fiscal space for productive expenditure. The International Monetary Fund (2023) explains that the cost of debt is determined by interest rates, debt maturity, inflation expectations, and fiscal credibility. Likewise, the World Bank (2024) argues that rising borrowing costs constrain governments' capacity to finance infrastructure and social programmes while increasing debt sustainability risks. African Development Bank (2024) further maintains that managing borrowing costs is essential for maintaining fiscal resilience and ensuring long term debt sustainability. Although these definitions vary slightly, they consistently describe the cost of debt as the financial expense associated with public borrowing. Therefore, this study conceptualises cost of debt as the effective interest and related borrowing costs incurred by the Nigerian government in raising domestic and external debt to finance its fiscal operations.

Review of Empirical Literature

Debt Service and Fiscal Sustainability

Recent empirical evidence suggests that debt service is an important determinant of fiscal sustainability, particularly in developing economies. Ekeocha and Asongu (2023) found that increasing debt service obligations weakened fiscal resilience in several African countries by reducing fiscal space for productive expenditure. Similarly, Nguyen and Su (2022) reported that countries with high debt servicing burdens experienced greater fiscal stress and declining fiscal sustainability. Essers et al. (2021) observed that rising debt repayments constrained public investment and increased governments' dependence on additional borrowing. Using cross country evidence, Agyapong and Bedjabeng (2024) concluded that excessive debt servicing adversely affected fiscal sustainability where institutional quality was weak. Morsy and Tapsoba (2022) also reported that debt service reduced governments' ability to respond to economic shocks. Likewise, Ali et al. (2022) found that increasing debt servicing obligations significantly reduced fiscal flexibility. Bua et al. (2022) associated high debt service with increasing sovereign risk and deteriorating fiscal conditions. UNCTAD (2023) reported that rising debt service absorbed substantial public revenue in developing countries, limiting development spending. Similar evidence was presented by the World Bank (2024) and the International Monetary Fund (2023), which noted that debt service continues to threaten fiscal sustainability in many low and middle income economies. African Development Bank (2024) reached a similar conclusion for African economies. Overall, existing studies predominantly suggest that rising debt service weakens fiscal sustainability, although the magnitude varies across countries and institutional settings.

Fiscal Deficits and Fiscal Sustainability

The relationship between fiscal deficits and fiscal sustainability has received considerable empirical attention. Eyraud and Wu (2022) found that persistent fiscal deficits significantly increase public debt accumulation and undermine long term fiscal sustainability. Similarly, Nguyen and Su (2022) reported that prolonged fiscal imbalances weaken governments' capacity to maintain sustainable fiscal positions. Kose et al. (2022) observed that moderate deficits may support growth when financing productive investment, but persistent deficits eventually increase fiscal vulnerability. Agyapong and Bedjabeng (2024) concluded that continuous fiscal deficits contributed to declining fiscal sustainability across many Sub Saharan African countries. Likewise, Ekeocha and Asongu (2023) found that widening fiscal deficits increased debt dependence and weakened macroeconomic stability. Ali et al. (2022) reported that large fiscal deficits constrained fiscal flexibility in developing economies. According to the International Monetary Fund (2023), countries with persistent fiscal deficits generally experienced increasing debt burdens and reduced fiscal space. The World Bank (2024) similarly observed that recurring fiscal deficits heightened governments' financing requirements and debt servicing obligations. Comparable findings were reported by UNCTAD (2023) and the African Development Bank (2024). Collectively, the reviewed studies indicate that persistent fiscal deficits constitute an important source of fiscal instability, although differences in economic structure and fiscal institutions explain variations in empirical findings across countries.

Cost of Debt and Fiscal Sustainability

Empirical studies generally recognise the cost of debt as an important factor influencing fiscal sustainability because borrowing costs determine governments' future repayment obligations. Bua et al. (2022) found that increasing borrowing costs significantly reduced debt sustainability among developing countries. Similarly, Nguyen and Su (2022) reported that higher interest costs increased fiscal pressure and reduced governments' fiscal space. Kose et al. (2022) observed that rising financing costs weakened countries' capacity to maintain sustainable debt levels. According to Chudik et al. (2022), higher debt financing costs increased fiscal vulnerabilities, particularly during periods of global financial tightening. Ekeocha and Asongu (2023) found that high borrowing costs constrained fiscal performance across several African economies. Ali et al. (2022) similarly concluded that increasing debt costs reduced governments' ability to finance productive investment. The International Monetary Fund (2023) reported that rising global interest rates significantly increased sovereign borrowing costs, thereby weakening fiscal sustainability. Similar conclusions were reached by the World Bank (2024), UNCTAD (2023), and the African Development Bank (2024), all of which highlighted increasing financing costs as a major fiscal challenge for developing countries. Overall, the empirical literature indicates that increasing borrowing costs exert a negative influence on fiscal sustainability, although the extent of the effect depends on debt composition, macroeconomic conditions, and the effectiveness of fiscal management.

Theoretical Framework

This study is anchored on the Debt Overhang Theory, developed by Krugman (1988) and further advanced by Sachs (1989). The theory posits that excessive public debt discourages investment and economic growth because investors anticipate that future income will be used to service accumulated debt rather than finance productive activities. It assumes that borrowing promotes development only when debt remains within sustainable limits and borrowed resources generate

returns sufficient to offset repayment obligations. Once debt exceeds a country's repayment capacity, increasing debt service obligations reduce fiscal space, constrain public investment, and weaken fiscal sustainability. The theory underpins this study because it explains how rising debt service, persistent fiscal deficits, and increasing borrowing costs can jointly undermine fiscal sustainability in Nigeria. Debt service diverts government revenue from developmental expenditure, while recurring fiscal deficits encourage additional borrowing that expands the debt burden. Likewise, a high cost of debt increases future repayment commitments and limits fiscal flexibility. Empirical studies, including Nguyen and Su (2022), Ekeocha and Asongu (2023), and Agyapong and Bedjabeng (2024), applied the theory and generally found that excessive debt accumulation and rising debt obligations weaken fiscal sustainability, particularly in developing economies with limited revenue capacity and weak fiscal institutions.

3.0 Methodology

This study adopted an ex post facto research design because it relies on historical data that cannot be manipulated by the researcher. The design is appropriate for examining the effect of debt service, fiscal deficits, and the cost of debt on fiscal sustainability using observed macroeconomic data and has been widely applied in public finance studies (Gujarati & Porter, 2009; Wooldridge, 2019). The population comprises the public sector finances of Nigeria, including the federal, state, and local governments. However, the Federal Government of Nigeria constitutes the sample because it is the principal authority responsible for public borrowing, debt servicing, and fiscal policy implementation. The study adopted a purposive sampling technique consistent with Kothari (2004). Annual time series data covering 1981 to 2023 were obtained from secondary sources, including the Central Bank of Nigeria Statistical Bulletin, Debt Management Office, National Bureau of Statistics, Federal Ministry of Finance, World Bank, and International Monetary Fund, ensuring data reliability and consistency. Descriptive statistics were employed to summarise the characteristics of the variables, while the correlation matrix examined the degree of association and potential multicollinearity among them. Diagnostic tests comprising the Augmented Dickey Fuller unit root test, ARDL bounds cointegration test, Breusch Godfrey serial correlation test, Breusch Pagan Godfrey heteroskedasticity test, Jarque Bera normality test, and CUSUM/CUSUMSQ stability tests were conducted to validate the model assumptions. The Autoregressive Distributed Lag (ARDL) technique and the Error Correction Model (ECM) were then used to estimate the short run and long run effects of debt service, fiscal deficits, and the cost of debt on fiscal sustainability because the ARDL model accommodates variables integrated at different orders, I(0) and I(1), and is suitable for small samples (Pesaran et al., 2001).

Model Specification

The econometric model is expressed as:

$$FSt = \beta_0 + \beta_1 DSt + \beta_2 FDt + \beta_3 CODt + \varepsilon t$$

Where:
FS = Fiscal Sustainability
DS = Debt Service
FD = Fiscal Deficits
COD = Cost of Debt

β_0 = intercept
β_1–β_3 = Slope coefficients
ε = error term
t = time
Where is the, are the slope coefficients, is the , and t denotes time.

Expected a priori signs:
$\beta_1 < 0$, $\beta_2 < 0$, $\beta_3 < 0$.

For estimation, the ARDL framework may be expressed generally as:
$$\Delta FS_t = \alpha_0 + \Sigma\alpha_1\Delta FS + \Sigma\alpha_2\Delta DS + \Sigma\alpha_3\Delta FD + \Sigma\alpha_4\Delta COD + \lambda ECM_{t-1} + \mu t$$

Variable Measurement

Table 1: Variable Measurement for the Study

Variable	Measurement	Proxy	Scholarly Source
Fiscal Sustainability	Fiscal balance relative to economic capacity	Fiscal balance/GDP	Bohn (2007); Eyraud & Wu (2022)
Debt Service	Annual public debt service burden	Debt service to revenue (%)	IMF (2023); UNCTAD (2023)
Fiscal Deficits	Gap between expenditure and revenue	Overall fiscal deficit/GDP (%)	World Bank (2024); Kose et al. (2022)
Cost of Debt	Average borrowing cost	Interest payments/Public debt or average interest rate	Chudik et al. (2022); IMF (2023)

Source: Author's Compilation, 2026.

4.0 Results and Discussion

Table 2: Descriptive Statistics for the Study Variables

Variable	Mean	Std. Dev.	Minimum	Maximum	Obs
Fiscal Sustainability	0.738153	0.772042	-1.164436	2.069577	41
Debt Service	1.449824	0.330289	0.66792	2.06093	41
Fiscal Deficits	0.309227	0.417575	-0.946325	0.932961	41
Cost of Debt	-0.470061	0.915684	-2.283792	1.04058	41

Source: E Views v18 Output, 2026.

Table 2 indicates that the analysis was based on 41 observations. Fiscal sustainability recorded moderate variability, while debt service exhibited a relatively high average value, reflecting substantial debt repayment obligations. Fiscal deficits fluctuated across the period, whereas the cost of debt showed the greatest dispersion, suggesting inconsistent borrowing costs during the study period.

Table 3:

Unit Root Test (ADF)

Variable	Order of Integration
Fiscal Sustainability	I(1)
Debt Service	I(1)
Fiscal Deficits	I(0)
Cost of Debt	I(1)

Source: E Views v18 Output, 2026.

Table 3 shows that fiscal sustainability, debt service, and cost of debt are stationary after first differencing, indicating they are integrated of order one, I(1). Fiscal deficits are stationary at level, I(0). The mixture of I(0) and I(1) variables justifies the use of the Autoregressive Distributed Lag (ARDL) estimation technique.

Table 4:
Lag Selection

Criterion	Selected Lag
LR	3
FPE	3
AIC	3
HQ	3
SC	1

Source: E Views v18 Output, 2026.

Table 4 presents the lag selection criteria for the ARDL model. The LR, FPE, AIC, and HQ criteria consistently selected a lag length of three, while the SC criterion selected one lag. Following the majority rule, lag three was adopted as the optimal specification for estimating the study model.

Table 5:
ARDL Bounds Test

Statistic	Value
F Statistic	7.864697
Upper Bound I(1) 5%	4.0
Decision	Cointegration exists

Source: E Views v18 Output, 2026.

Table 5 presents the ARDL Bounds Test results. The calculated F-statistic of 7.864697 exceeds the 5 percent upper bound critical value of 4.000, leading to the rejection of the null hypothesis of no long-run relationship. This confirms the existence of cointegration among the study variables and supports estimating the long-run ARDL model.

Table 6:
Diagnostic Tests

Diagnostic Test	Before HAC	After HAC
Jarque Bera	0.199	0.873
Breusch Godfrey	0.0	0.419
Breusch Pagan	0.914	0.696

Source: E Views v18 Output, 2026.

Table 6 presents the diagnostic test results before and after applying the Heteroskedasticity and Autocorrelation Consistent (HAC) estimator. The post-HAC results indicate that the residuals are normally distributed, free from serial correlation, and homoscedastic. These findings confirm that the estimated ARDL model is robust, reliable, and suitable for statistical inference.

Table 7:
HAC Long Run Regression Results

Variable	Coefficient	Probability
Debt Service	-0.872599	0.0000
Fiscal Deficits	0.395393	0.0006
Cost of Debt	0.279686	0.1320
R-squared	0.964273	
Adjusted R-squared	0.913235	
Durbin-Watson	1.744522	
ECM	-1.512955 (0.0001)	

Source: E Views v18 Output, 2026.

Table 7 presents the HAC long-run regression results. Debt service has a significant negative effect on fiscal sustainability ($\beta = -0.872599$, $p < 0.01$), while fiscal deficits exert a significant positive effect ($\beta = 0.395393$, $p < 0.01$). Cost of debt is positive but statistically insignificant ($p > 0.05$). The high R-squared (0.964273) indicates strong explanatory power, and the significant negative ECM confirms rapid adjustment toward long-run equilibrium after short-run shocks.

Discussion of Findings

H_{01}: *Debt Service has no significant effect on Fiscal Sustainability in Nigeria*

The results indicate that debt service has a negative and statistically significant effect on fiscal sustainability in Nigeria ($\beta = -0.872599$, $p = 0.0000$). Since the probability value is less than 0.05, the null hypothesis is rejected. The coefficient implies that a one-unit increase in debt service reduces fiscal sustainability by approximately 0.87 units, suggesting that rising debt repayment obligations significantly constrain the Nigerian government's fiscal capacity. This finding supports the Debt Overhang Theory of Krugman (1988) and Sachs (1989), which argues that excessive debt servicing diverts government revenue from productive investment and weakens fiscal performance. The result is consistent with the findings of Ekeocha and Asongu (2023), Nguyen and Su (2022), Essers et al. (2021), Agyapong and Bedjabeng (2024), Morsy and Tapsoba (2022), Ali et al. (2022), Bua et al. (2022), UNCTAD (2023), the International Monetary Fund (2023), the World Bank (2024), and the African Development Bank (2024), all of which reported that increasing debt service obligations undermine fiscal sustainability by reducing fiscal space and increasing dependence on additional borrowing within the public sector.\

H_{02}: *Fiscal Deficits have no significant effect on Fiscal Sustainability in Nigeria*

The findings reveal that fiscal deficits have a positive and statistically significant effect on fiscal sustainability ($\beta = 0.395393$, $p = 0.0006$). Since the probability value is below 0.05, the null hypothesis is rejected. The coefficient indicates that a one-unit increase in fiscal deficits improves fiscal sustainability by approximately 0.40 units. This suggests that deficit financing may have supported productive government expenditure capable of generating economic returns during the study period. This finding, however, contradicts the Debt Overhang Theory, which maintains that persistent fiscal deficits increase borrowing, expand debt burdens, and weaken fiscal sustainability. The result also differs from the empirical findings of Eyraud and Wu (2022), Nguyen and Su (2022), Agyapong and Bedjabeng (2024), Ekeocha and Asongu (2023), Ali et al. (2022), the International Monetary Fund (2023), the World Bank (2024), UNCTAD (2023), and the African Development Bank (2024), all of which found that persistent fiscal deficits reduce fiscal sustainability. However, the finding is consistent with Kose et al. (2022), who argued that

moderate fiscal deficits can enhance fiscal outcomes when they finance productive investments that stimulate economic growth and strengthen government revenue. For Nigeria's public sector, the evidence suggests that the impact of fiscal deficits depends on how borrowed funds are utilized.

***H_{03}**: Cost of Debt has no significant effect on Fiscal Sustainability in Nigeria*

The HAC regression results show that the cost of debt has a positive but statistically insignificant effect on fiscal sustainability in Nigeria ($\beta = 0.279686$, $p = 0.1320$). Since the probability value exceeds the 5 percent significance level, the null hypothesis cannot be rejected. Although the coefficient suggests that higher borrowing costs are associated with improved fiscal sustainability, the relationship is not statistically significant and therefore cannot be regarded as a reliable determinant of fiscal sustainability in Nigeria's public sector. This finding does not support the Debt Overhang Theory, which posits that increasing borrowing costs weaken fiscal sustainability by raising future debt servicing obligations and reducing fiscal flexibility. Similarly, the result contradicts the empirical findings of Bua et al. (2022), Nguyen and Su (2022), Kose et al. (2022), Chudik et al. (2022), Ekeocha and Asongu (2023), Ali et al. (2022), the International Monetary Fund (2023), the World Bank (2024), UNCTAD (2023), and the African Development Bank (2024), all of which reported that higher borrowing costs significantly undermine fiscal sustainability. The finding suggests that, during the study period, borrowing costs alone were insufficient to significantly influence fiscal sustainability in Nigeria.

5.0 Conclusion and Recommendations

This section presents the conclusion drawn from the empirical findings, recommendations for improving fiscal sustainability in Nigeria, and the limitations of the study. It also identifies areas for future research to enhance understanding of the relationship between public debt exposure and fiscal sustainability in Nigeria's public sector.

Conclusion

This study examined the effect of debt service, fiscal deficits, and cost of debt on fiscal sustainability in Nigeria using annual time series data from 1981 to 2023. The findings revealed that debt service has a significant negative effect on fiscal sustainability, indicating that increasing debt repayment obligations weaken the government's fiscal capacity. Fiscal deficits were found to exert a significant positive effect, suggesting that deficit financing can improve fiscal sustainability when borrowed funds are efficiently allocated to productive investments. Conversely, the cost of debt showed a positive but statistically insignificant effect, implying that borrowing costs alone did not significantly determine fiscal sustainability during the study period. The study concludes that fiscal sustainability in Nigeria depends largely on prudent debt management, efficient utilization of borrowed resources, and disciplined fiscal policies. Strengthening debt management institutions and improving the productivity of public borrowing are therefore essential for achieving long-term fiscal stability and supporting sustainable economic development in Nigeria.

Recommendations

Based on the findings, the following recommendations are proposed:

i. The Federal Government should strengthen debt management by reducing debt service burdens through improved revenue mobilization, refinancing expensive debts, and prioritizing concessional borrowing to preserve fiscal sustainability.
ii. Government should ensure that fiscal deficits are directed toward productive capital investments capable of generating future revenue, thereby enhancing fiscal sustainability and reducing excessive dependence on debt financing.

iii. Policymakers should maintain prudent borrowing strategies by securing low-cost financing and improving debt portfolio management, although the current evidence suggests that borrowing costs are not yet a significant constraint on fiscal sustainability.

Limitations and Frontiers of the Study

This study was limited to Nigeria and relied exclusively on annual secondary data covering the period from 1981 to 2023, thereby restricting the generalizability of the findings to other countries or sub-national governments. The analysis focused on three dimensions of public debt exposure; debt service, fiscal deficits, and cost of debt, while other relevant factors such as exchange rate volatility, interest rate risk, institutional quality, governance effectiveness, and political stability were not incorporated into the model. In addition, the use of aggregate macroeconomic data may have masked sector-specific fiscal dynamics. Future studies should employ panel data covering multiple African countries or sub-national governments to enable broader comparisons. Researchers may also incorporate institutional and macroeconomic variables, investigate nonlinear or threshold effects of public debt, and apply alternative estimation techniques to provide more comprehensive evidence on the determinants of fiscal sustainability in developing economies.

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