



EXTERNAL DEBT SERVICING AND INTEREST RATE IN NIGERIA 2000-2023

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Abstract

This study examines the effect of debt servicing on interest rates in Nigeria from 2000 to 2022. Time series data were obtained from the Central Bank of Nigeria Statistical Bulletin, and the analysis was conducted using the Ordinary Least Squares (OLS) regression technique. The findings reveal that external debt servicing exerts a negative and significant influence on interest rates in Nigeria during the study period. This suggests that rising external debt obligations constrain financial resources and limit the government's borrowing capacity. The study concludes that the persistent burden of external debt servicing may hinder economic stability and fiscal flexibility. It therefore recommends that the government enhance domestic revenue generation through improved tax administration and an expanded tax base to reduce dependence on external borrowing. Additionally, debt financing should be strategically directed toward promoting economic diversification beyond the oil sector to mitigate vulnerability to external debt pressures.

Key words: External debt, Debt servicing, Interest rate, Nigeria

Introduction

Nigeria, like many other developing countries, had resorted to external borrowing to bridge the gap between revenue generation and expenditure needs. The country's external debt stock has been rising steadily over the years, reaching significant levels that have raised concerns about debt sustainability and the ability to service these obligations (Okoye et al., 2020). Debt servicing is an integral part of modern economies as developed and developing nations either borrow to drive the process of economic growth and development or to support existing level of economic activities. Government policy of stimulating the economy is to deliberately budgeting expenditure in excess of revenue (from taxes, royalties, and sundry sources) through injection of funds to stimulate or maintain the level of economic activities, the excess being financed by borrowing. Muhammad and Abdullahi (2020) posits that governments all over the world engage in borrowing but explains that while developing nations borrow to finance economic and social development projects, developed nations borrow

primarily to keep the economy running and making progress.

The growing burden of external debt servicing in Nigeria has considerable implications for interest rates. As external debt servicing increases, it absorbs a substantial share of the financial resources available within the economy. This can crowd out private sector borrowing by intensifying competition for limited funds in the financial system, thereby exerting upward pressure on interest rates and making credit more expensive for businesses and individuals. Rising external debt servicing also poses broader macroeconomic challenges. By diverting resources away from essential investments in infrastructure and social services, it can hinder economic growth and reduce the government's capacity to stimulate development. The situation may further escalate into serious economic and social concerns, including a heightened risk of debt default, deteriorating investment conditions, economic stagnation, social unrest, and an overall increase in poverty levels. An unsustainable debt burden can damage Nigeria's credit rating and restrict future borrowing opportunities, while cuts in public spending on essential services may lead to social dissatisfaction and instability. Over time, these combined effects can deepen economic hardship and widen social inequality. Given these concerns, this study seeks to analyze the effect of external debt servicing on Nigeria's economy, particularly its impact on interest rates, from 2000 to 2023.

Literature Review

External Debt Servicing

External debt is an essential source of finance mainly used to augment the local sources of funds for supporting development and other needs of a country. Countries that suffer from shortages of domestic savings and foreign exchange need to borrow externally to augment her financing. External debt are credits that are obtained in foreign exchange and are also to be serviced and repaid in international currency, such loans may be bilateral that is negotiated between two countries mainly on mutual basis and in a friendly manner. It may also be multilateral where another party is acting "in-between" the borrowing and the lending parties or where the loan is syndicated in which case one party has to act for the membership of the financing syndicate (Afolabi, 2019). Many developing countries resort to external borrowing to bridge the domestic resource gap in order to accelerate economic development. It means that the processes are utilized in a productive way that facilitates the external servicing and liquidation of the debt (Oke and Sulaiman, 2019). It is also, a driver of economic growth and development if debtor nations can prudently manage the proceeds of the loan in a manner that guarantees returns over and above the costs associated with the loan. Regrettably, countries with high incidence of external debt burden are those saddled with massive corruption, weak institutions and poor project planning and implementation (Okoye 2019).

External debt servicing is to the process by which a country repays its debt to foreign creditors. This typically involves the payment of interest and principal on loans borrowed from external sources, including international financial institutions, foreign governments, and private lenders (Akinyemi & Oladipo, 2020). When debt servicing obligations grow disproportionately compared to the nation's revenue generation, it can lead to a debt crisis, requiring stringent austerity measures and potentially leading to social unrest (Ogbonna, 2021). When tax revenue is increased and the efficiency of tax collection improved, it can provide the government with more resources to finance its development needs without resorting to excessive borrowing. Another strategy is to prioritize borrowing for projects that generate revenue and contribute to economic growth. This would ensure that the borrowed funds are used productively and that the debt can be serviced without putting undue strain on the government's finances. Additionally, Nigeria could benefit from seeking more favorable loan terms, including lower interest rates and longer repayment periods, to reduce the burden of debt servicing (Ajakaiye & Ncube 2019).

Growing External Debt Servicing and Interest Rate

Interest rates are a fundamental aspect of any economy, influencing both consumer behavior and business investment decisions. In Nigeria, the relationship between external debt service and interest rates is critical, particularly as the country navigates economic challenges while relying on external financing. Interest is the cost of borrowing money, typically expressed as a percentage of the principal amount over a specified period. It serves as a reward for lending and a cost for borrowing. There are primarily two types of interest: nominal and real. Nominal interest is the stated rate without adjusting for inflation, while real interest accounts for inflation, representing the actual cost of borrowing in terms of purchasing power (Mankiw, 2016). Interest rates are essential for understanding monetary policy, as central banks alter rates to influence economic activity. By raising interest rates, central banks can cool down excessive spending and inflation; conversely, lowering rates can stimulate borrowing and investment during economic downturns.

Numerous factors that influence interest rates in an economy:

Higher expected inflation generally leads to higher interest rates, as lenders demand compensation for the decreased purchasing power of future repayments. The nominal interest rates move in tandem with expected inflation. Central banks set short-term interest rates through monetary policy tools such as open market operations and the discount rate. Expansionary monetary policy can lead to lower interest rates, while contractionary policy often results in higher rates (Olaoye 2022). Strong economic growth tends to increase demand for credit, pushing interest rates higher. Conversely, during economic slowdowns, the demand for loans declines, leading to lower interest

rates. The perceived risk associated with loans impacts interest rates. High-risk borrowers typically face higher interest rates to compensate lenders for the added risk. Credit ratings assigned by agencies also play a significant role in how interest rates are determined (Afolabi, 2019).

Again, Interest rates are also influenced by global economic factors, including foreign investment, interest rates in other countries, and international financial markets. Capital flow into and out of a country can impact the local interest rates (Adeniran & Adebayo, 2019). The relationship between external debt service and interest rates in Nigeria involves various interplaying factors that can significantly affect macroeconomic stability. When a substantial portion of government revenue is allocated to servicing external debt, it limits available resources for public investment. As the government diverts funds to cover debt obligations, private sector growth can be stifled. Omodero and Alpheaus (2019) stated that the need to service debt can lead to reduced public expenditure in vital areas such as infrastructure development, which can influence economic growth and, consequently, interest rates.

Furthermore, High levels of external debt service can crowd out private sector investment, as increased government borrowing can drive up interest rates. Investors may perceive a higher level of government borrowing as an indicator of risk, demanding higher returns on their investments (Olaoye 2022). When government borrowing increases, it can lead to the "crowding out" effect, whereby private sector borrowers face elevated interest rates due to increased competition for available funds. An increase in external debt levels may lead to a higher risk premium attached to lending to the Nigerian government. As investors view the country's financial situation as risky, they may consequently increase the interest rates they are willing to accept for lending (Akiyemi & Oladipo, 2020). This situation creates a feedback loop where increased borrowing costs lead to a heavier debt burden, further straining public finances. High external debt service obligations can contribute to inflationary pressures. As the government seeks to manage its debt, it may resort to measures such as increasing money supply or adjusting fiscal policies, which can fuel inflation. Rising inflation typically leads to higher nominal interest rates as lenders demand compensation for the declining purchasing power of money (Festus and Saibu (2019)). In Nigeria, the Central Bank's efforts to combat inflation often intersect with managing external debt servicing, creating complexities in interest rate management.

Moreover, Nigeria services much of its external debt in foreign currencies, fluctuations in exchange rates can significantly affect the cost of debt service. A depreciating Naira means that the government has to allocate more of its revenue to meet debt obligations, which can raise interest rates. As indicated by Olaoye (2022), when the currency depreciates, the increased demand for foreign currency can drive up the cost of

borrowing for both the government and private sector, thus affecting overall interest rates in the economy. High levels of external debt can lead to macroeconomic instability, causing uncertainty among investors. As external debt service burdens increase, investor confidence may decline, prompting capital flight and increased risk aversion. Omodero and Alpheaus (2019) revealed that such instability may result in higher interest rates, as lenders demand additional returns to compensate for perceived risks associated with lending in an unstable economic environment.

In summary, interest rates are multifaceted and influenced by various factors that interplay within the economy. In Nigeria, the increasing external debt service significantly impacts interest rates through reduced public expenditure, crowding out of private investment, rising risk premiums, inflationary pressures, exchange rate fluctuations, and overall macroeconomic instability. Policymakers must consider the implications of external debt servicing on interest rates to ensure a stable economic environment conducive to sustainable growth. A comprehensive understanding of these relationships can guide effective debt management strategies that balance the need for external financing with the imperative of fostering economic stability and growth. Future research should focus on empirical analyses to quantify the specific impacts of external debt service on interest rates while exploring avenues for enhancing Nigeria's financial framework amid mounting debt obligations

Theoretical Framework

The Theory of Debt Overhang

The Debt Overhang Theory was developed in the 1980s by economists Paul Krugman and Jeffrey Sachs. The theory emerged as a way to understand the challenges faced by developing countries burdened with high levels of external debt. These countries were experiencing difficulties in achieving economic growth due to the large sums of money required to service their debt. The theory was particularly relevant in the context of the Latin American debt crisis of the 1980s, where many countries in the region were struggling under massive external debts. At its core, the Debt Overhang Theory suggests that when a country's debt level is perceived to be unsustainable, the expected burden of future debt repayments can discourage investment and economic growth. This occurs because both domestic and foreign investors anticipate that a significant portion of the returns on their investments will be used to service the existing debt, rather than being reinvested in the economy or returned as profits.

In such scenario, the country is effectively trapped in a vicious cycle: high debt levels lead to low investment and slow economic growth, which in turn makes it even more difficult for the country to generate the revenue needed to pay down its debt. The theory posits that when the debt reaches a certain threshold, the burden of repayment becomes

so great that it acts as a deterrent to new investment, as potential investors fear that their returns will be taxed or expropriated to service the existing debt. This expectation of future taxation or expropriation due to high debt levels creates a situation where the country's debt overhang stifles economic growth, as it disincentivizes investment in productive activities. The Debt Overhang Theory also implies that in such cases, debt relief or restructuring could potentially lead to higher economic growth by reducing the perceived risk of future expropriation, thereby encouraging investment.

One of the key strengths of the Debt Overhang Theory is its ability to explain the relationship between high levels of debt and low levels of investment and growth in heavily indebted countries. The theory provides a framework for understanding why countries with excessive debt burdens often experience prolonged periods of economic stagnation, as seen during the Latin American debt crisis and other similar situations. Moreover, the theory offers a strong justification for the provision of debt relief to highly indebted countries. By highlighting the negative impact of unsustainable debt levels on investment and growth, the Debt Overhang Theory supports the argument that debt relief can be a critical tool for restoring economic stability and promoting growth in developing countries. This has influenced international policy discussions, particularly those involving debt forgiveness initiatives like the Heavily Indebted Poor Countries (HIPC) Initiative. Despite its strengths, the Debt Overhang Theory also has some notable weaknesses. One of the main criticisms of the theory is that it oversimplifies the complex relationship between debt, investment, and growth. Critics argue that the theory assumes a linear relationship between debt and investment, without adequately accounting for other factors that can influence investment decisions, such as political stability, institutional quality, and the overall macroeconomic environment. Additionally, the Debt Overhang Theory has been criticized for not providing a clear threshold at which debt becomes unsustainable and begins to negatively impact investment and growth. This lack of specificity makes it difficult to apply the theory in practical policy-making, as it is challenging to determine the exact point at which debt relief should be considered necessary.

The Debt Overhang Theory is particularly relevant to the Nigerian situation in terms of its impact on investment and economic growth. As Nigeria's external debt servicing obligations have risen, a significant portion of the country's revenue has been directed towards servicing debt rather than being invested in productive sectors such as infrastructure, education, or healthcare. This diversion of funds has limited the government's ability to stimulate economic growth. In Nigeria, this has manifested in sluggish GDP growth, with the economy expanding at an average rate of around 2% per year during this period, which is insufficient to reduce poverty and create enough jobs for the growing population. The theory suggests that potential investors—both domestic and international—may be deterred from investing in Nigeria due to concerns

that any profits or returns on investment could be heavily taxed or diverted to service the country's burgeoning debt. This lack of investment further slows economic growth, exacerbating the challenges faced by the economy.

Empirical Review

Muhammad and Abdullahi (2020) carried out a study on the impact of external debt servicing on economic growth in Nigeria: An ARDL approach. Nigeria was unbound since debt overhang, due to \$18 billion debt write off; there is an alarm of another foreign debt problem in the country, considering its debt profile. This study investigates the impact of external debt servicing on Nigeria's economic growth was examined using time-series data from 1985 to 2018, analyzed through the Autoregressive Distributed Lag (ARDL) model. Results of the study indicated that in the long-run, external debt servicing will negatively affect economic growth. That is an increase in external debt servicing lead to a decline in economic growth.

Gonji, Dapim and Obande (2021) carried out a study on external debt and its impact on Nigerian economy from 1999 – 2019. The variables used for the study are external debts, debt servicing and foreign reserve. Data was obtained from the Debt Management Office, Central Bank of Nigeria and National Bureau of Statistics. STATA 13 was used to run various tests to ascertain the level impact of each independent variable on the Nigerian GDP. The result revealed that foreign reserve and debt servicing significantly affect the growth of the Nigeria economy.

Obisesan, Akosile and Ogunsanwo (2019) carried out a study on the effect of external debt on economic growth in Nigeria. This study empirically examined the effect of external debt on economic growth in Nigeria under the period of 37 years (1981-2017). The study specifically examined the influence of external debt, external debt service payment and exchange rate on economic growth proxy as real gross domestic product. The study employed least square econometric technique to ascertain the relationship between external debt variables and economic growth in Nigeria. The study found that external debt and external debt service payment have negative effect on economic growth while exchange rate has positive effect on economic growth in Nigeria. The coefficient of multiple determinations (R²) showed that approximately 77% of variations in economic growth are explained by the explanatory variables (EXTD, EXTDS and EXR) while the remaining 23% is accounted by factors not specified in the model. However, The Durbin Watson correlation test indicated that there is positive autocorrelation in the model which implied there is about 23% missing variables in the model.

Adamu, Salihu, Musa, Abdullahi and Bello (2018) enhance the existing literature on the debt growth-nexus by analyzing the relationship between debt variables and economic growth within Solow (1956) growth framework. The study employs econometric technique of Autoregressive Distributive Lag (ARDL) model and applied on time-series data for Nigeria spanning between 1981 and 2016. The finding of the study explored that external debt and economic growth are negatively related both in the short and long runs. The evidence suggests that increase in external debt will lead to decline in economic growth.

Paul (2017) analyses the impact of external debt on economic growth in Nigeria. Data are collected from secondary sources. The variables on which data are collected include; Gross Domestic Product, external debt services, external debt stock, external reserve, and exchange rate. The scope of the study covers the period from 1985 to 2015. Ordinary least square regression, ADF unit root test, Johansen cointegration and error correction test were the basis for analysis. Findings reveal that debt service payment has insignificant negative effect on Nigeria's economic growth while external debt stock has significant positive effect on Nigeria's growth index. The control variables: external reserve and exchange rate have significant positive effect on growth. The ADF unit root test shows that all the variables are not stationary at levels but at first difference. Johansen cointegration test shows long-run relationship between external debt and growth index (GDP). It also shows that the variables have at least one common stochastic trend driving the relationship between them. The causality test indicates unidirectional causality between external debt and GDP. From the findings, the study recommends that government should apply external loans to infrastructural development; improve business environment through legislation; initiate proper debt management policies and substitute external borrowing for human capital development.

Aguwamba and Adeghe (2017) examined the external debt crisis and Nigeria's economic growth. It covers a period of 30 years (1979-2008) with GDP, external debt and external debt service payments as the variables. The GDP is the dependent variable, while external debt and external debt service payments are the independent variables. Cointegration econometric model is used for the estimation and the Unit root test is conducted in order to ascertain the stationarity of the variables. The results indicate that the GDP has positive relationship with the external debt and negative relationship with the external debt service payments.

Amassoma and Adeniran (2017) explore the nexus between external debt and economic growth in Nigeria between the periods 1980 to 2014. The study adopts OLS regression method to ascertain the existing relationship. The results show that external debt exerts a negative and significant effect on private investment in Nigeria, while domestic debt had a positive and significant influence on private investment in Nigeria during the

study periods, indicating that external debt impedes private investment in Nigeria.

Methodology

The paper used Time series data, sourced secondarily from Central bank of Nigeria Statistical bulletin from 2000 to 2022. Foreign debt servicing was used as the independent variable while the interest rate is the dependent variable. The researcher modified the model to accommodate the variables for the study.

The economic form of the model is specified as:

$$EDS = f(IR) \dots\dots\dots (1)$$

$$EDS = \beta_0 + \beta_1 IR + \varepsilon \dots\dots\dots (2)$$

Where:

β_0 = Intercept of relationship in the model/constant

EDS = External Debt Servicing

IR = Interest Rate

β_1 = coefficient of each exogenous variable

ε = stochastic variable or error term

The time series data from 2000 to 2022 was analyzed using the Ordinary Least Square (OLS) regression method.

Table 1: Time Series Data on external debt service and interest (2000-2022)

Years	External debt service (\$' billion)	Interest rate (%)
2000	1.82	17.98
2001	1.91	18.29
2002	1.89	19.02
2003	1.92	18.91
2004	2.02	19.18
2005	2.04	17.95
2006	2.03	16.84
2007	2.12	16.94
2008	2.23	15.89
2009	2.33	17.28
2010	2.45	16.13
2011	2.56	16.79
2012	2.69	17.01
2013	2.83	16.81

2014	2.98	16.55
2015	3.15	17.12
2016	3.36	17.12
2017	3.61	19.23
2018	3.89	16.05
2019	4.11	15.21
2020	4.35	16.21
2021	4.59	14.20
2022	4.83	15.24

Source: *CBN Statistical Bulletin (2024)*

Results

Table 2: Descriptive Statistics

	External debt	Interest rate
Mean	20527.19	0.393553
Median	17651.17	1.034804
Maximum	45312.69	4.033308
Minimum	9150.040	1.601086.
Std. Dev.	10725.80	0.341108
Skewness	1.117575	0.926801
Kurtosis	3.249735	2.631273
Jarque-Bera	2.950655	2.083551
Probability	0.228704	0.352828
Sum	287380.7	4.100842
Sum Sq. Dev.	1.50E+09	1.452526
Observations	14	14

Source: *EViews 11 Descriptive Statistics Output, 2024*

From the table 2, it is observed that over the period under review, the mean amount of external debt in Nigeria is N20527.19 trillion with a standard deviation of N10725.80 trillion. The highest value recorded within the period under review is N45312.69 trillion which was recorded in the latest year reviewed. The sum of all growing external debt amounted to N287380.7 trillion and mean of the interest rate 0.394% with the standard deviation scores of 0.34%. The probability values of the Jarque-Bera test statistics shows interest rate is not normally distributed (p-value > 0.05).

Table 3: Ordinary Least Square Regression Output for external debt servicing and interest rate

Dependent Variable: Interest rate

Method: Least Squares

Date: 08/10/24 Time: 02:55

Sample: 2000 2022

Included observations: 14

Variable	Coefficient	Std. Error	t-Statistic	Prob.
External debt servicing	-3.67E-08	8.14E-08	-4.507958	0.0011
R-squared	0.955054	Mean dependent var		0.227143
Adjusted R-squared	0.941570	S.D. dependent var		0.176915
S.E. of regression	0.042764	Akaike info criterion		-3.231270
Sum squared resid	0.018288	Schwarz criterion		-3.048682
Log likelihood	26.61889	Hannan-Quinn criter.		-3.248172
F-statistic	70.82988	Durbin-Watson stat		1.633117
Prob(F-statistic)	0.000000			

Source: *EViews 11 Regression Output, 2024*

The results shown in the regression output above reveals that external debt negatively ($a = -3.67 \times 10^{-8}$) and significantly ($p < 0.05$) impacts interest rate in Nigeria. With a coefficient of -3.67×10^{-8} , it implies that every billion naira increase in external debt servicing has coincided with a 0.00367% decrease in interest rate in Nigeria over the period reviewed. The r-squared value of 0.955054 reveals that about 95.5% of interest rate can be explained by external debt servicing

Effect of Growing external debt servicing on interest rates in Nigeria

Data presented in Table 3 reveals that the F-statistics of 0.000 is less than 0.05 alpha level. This means that the null hypothesis is rejected and alternative accepted which shows that growing external debt servicing had negative significantly impacted on interest rate in Nigeria for the period under study.

Discussion of Findings

The findings revealed that external debt negatively but significantly impacted interest rate in Nigeria. A negative impact indicates that as external debt increases, interest rates tend to decrease. In simpler terms, higher levels of external debt result in lower borrowing costs for lenders and borrowers in the economy. The central bank may adjust its monetary policy in response to rising external debt, possibly lowering interest rates

to encourage investment and consumption, or to alleviate debt service burdens. This finding agreed with the findings of Ibrahim (2019) which revealed that external debt and debt service exert negative significant impact on interest rate.

Conclusion and Recommendations

From the findings, we therefore conclude that the negative and significant impact of external debt on interest rates suggests that debt servicing obligations may constrain financial resources, thus reducing the cost of borrowing in the short term.

The study therefore recommends that:

1. Government should Increase domestic revenue generation through improved tax collection and broaden the tax base so as to reduce reliance on external debt.
2. The government should extend debt financing to promote diversification of other areas in the economy to reduce reliance on oil as well as reduce reliance on external debt.

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