THE NEXUS BETWEEN DEBT SERVICING AND FOREIGN EXCHANGE RATE UNIFICATION IN NIGERIA

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Abstract

Public debt, which has escalated to approximately N38.005 trillion by the first quarter of 2024, has become a critical concern for Nigeria's economic sustainability. The country's debt service-to-revenue ratio has reached 183%, indicating a severe fiscal imbalance. Hence, this study examined the relationship between debt servicing and foreign exchange rate unification in Nigeria from 1995 to 2023. Using an Autoregressive Distributed Lag (ARDL) model, the research investigated the effect of exchange rate unification, inflation, GDP growth, and oil prices on Nigeria's debt service-to-revenue ratio. The findings reveal that exchange rate unification has a significant negative effect on the debt service burden, suggesting potential benefits of a unified exchange rate policy. Inflation rates and lagged exchange rates also negatively impact debt servicing, while oil prices show mixed effects. Based on these findings, the study recommends that policymakers continue pursuing exchange rate unification while implementing careful inflation management strategies. Also, the research suggests focusing on economic diversification to reduce oil dependence and improving fiscal discipline to better manage persistent debt servicing commitments.

Introduction

Public debt has become a critical issue for many governments worldwide, with Nigeria being a prominent example (Demianyshyn & Kostetskyi, 2022; Nedyalkova & Nedyalkova, 2020). The public sector, which includes government-run organizations funded by public money, heavily relies on external funding due to its activities surpassing internal revenue generation capacities. This reliance on borrowing has led to significant debt levels, raising concerns about economic sustainability and growth. Over the years, Nigeria has witnessed a dramatic rise in public debt, which reached approximately ₦38.005 trillion (around $103.11 billion) by the end of the first quarter of 2024 (National Bureau of Statistics, 2024). This figure emphasizes the challenges associated with managing debt levels and ensuring fiscal

sustainability, particularly in light of the country's low tax-to-GDP ratio of 10.86% (NBS, 2021).

Public debt serves as a vital mechanism for financing public expenditures, especially when increasing taxes or cutting spending is politically or economically unfeasible (International Monetary Fund, 2021). While public debt can stimulate economic growth particularly when used for capital infrastructure projects excessive borrowing without strategic investment planning can lead to overwhelming debt and high interest payments, negatively impacting the economy (Abotsi & Ampah, 2024; Mhlaba Phiri & Nsiah, 2019). Nigeria's debt service-to-revenue ratio reached 183%, indicating that the government spent significantly more on servicing its debt than it earned in revenue (Central Bank of Nigeria, 2023). Specifically, the federal government

generated actual revenue of ₦1.21 trillion against a debt service obligation of ₦2.2 trillion during this period (National Bureau of Statistics, 2023). In the wider view, Nigeria's debt servicing expenses rose dramatically, totalling ₦7.8 trillion for the year, which accounted for approximately 80.9% of the total federal government revenue generated from January to September 2023 (Debt Management Office, 2023).

The implications of high public debt are profound, as a significant portion of national revenue allocated to debt servicing leaves little room for essential infrastructure investments, adversely affecting economic growth (Saka, 2024). Furthermore, a 2022 report from the National Bureau of Statistics indicated that 63% of Nigeria's population are multidimensionally poor, reflecting the broader economic struggles worsen by high debt levels (National Bureau of Statistics, 2022). To alleviate the burden of foreign debt and promote economic growth, the Nigerian government has implemented various debt management strategies, such as rescheduling and converting debts (Eke & Akujuobi, 2022). However, evidence suggests that these strategies have not achieved their intended outcomes, leading to a persistent cycle of borrowing and debt accumulation (Rivard & Kharas 2024).

The unification of Nigeria's foreign exchange rate has become a pivotal aspect of the country's economic policy, particularly amid ongoing public debt challenges. Historically, Nigeria operated multiple foreign exchange rate regimes, including an official rate set by the Central Bank of Nigeria (CBN) and various parallel market rates. This multiplicity resulted in significant economic distortions, fostering speculation and arbitrage opportunities that complicated the implementation of fiscal and monetary policies. In 2022, facing pressure from international financial institutions and domestic economic needs, the Nigerian government-initiated efforts to consolidate these

rates into a single, market-driven exchange rate. The rationale behind this unification is to eliminate inefficiencies and corruption associated with the previous multiple exchange rates, which have historically undermined investor confidence and hindered foreign direct investment (FDI) (Ozili, 2024).

Despite the potential benefits of foreign exchange rate unification, the transition has not been without challenges. The unification has led to increased volatility in the naira's value, raising concerns among investors. Economists have warned that such volatility could undermine investment plans and exacerbate inflationary pressures, with inflation rates projected to rise significantly following the removal of fuel subsidies and the unification of exchange rates (Ozili, 2024). The relationship between foreign exchange rate unification and public debt dynamics is critical, as a stable and predictable foreign exchange rate regime is essential for managing debt service obligations and ensuring fiscal sustainability. The government's strategy includes leveraging international support, such as a $2.25 billion loan from the World Bank, aimed at stabilizing the exchange rate and supporting economic reforms (World Bank, 2024).

This study addresses a critical research gap by examining the link between foreign exchange rate unification and public debt servicing in Nigeria, an area that has received limited attention in existing literature. While previous research has focused on the impacts of public debt on economic growth or the broader implications of exchange rate policies, few studies have explored how recent efforts at unifying exchange rates affect the cost and management of debt servicing. By analysing the impact of exchange rate unification on debt service-to-revenue ratios, alongside variables such as inflation, GDP growth, and oil prices, this study provides fresh perspectives on fiscal sustainability in Nigeria. This research will contribute to a

deeper understanding of the nexus between debt servicing and foreign exchange rate policies in Nigeria, ultimately informing better economic management strategies for the future. The findings are expected to have direct policy implications, especially regarding government fiscal measures and investment decisions, guiding policymakers in designing an effective public debt strategy conducive to Nigeria's economic growth.

Literature Review Conceptual
Debt Service-to-Revenue
The debt service to revenue ratio is a critical indicator that measures the proportion of a government's revenue allocated to servicing its debt obligations, including interest and principal repayments (Adegboyega, 2021). According to the World Bank, Nigeria's debt service to revenue ratio was projected to reach 123.4% in 2023, indicating that debt servicing was expected to consume more than the total revenue generated by the government, highlighting the urgent need for revenue generation reforms to avoid a fiscal crisis. A high ratio indicates that a significant portion of government revenue is consumed by debt servicing, which can hinder fiscal flexibility and limit investments in essential public services. For instance, Nigeria's debt service to revenue ratio was reported at 73.5% in 2023, significantly exceeding the recommended threshold of 50% (Efuntade & Efuntade, 2022). This situation highlights the critical challenges the government faces in managing its debt sustainably.

Exchange Rate Unification
The unification of foreign exchange rates is a strategy aimed at enhancing liquidity and reducing uncertainty in the market, boosting investor confidence. A unified exchange rate regime minimizes discretionary allocation, thereby decreasing corruption risks and promoting transparency in currency distribution. This approach is expected to streamline market fragmentation and absorb parallel market activities, leading to greater efficiency in financial operations (Ozili, 2023). Implementing a fixed, uniform exchange rate can stabilize local currency values and mitigate inflationary pressures. For instance, Nigeria's recent unification efforts, amid fluctuating inflation rates, aim to create a more predictable economic environment. According to the National Bureau of Statistics, inflation rates in Nigeria varied between 22.04% and 22.2% in early 2023, highlighting the need for stability (Bujeti, 2023). A unified exchange rate fosters macroeconomic stability, attracts foreign investment, and stimulates economic growth by providing a clear framework for transactions, thus enhancing market confidence and efficiency (Gabaix & Maggiori, 2015).

GDP growth rate
The GDP growth rate, a measure of annual percentage change in real GDP per capita, reflects a country's economic growth and prosperity (Smith, 2022). Calculated by dividing GDP at constant prices by population, it assesses how quickly various economic components are expanding through final expenditure, value added in production, or income methods (Johnson, 2021). Key drivers include personal consumption, business investment, government spending, and net trade (Xavier, 2022). This rate can be positive or negative, indicating economic expansion or contraction respectively. For improved living standards, GDP growth must outpace population growth (Xavier, 2022).

Inflation Rate
Inflation is the rate at which the general level of prices for goods and services rises, eroding purchasing power. Moderate inflation is a normal aspect of a growing economy, but high inflation can lead to uncertainty and decreased consumer

spending (Saha, 2022). Central banks often adjust interest rates to manage inflation, aiming to maintain price stability while supporting economic growth. In Nigeria, inflation rates have been influenced by factors such as currency depreciation and rising food prices, which have raised concerns about economic stability and consumer welfare (Elrasheed, et al., 2024).

Oil prices

Oil prices play a significant role in the global economy, particularly for oil-exporting countries.

Fluctuations in oil prices can have widespread effects on inflation, currency values, and economic stability (Moshiri & Kheirandish, 2024). For countries heavily reliant on oil revenues, such as Nigeria, declining oil prices can lead to budget deficits and increased debt burdens, further complicating fiscal management (Ichime at al., 2024). The volatility of oil prices has prompted Nigeria to seek economic diversification to reduce its dependence on oil revenues and enhance fiscal resilience.
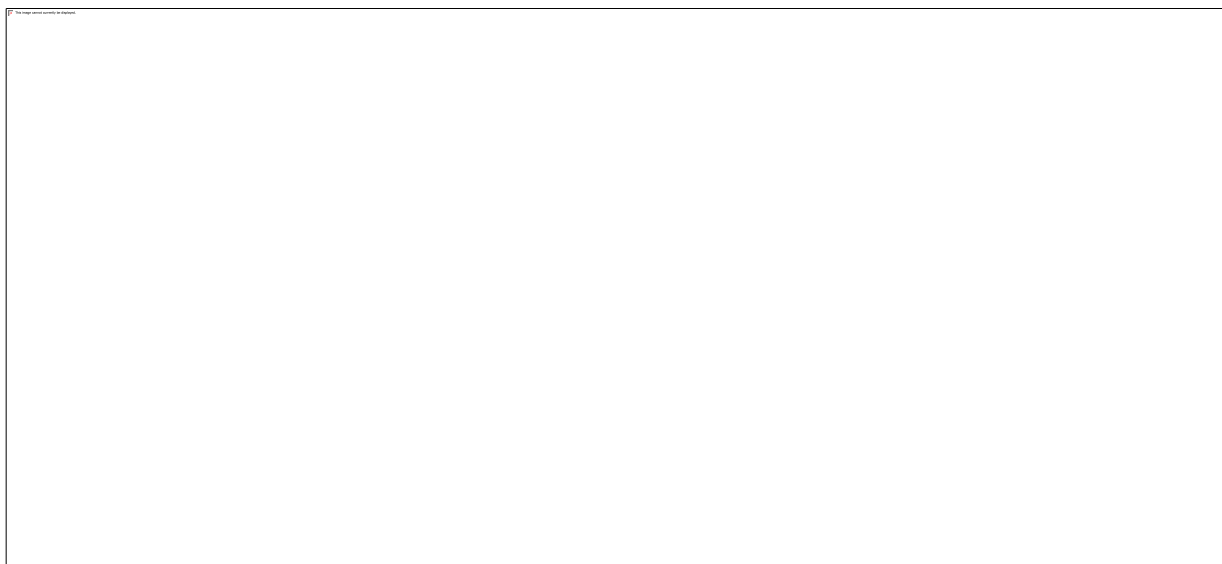
Figure 1: Conceptual Framework
Source: Authors' diagram

Theoretical Review

The theories of debt overhang, debt crowding-out, Keynesian economics, and the monetary approach to exchange rates provide a comprehensive framework for analysing the relationship between debt servicing and foreign exchange rate unification in Nigeria. Each theory presents distinct mechanisms through which government debt influences economic growth and investment, which are crucial for understanding the implications of debt on exchange rates.

Debt Overhang Hypothesis

The debt overhang hypothesis posits that excessive borrowing can lead to a situation where the country's debt exceeds its repayment capacity,

creating a disincentive for both domestic and foreign investment. As articulated by Gordon and Cosimo (2018), when investors perceive that the government will need to tax future production to service its debt, they are less likely to invest, anticipating that their returns will be diminished by future tax burdens. This theory suggests that high levels of public debt can lead to a "debt trap," where the need to service existing debt constrains available funds for productive investment, ultimately stunting economic growth. Coccia (2017) supports this view, indicating that the composition of public spending is altered due to debt servicing requirements, further discouraging private investment.

In Nigeria scenario, the implications of the debt overhang hypothesis are significant. As public debt

rises, the expectation of future tax increases may deter investment, leading to lower economic growth rates. This scenario is worsened by the country's reliance on foreign exchange for debt servicing, which can create additional pressure on the exchange rate.

Keynesian Theory

John Maynard Keynes advocated for active government intervention through fiscal policy to stimulate economic growth, particularly during downturns. According to Keynesian economics, public borrowing can be beneficial as it injects funds into the economy, potentially increasing aggregate demand and employment. Matthew and Mordecai (2016) highlight that government spending can lead to a multiplier effect, enhancing overall economic activity.

In Nigeria, where structural imbalances and frequent budget deficits are prevalent, Keynesian principles suggest that government borrowing may be necessary to stabilize the economy. However, the effectiveness of such borrowing depends on the government's ability to invest in productive sectors that yield high returns, thereby avoiding the pitfalls of debt overhang.

Debt Crowding-Out Hypothesis

The debt crowding-out hypothesis complements the debt overhang theory by emphasizing how government borrowing can lead to higher interest rates, which in turn reduces private sector investment. Yusuf and Mohd (2021) argue that increased government borrowing can create budget deficits that diminish public savings unless offset by a corresponding rise in private savings. As the government competes for loanable funds, interest rates may rise, discouraging private investment due to lower expected returns.

This crowding-out effect can have profound implications for Nigeria, where government borrowing often leads to increased interest rates

that stifle private sector growth. The interaction between government debt and interest rates can also affect the exchange rate, as higher interest rates may attract foreign capital, influencing the demand for the local currency.

Monetary Approach to Exchange Rates

The monetary approach to exchange rates, rooted in the works of Milton Friedman, posits that exchange rates are primarily determined by monetary factors, including the supply and demand for money.

The basic equation illustrates how domestic and foreign money supplies, velocities, and income levels interact to determine exchange rates.

$$e = \left(\frac{M}{M^*}\right) \times \left(\frac{V^*}{V}\right) \times \left(\frac{Y}{Y^*}\right)$$

Where: e = foreign exchange rate

$\frac{M}{M^*}$ = ratio of domestic to foreign money supply

$\left(\frac{V^*}{V}\right)$ = ratio of foreign to domestic velocity of money

$\left(\frac{Y}{Y^*}\right)$ = ratio of domestic to foreign income

While this approach provides a framework for understanding long-term trends in exchange rates, it is less effective in explaining short-term fluctuations driven by market sentiment and speculation (Meese and Rogoff, 1983).

In Nigeria scenario, the relationship between government debt, monetary policy, and exchange rates is critical. High levels of debt can influence monetary policy decisions, affecting money supply and ultimately the exchange rate.

Empirical Review

Recent studies have explored the relationships between public debt, economic growth, and foreign exchange rate policies in Nigeria and other African countries. This review synthesizes the findings of several key studies, highlighting their contributions and identifying areas for further research.

Mhlaba et al. (2019) examined the impact of public debt on South Africa's economic growth using an ARDL model. Their analysis, covering 2002-2016, consistently found a negative relationship between debt and growth, with this negative effect strengthening in the post-crisis period. The study employed a threshold analysis approach, suggesting that maintaining debt levels below a certain threshold is essential for ensuring positive economic outcomes.

Eke & Akujuobi (2021) examined the relationship between public debt and economic growth in Nigeria using data from 1981 to 2018. Their findings reveal a nuanced picture: external debt positively impacts economic growth in the short term, while domestic debt exerts a negative effect. The study emphasizes the crucial role of efficient fund utilization and prudent debt management for sustainable economic growth.

Abayomi (2023) explored the impact of exchange rate unification on inflation, price stability, and foreign investment using a survey approach and PLS-SEM analysis. The study found that all three factors are influenced by exchange rate unification, concluding that a unified exchange rate could help stabilize prices and attract foreign investment by reducing uncertainty. The research emphasizes the need for complementary policies, such as fiscal discipline and monetary stability, to maximize the benefits of exchange rate unification.

In a broader African scenario, Abotsi & Ampah (2024) investigated the relationship between public debt and economic growth, focusing on the role of corruption. Using dynamic panel data estimation for 45 African countries from 1996 to 2019, they found that corruption significantly undermines the positive effects of public debt on economic growth. Their findings highlight the critical importance of improved governance and reduced corruption in ensuring that public debt contributes to sustainable development.

Ozili (2024) investigated the potential benefits and implications of exchange rate unification in Nigeria. The study argues that unification could lead to a more transparent and efficient foreign exchange market, potentially enhancing investor confidence and improving resource allocation. However, it also cautions about possible short-term inflationary pressures arising from the unification process.

Umaru et al. (2024) examined the relationship between exchange rate systems and food inflation in Nigeria using an ARDL model. Their findings indicate that various exchange rates (Bureau De Change, unified, and differentials) have a positive and significant impact on food inflation in both the short and long run. The study suggests that unifying the exchange rate could help stabilize food prices and reduce inflationary pressures.

Similarly, Okereke et al. (2024) explored the relationship between budget deficits and exchange rate unification using an ARDL bound test technique. They found evidence of a long-run equilibrium relationship between budget deficit and the official exchange rate. The study suggests that past depreciation of domestic currency exacerbates budget deficit problems in Nigeria, recommending a gradual approach to unification accompanied by fiscal consolidation measures.

Otiwu & Okafor (2024) examined the impact of domestic debt on exchange rate stability in Nigeria using Johansen cointegration, Granger causality, and fully modified ordinary least square (FMOLS) techniques. They found that high levels of domestic debt can lead to exchange rate instability, particularly in the face of external shocks. The authors recommend a balanced approach to debt

management that considers both domestic and external factors.

Gap in Literature

The literature review reveals significant research gaps in understanding the nexus between debt servicing and foreign exchange rate unification in Nigeria. While studies such as Eke and Akujuobi (2021) have explored the relationship between public debt and economic growth, they have not addressed how the recent foreign exchange rate unification affects the servicing of public debt. This oversight is critical, given the potential implications for fiscal sustainability and economic stability, particularly in a situation where public debt levels are already a concern.

Also, existing literature has largely focused on the impacts of foreign exchange rate fluctuations on economic indicators without systematically investigating the specific effects on public debt servicing, leaving a crucial area unexplored. Furthermore, while studies like Ozili (2024) have examined the implications of exchange rate unification, they have not considered how this unification influences the cost and management of public debt. The absence of research on this intersection is particularly concerning, as the dynamics of debt servicing may significantly change under a unified foreign exchange rate regime. Moreover, the role of mediating factors such as inflation, interest rates, and fiscal policies in shaping the relationship between foreign exchange rate unification and public debt servicing remains underexplored. Addressing these gaps is essential for providing a comprehensive understanding of how Nigeria can effectively manage its public debt in light of foreign exchange rate changes, a gap this present study intends to fill.

METHODOLOGY
Data Sources and Description of Variables

The study adopts the Debt Overhang Hypothesis, which posits that high debt burdens deter investment due to anticipated future taxes. The model specified in Equation 1 is therefore consistent with this theory as it examines how variables like exchange rates (EXR) and inflation (INF) affect the debt service-to-revenue ratio (DSR). A unified exchange rate (DUMMY) may reduce inefficiencies, lowering debt servicing costs and mitigating the adverse effects predicted by the Debt Overhang Hypothesis.

Also, the study utilizes time series annual data spanning the period from 1995 to 2023. The dependent variable is the ratio of debt servicing to revenue ratio. The independent variables include the official foreign exchange rate (Naira per US Dollar), which represents foreign exchange rate unification; the growth rate of GDP; the inflation rate; oil prices; and a dummy variable indicating periods of dual and single foreign exchange rate systems.

To fulfil the study's objectives, a linear regression model is employed to analyse the relationship between debt servicing and foreign exchange rate unification in Nigeria. The model is specified as follows:

The model is specified thus;

$$DSR = f(EXR, GDPg, INF, OIL, DUMMY) \dots \dots \dots \dots \dots$$

In stochastic form, equation (1) can be expressed as:

$$DSR = \beta_0 + \beta_1 ER + \beta_2 GDPg + \beta_3 INF + \beta_4 OIL + \beta_5 DUMMY + \mu \dots \dots \dots \dots \dots . (2)$$

Where:

DSR = Debt Service-to-Revenue Ratio

EXR = Exchange Rate

GDPg = GDP Growth Rate

INF = Inflation Rate

OIL = Oil Prices

DUMMY = 1 for periods following foreign exchange rate unification, 0 otherwise μ = Error term

Prior to estimating the model, standard econometric tests were performed to evaluate its stochastic properties, specifically through stationarity tests using unit root tests. This crucial step helps prevent the estimation of spurious regression results. Also, a co-integration test was conducted to examine the relationship between debt servicing and foreign exchange rate unification.

Table 1: **Source and Measurement of Variables**

Variables	Measurement	Source
Debt Service-to-Revenue Ratio	Total debt service (% of GNI)	International Monetary Fund
Exchange Rate	Real effective exchange rate index (2010 = 100)	World Development Indicator
Exchange Rate Unification	set to 1 for years following 2016 and 0 otherwise.	Dummy
GDP Growth Rate	GDP annual growth (%)	World Development Indicator
Inflation Rate	Inflation, GDP deflator (annual %)	World Development Indicator
Oil Prices	Average annual crude oil price	U.S. Energy Information Administration (EIA)

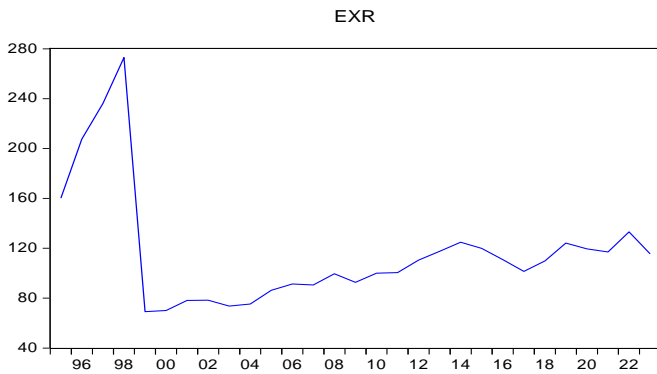**Result Analysis and Discussion**
Trend Analysis
Figure 2: Trend Analysis of Debt Service-to-Revenue Ratio
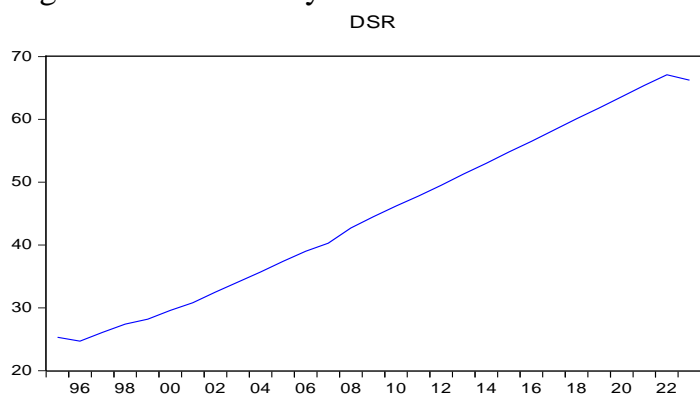
The DSR trend shows some volatility but indicates a general stability, reflecting efforts to manage debt servicing relative to revenue effectively.
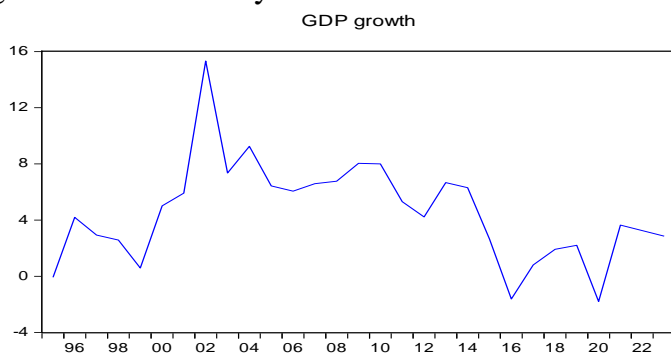Figure 3: Trend Analysis of Exchange Rate

EXR

Significant fluctuations in the exchange rate graph highlight the volatile foreign exchange market, emphasizing the need for stable exchange rate policies.

Figure 4: Trend Analysis of GDP Growth Rtae

GDP growth

The trend analysis of the GDP growth rate shows a variable growth rates indicating economic volatility which affects fiscal sustainability and debt servicing capacity.

Figure 5: Trend Analysis of Inflation Rate

Inflation
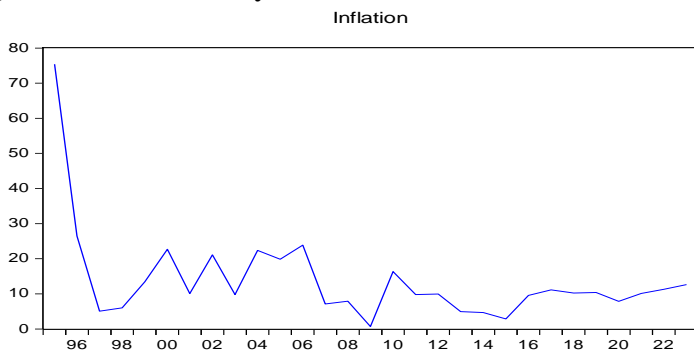
This shows a considerable volatility which impacts real revenue and debt servicing costs.

Unit Root Test

Unit root tests are performed to ascertain whether variables are stationary, a critical step to prevent spurious regression results when applying Ordinary Least Squares (OLS) to non-stationary data. The decision rule for interpreting the test results involves rejecting the null hypothesis (which posits that a variable has a unit root and is non-stationary) if the p-value is less than the chosen significance level or if the t-statistic exceeds the 5% critical value. If these conditions are not met, the null hypothesis is accepted. The outcomes of these unit root tests are detailed in Table 2, presented below.

Table 2: Augmented Dickey-Fuller (ADF) Unit Root Test

VARIABLES	STATIONARY	T-STATISTIC	CRITICAL VALUE	P-VALUES	ORDER OF INTEGRATION

			AT 5% LEVEL		
DSR	At level	0.7090	-2.9718	0.9902	
	At First Diff.	-4.1185	-2.9762	0.0037	I(1)
EXR	At level	-2.5564	-2.9718	0.1137	
	At First Diff.	-5.7683	-2.9762	0.0001	I(1)
GDPg	At level	-2.9562	-2.9716	0.0583	
	At First Diff.	-2.9862	-3.5480	0.0026	I(1)
INF	At level	-2.8276	-2.9810	0.0682	
	At First Diff.	-5.9029	-2.9862	0.0001	I(1)
Oil	At level	-1.8597	-2.9718	0.3454	
	At First Diff.	-5.0842	-2.9762	0.0030	I(1)

Authors computation 2024

As shown in Table 2, all variables are non-stationary at the 5% significance level in their level form, indicated by p-values greater than 0.05 and t-statistic values higher than the critical values. However, after first differencing, all variables become stationary at the 5% significance level, with p-values less than 0.05. These results lead to the rejection of the null hypothesis of a unit root. Therefore, the variables are integrated of order one, I(1), meaning they become stationary after first differencing.

Co-integration test

This test assesses whether non-stationary time series are cointegrated, which would indicate the presence of a long-term equilibrium relationship. The null hypothesis posits that the series are not cointegrated, while the alternative hypothesis suggests that they are. The decision rule is to reject the null hypothesis if the p-value is less than or equal to the selected significance level; otherwise, the null hypothesis is accepted. The results of this test are displayed in Table 3.

Table 3: Engle-Granger Co-integration test

Variables	Tau-statistic	Probability values
DSR	-3.430157	0.5775
EXR	-3.666305	0.4728
EXR_UNI	-3.060443	0.7360
GDPg	-4.794482	0.1177
INF	-3.626205	0.4949
OIL	-3.282141	0.6430

Authors computation 2024

The results in Table 3 showed no long-term relationship between the variables. This conclusion was drawn from the high probability values, which all surpassed the 5% significance level. As a result, we couldn't reject the null hypothesis, indicating that the series lack cointegration. Given these outcomes, we opted for the first difference Autoregressive Distributed Lag (ARDL) approach to examine how the explanatory variables impact debt servicing in Nigeria. This method was chosen because all variables became stationary after first differencing, and no long-run cointegration was found among them

Estimates of Autoregressive Distributive Lag Model (ARDL) results
The estimates of the effect of exchange rate unification on debt servicing as specified in equation (2) are presented in Table 4.

Table 5: Estimates of ARDL results

Variables	Coefficient	Std. Error	t-Statistic	Prob.*
DSR(-1)	0.991294	0.025239	39.27598	0.0000
EXR	0.002315	0.002815	0.822376	0.4216
EXR(-1)	-0.009059	0.003175	-2.852864	0.0106
EXR_UNI	-0.053105	0.024196	-2.19478	0.0441
GDPg	-0.028945	0.043469	-0.665873	0.5139
INFL	-0.048409	0.021688	-2.232091	0.0386
INF(-1)	-0.028204	0.009621	-2.931447	0.0089
OIL	0.015033	0.007604	1.976890	0.0636
OIL(-1)	-0.019895	0.010210	-1.948496	0.0671
C	4.039755	1.086091	3.719535	0.0016
R-squared	0.999165			
Adjusted R-squared	0.998747			
F-statistic	2392.010			
Prob(F-statistic)	0.000000			
Durbin-Watson stat	1.547006			
Serial Corr. LM test	F-Stat:0.022407 prob-value=0.9779			
Heteroske. test	F-statistic: 1.329433 prob-value =0.2893			

Authors computation 2024

The lagged value of the debt service to revenue ratio (DSR (-1)) is positive and statistically significant and positively correlated with the current DSR. This means that a one-unit increase in the previous year's DSR results in almost the same increase in the current DSR, indicating strong persistence in debt servicing behavior over time. The high significance and magnitude of the DSR (-1) coefficient suggest that Nigeria's debt servicing commitments are highly persistent. This could be due to a lack of fiscal flexibility or structural issues in debt management. These findings in line with studies such as Reinhart and Rogoff (2010).

The current exchange rate is not significantly affecting the DSR while the lagged exchange rate negatively affects the DSR, meaning that a higher exchange rate in the previous period decreases the current DSR. The negative impact of the lagged exchange rate implies that previous higher exchange rates help in reducing current debt servicing costs, potentially due to favorable foreign exchange gains or valuation effects on external debt. This finding aligns with the study of Aizenman, Hutchison, and Noy (2011)

Exchange rate unification (EXR_UNI) has a significant negative effect on debt service to revenue ratio (DSR). The negative effect of exchange rate unification on DSR suggests that a unified exchange rate policy could help reduce the debt service burden. This could be due to improved efficiency in forex markets and reduced arbitrage opportunities. This finding is in line with with what a number of previous studies such as Ozili (2024), Karadam and Ozmen (2021) have reported. An economic justification for this is that exchange rate unification reduces debt service burden by creating a more transparent and efficient foreign exchange market. By eliminating multiple exchange rates, it minimizes arbitrage opportunities, reduces transaction costs, and enhances fiscal predictability.

Current and lagged value of Inflation have significant negative effect on DSR. An increase in inflation reduces the DSR, suggesting that higher inflation might be eroding the real value of debt or revenue, thereby lowering the DSR. The significant negative relationship with inflation indicates that higher inflation reduces the real burden of debt servicing. This might be a reflection of nominal revenue increases outpacing nominal debt servicing costs in inflationary environments.

While Current oil prices have a positive effect on DSR, lagged oil prices have positive effect. The mixed impact of oil prices (positive current, negative lagged) suggests that while higher current oil prices increase revenue, thus reducing the immediate need for debt servicing, there might be a lagged adjustment effect where high past oil prices decrease current DSR due to improved fiscal positions. The observed positive effect align with findings from prior research, including studies by Sun et al. (2022) and Domanski et al. (2015), which reported similar outcomes. One reason for this is that when oil prices are high, government revenues, particularly in oil-dependent economies, tend to increase. This immediate revenue boost can enhance fiscal health, reducing the reliance on borrowing and the need for debt servicing. Higher revenues can also lead to better debt management and a lower debt burden in the short term, directly reducing the DSR.

With regards to the diagnostic tests of the estimates, the high value of the R-squared depicts that the model explains nearly all the variance in the DSR, indicating an excellent fit. The result of the F-statistics implies that the overall model is highly significant while the Durbin Watson test shows that there is no serious autocorrelation problem. Moving further, the estimates of the Breusch-Godfrey Serial Correlation LM Test shows that there is no evidence of serial correlation. Also, the estimates of Breusch-Pagan-Godfrey test for Heteroskedasticity Test depicts No evidence of heteroskedasticity.

Conclusion and Recommendations

This study examined the relationship between debt servicing and foreign exchange rate unification in Nigeria from 1995 to 2023. Using an Autoregressive Distributed Lag (ARDL) model, the study found that exchange rate unification has a significant negative effect on the debt service-to-revenue ratio. The analysis also revealed that inflation rates and lagged exchange rates negatively impact debt servicing, while oil prices have mixed effects. The persistence of debt servicing commitments was highlighted by the strong positive correlation between current and previous year's debt service ratios.

The findings suggest that a unified exchange rate policy could help reduce Nigeria's debt service burden, potentially due to improved efficiency in forex markets and reduced arbitrage opportunities. The significant negative relationship between inflation and debt servicing indicates that higher inflation might be eroding the real value of debt or increasing nominal revenues faster than debt servicing costs. The study also highlights the

relationship between oil prices and debt servicing, reflecting the importance of Nigeria's oil-dependent economy in its fiscal management. Based on these findings, it is recommended that policymakers continue to pursue exchange rate unification as part of their strategy to manage debt servicing costs. However, this should be accompanied by careful inflation management to balance its effects on debt servicing and overall economic stability. Policymakers should also focus on diversifying the economy to reduce its dependence on oil revenues, given their volatile impact on debt servicing capacity. Furthermore, improving fiscal discipline and enhancing revenue generation capabilities could help in managing the persistent nature of debt servicing commitments. Finally, policymakers should consider the lagged effects of economic variables on debt servicing when formulating long-term fiscal strategies.

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