

## **Analyses of the impact of external debt on economic growth in Nigeria (1981–2023)**

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### **Abstract**

*This study examines the influence of external debt on Nigeria's economic growth. Data were sourced from the Central Bank of Nigeria's Statistical Bulletin and World Bank. The exogenous variables utilized were the exchange rate, external debt stock, and debt service, whereas the endogenous variable was the real gross domestic product (RGDP). The study covers the period from 1981 to 2023, preliminary tests such as trend analysis, unit root (stationarity) tests, and cointegration tests were conducted. The unit root test results revealed that the entire variables were integrated at the first difference,  $I(1)$ , without cointegration. Consequently, the Vector Autoregressive (VAR) model was deemed appropriate for the analysis. The VAR estimation results indicate that the coefficient of the first lagged value of RGDP has significant positive effect on its current value. However, the coefficient of the first lagged value of external debt is negative and insignificant, with a coefficient of -0.001817. Similarly, the coefficient of the first lagged value of debt service is also negative and insignificant, at -0.015863. In contrast, the coefficient of the first lagged value of the real exchange rate is positive but insignificant, with a coefficient of 0.063724. From these findings, the study advocates that the government implement policies to entice foreign direct investment (FDI) to reduce over-reliance on external debt.*

*Keywords: External Debt, Debt Service, Exchange Rate, Unit root, Vector Autoregressive Model, Cointegration, Real GDP.*

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### **1. Introduction**

Nigeria's excessive reliance on the oil sector for foreign reserves, coupled with a negative balance of trade and payment due to dependency on imports, has significantly contributed to the economy's instability. Notwithstanding the fact that Nigeria's economy has benefited financially from the oil boom in recent decades, not much has been done to sustain and increase economic productivity through infrastructure investment. The government's failure to effectively allocate revenue generated from crude oil sales for infrastructure development has led to widespread deterioration of the nation's infrastructure, which is essential for all economic sectors. This has resulted in ongoing fiscal deficits, diminished productivity, trade imbalances, unemployment, and consequently low savings levels, prompting the country to pursue alternative funding sources to address the revenue shortfall, particularly in light of declining oil revenues in the international market. Consequently, public debt (domestic or external) emerged as an additional finance option for the government.

The idea that foreign debt could be a motivating factor for achieving growth and development in an economy has been discussed over the years. External debt refers to the total financial obligations a country has to foreign entities, arising from government-to-government loans or an unfavorable trade balance (Business Dictionary, 2022a). Numerous studies have indicated that one of the significant challenges confronting developing nations, such as Nigeria, is external debt. This is driven by persistent budget deficits, an unfavorable balance of payments, and the strong pursuit of industrialization. The continuous increase in external debt, exacerbated by declining oil prices and exchange rate fluctuations, has become a global concern. Obademi (2012), observed that rising debt levels within a nation can significantly impede its economic growth and development. On the other hand, Bakare (2011) argues that while the primary objective of external borrowing serves to boost economic expansion and development, the fundamental

concern lies in the misallocation and misuse of these borrowed funds, which can ultimately lead to economic instability. In the Nigerian context, systemic corruption and the persistent mismanagement of public resources have become deeply entrenched within the democratic framework. Consequently, the nation's growing external debt burden is likely to have adverse economic implications, hindering sustainable development and fiscal stability.

Persistent trade imbalance and budget deficit are the primary factors driving nations to seek external loans. For low-income countries, these economic challenges often necessitate borrowing from international financial institutions and bilateral partners. However, once such loans are acquired, debt servicing becomes a continuous obligation, and if not effectively managed, the intended objective of promoting economic growth may become increasingly unattainable (Soludo, 2003; & Okonjo-Iweala et al, 2003). Debt service, on the other hand, refers to a debtor nation's repayment of both principal and interest to creditor countries on outstanding loans (Business Dictionary, 2022b). According to Udeh, Ugwu, & Onwuka, (2016) an excessive accumulation of external borrowing increases the cost of servicing debt and can result to a debt overhang, which poses significant economic challenges. Debt overhang occurs when a substantial portion of national resources is allocated to servicing debt, thereby constraining economic growth and placing a significant strain on domestic productivity.

According to the Debt Management Office, (2022), total debt stock for Nigeria increased to ₦41.6 trillion in the first quarter of 2022, reflecting a rise of ₦2.05 trillion from the ₦39.56 trillion recorded in December 2021. The debt reached \$100.1 billion in terms of dollar. Additionally, in quarter one of 2022, the ratio of debt-to-GDP in Nigeria climbed to 23.27% up from 22.47% in December 2021. Although this remains below the self-imposed threshold of 40%, the pace of debt accumulation is accelerating as a result of amplified borrowing and sluggish economic expansion (Naira Matrix, 2022).

The continuous rise in Nigeria's external debt, coupled with the increasing debt service burden and debt overhang, has raised significant concerns that require urgent policy intervention to ensure sustainable development. While foreign aid and investments are frequently redirected toward debt servicing—primarily to repay Lender nations and global financial organisations, including the International Monetary Fund (IMF) and the World Bank, the country's debt stock remains unchanged, as rescheduling or cancellation has not been an option. Furthermore, Iyoha, (2004) states that debt payment schedules by bilateral donors does not provide genuine liability respite, as it often results in a further accumulation of debt. Rescheduled debts typically carry higher interest rates, with accrued interest being capitalized, thereby exacerbating the debt situation. Consequently, rather than alleviating debt obligation for Nigeria, rescheduling has only excavated the crisis.

The debt crisis in Nigeria has gotten worse and the debt load has become more disastrous due to the country's poor overall economic performance and the quick accumulation of international debt. Nigeria needs to pay greater attention to its debt because it is concerning when compared to exports and economic activity. Moreover, there is severe import constriction as a result of debt servicing combined with low foreign exchange earnings. Import strangulation prolongs import shortages by restraining export development. Investment is further discouraged by the overhang and other uncertainty made by the debt state. Production declines when there is a lack of necessary imports and a decline in investment. Eventually, rising debt and debt servicing needs result from declining output and widening current account imbalances. Hence, the overall impact provides tremendous difficulty to economic expansion and progress

despite deliberate efforts to rejuvenate the economy (Ohiomu, 2020). It is based on the above background, this study analyses the effect of external debt on Nigeria's economic growth from 1981 – 2023, and determined policy roadmap that will enable decision makers calibrate various policy options to attain economic growth and development.

## **2. Literature Review**

### **2.1 Conceptual Review**

#### **2.1.1 Gross Domestic Product**

According to Investopedia, (2022a) GDP denotes the aggregate financial value of all finished products and services produced within a nation within a designated timeframe. GDP serves as an essential metric for measuring economic strength of a country. Similarly, the International Monetary Fund (IMF, 2022) argues that GDP quantifies the pecuniary worth of finished services and products—those purchased by end consumers—manufactured inside a country within a certain era. It comprises all economic output generated inside a nation's borders, including market-based goods and services, as well as government-provided services such as defense and education. Gross domestic product is a country's total financial or commercial worth of all the commodities and services manufactured within that country's confines during a particular period (Tamplin, 2022).

#### **2.1.2 Eternal Debt**

Focus Economics (2019), external debt refers to the total financial obligations a nation is indebted to international lenders. The lenders may encompass international monetary institutes like the World Bank and the International Monetary Fund (IMF), in addition to foreign nations, notably those of China, the United States, and Japan. Merriam-Webster (2019) describes debt service as the total annual payments for interest and sinking fund contributions related to long-term debt. Similarly, Business Dictionary (2022b) explains it as the repayment of both principal and interest by a debtor nation to creditor nations for outstanding debt. Debt service is generally categorized into two types: planned debt service and actual debt service. Planned debt service refers to recurring repayments, comprising both principal and interest that are due to be paid throughout the course of a debt commitment. In contrast, actual servicing of debts consists of the payments that are effectively made to fulfil a debt responsibility, encompassing interest, principal and some penalties for late payment (IMF, 2003). Thus, debt service refers to the total amount that a borrowing country must repay to a lending country over the duration of a loan, including interest, principal and associated costs.

#### **2.1.3 Exchange Rate**

The exchange rate is the price at which the currency of one nation can be traded for that of another is known as the exchange rate. In other terms, it indicates the value of one currency in comparison to another (O'Sullivan & Steven, 2003). Exchange rates are generally classified into two types: the nominal effective exchange rate (NEER) and the real effective exchange rate (REER). According to Investopedia (2022b), NEER is an unadjusted measure that does not account for differences in inflation between the home country and its trading partners. In contrast, REER is an adjusted measure that compensates for inflation rate variations between the home country and its trading partners. Unlike nominal exchange rates, which are determined for individual currency pairs, the Nominal Effective Exchange Rate (NEER) is represented by a single value, usually an index that reflects the overall strength of a domestic currency relative to multiple

foreign currencies. In a floating exchange rate system, NEER appreciates when the domestic currency gains value against a basket of other currencies. Conversely, when the domestic money weakens against this basket, NEER depreciates. The nominal exchange rates indicate how much domestic currency is needed to buy one unit of a particular foreign currency, while real exchange rates are determined by dividing international price levels by domestic price levels and using the current nominal exchange rate to convert foreign price levels into domestic currency (Czech National Bank, 2022).

## **2.2 Theoretical Literature**

### **2.2.1 Theory of Overhang Debt**

Debt overhang defines by Myers, (1979) is a state where a borrower's debt burden becomes so overwhelming that they are unable to secure further funds for upcoming initiatives, even if those initiatives become lucrative enough to finally reduce their debt. This condition discourages investment in new ventures, as any returns generated would primarily benefit existing creditors, thereby reducing the debtor's motivation to alleviate their financial burden. Debt overhang for sovereign governments happens when a nation's overall debt outstrips its projected ability to pay back it in future period. In 1988, Krugman contends that the overhang debt theory underlines the potential that a nation's liability may exceed its future repayment capacity. As a result, projected debt-service commitments discourage both domestic and international investment, as the anticipated returns on productive investment projects become insufficient to maintain economic growth. This is because a major part of any future economic benefits would predominantly benefit creditor nations rather than the indebted one.

### **2.2.2 The Classical Debt Theory**

Classical economists advocated for a "Laissez-Faire" approach, emphasizing minimal government intervention in economic affairs. They believed the state's primary roles should be maintaining domestic rules and regulations, protecting against foreign threats, and overseeing certain public infrastructure. According to their perspective, the economy naturally operates at full employment, with unimpeded market movement of manufacturing components and perfect competitiveness. Consequently, they claimed that government interference was unnecessary, as any economic disruptions would be corrected through the market's self-adjustment mechanism, ultimately restoring equilibrium. Moreover, the government does not need to rely on public debt to fund unproductive expenditures. If the money supply remains constant, any funds borrowed by the government would come at the expense of private firms, hindering their investment and employment decisions. This, in turn, could reduce capital stock and slow economic growth (Ohiomu, 2020).

### **2.2.3 The Keynesian Debt Theory**

The Economic misfortunes that gave birth to the great depression of 1930s sprung the increase for current theory of government debt. The common belief that persistent imbalanced budgets develops public debt, can undermine the financial viability of countries at a relatively slow percentage, paved the way for Keynesian doctrine. Keynesian economists believe that sizeable public liability should be considered as a nation's wealth opposed to a burden and that persistent deficit expenditure is vital for encouraging economic growth. Keynes challenged the classical economists' belief that the economy naturally attains full employment through the "invisible hand," asserting instead when there are idle resources the private sector cannot utilize, government intervention through deficit financing can put them to productive use. He

claimed that rise in public liability, through its multiplier effect, would ultimately contribute to a gain in national revenue. He linked public borrowing to deficit financing and concurred that the government ought to borrow so as to boost optimum demand in the economy, which will raise output and employment (Ohiomu, 2020).

### **2.3 Empirical Review**

Several researches revealed that external borrowing negatively impacts economic growth, supporting the debt overhang theory, for instance Jaradat (2019) identified a negative and significant link between external debt and Jordan's economic growth. Similarly, Rauf and Khan (2017) investigated that foreign debt had a substantial negative impact on Pakistan's economy using the ARDL estimation technique. Ezekiel and Ekiti (2020) used VECM analysis and confirmed that external debt negatively affected Nigeria's economic progress in short and long term. Ohiomu (2020) similarly highlighted that foreign borrowing and crowding-out effects reduced investment levels, adversely impacting Nigeria's economic growth. Additionally, Onafowora (2017) applied the SVAR model and demonstrated that external liability shocks had prolonged harmful effects on Nigeria's economy and investment.

Other studies emphasized mixed effects of external debt, particularly regarding debt servicing and domestic debt. Wirtschaft & Onyinyechi (2019) found using ARDL that while foreign debt negatively impacted Nigeria's economic development, debt servicing had a positive effect. Similarly, the ARDL estimates by Muhammad (2022) indicates that external debt servicing negatively affected long-term economic growth. Yusuf & Mohd (2021) found that debt from foreign sources impeded long-run growth but had short-term benefits, whereas domestic debt had a positive long-term impact but a negative short-term effect. Internal debt had a positive and significant effect, external debt, despite its negative impact, was not statistically significant (Didia & Ayokunle, 2020).

Some research suggested external debt could positively influence economic growth under specific conditions, for example Saeed and Mohamed (2019) found that Sudan's external debt-to-exports ratio positively influenced economic growth, though other factors such as exchange rates and foreign direct investment had adverse effects. Also, Chukwujekwu (2021) discovered that external loan stock and government capital spending had a beneficial impact on Nigeria's economic performance, while external debt service costs were insignificant. Similarly, Efuntade and Adegboyo (2020) also established that external borrowing and foreign direct investment contributed positively to economic growth, whereas national debt and government spending had negative effects. These findings indicate that while external debt generally constrains growth, its impact depends on macroeconomic conditions and fiscal policies.

### **2.4 Gaps in the Literature**

The gaps in the literature identified by this study are in two folds, firstly, based on the literature reviewed, studies carried out in Nigeria (see, Chukwujekwu, (2021); Efuntade & Adegboyo, (2020); Didia & Ayokunle, (2020); Muhammad & Studies, (2022); Onafowora, (2017); Favour et al., (2017); and Yusuf, Mohd, Yusuf, & Mohd, (2021)) and other studies conducted in the rest of the world (see, Dar, (2017); Rauf & Khan, (2017); and Saeed & Mohamed, (2019)) among other studies only used time series data spanning within the range of 1969 to 2018, and analyzed the effect of foreign debt on economic growth. However, in this study, we used the extended version of the data from 1981 to 2023 and determined the relationship

between external borrowing and economic growth in Nigeria, considering the different patterns in the most recent version's data set, which is the main gap found in earlier studies.

Secondly, from methodological view point, studies like Chukwujekwu, (2021); Efunade & Adegboyo, (2020); Didia & Ayokunle, (2020); Muhammad & Studies, (2022); Favour et al., (2017); and Yusuf, Mohd, Yusuf, & Mohd, (2021); Debt, (2019); Rauf & Khan, (2017); and Saeed & Mohamed, (2019) used ARDL, VECM, ECM and OLS models respectively and examined the effect of foreign borrowing on economic expansion. This study in contrast employed the use of Vector Autoregressive (VAR) Model and determined how past historical values of the endogenous variables could impact value of the current endogenous variable, economic growth, thus this also serves as a gap identified from the past literature.

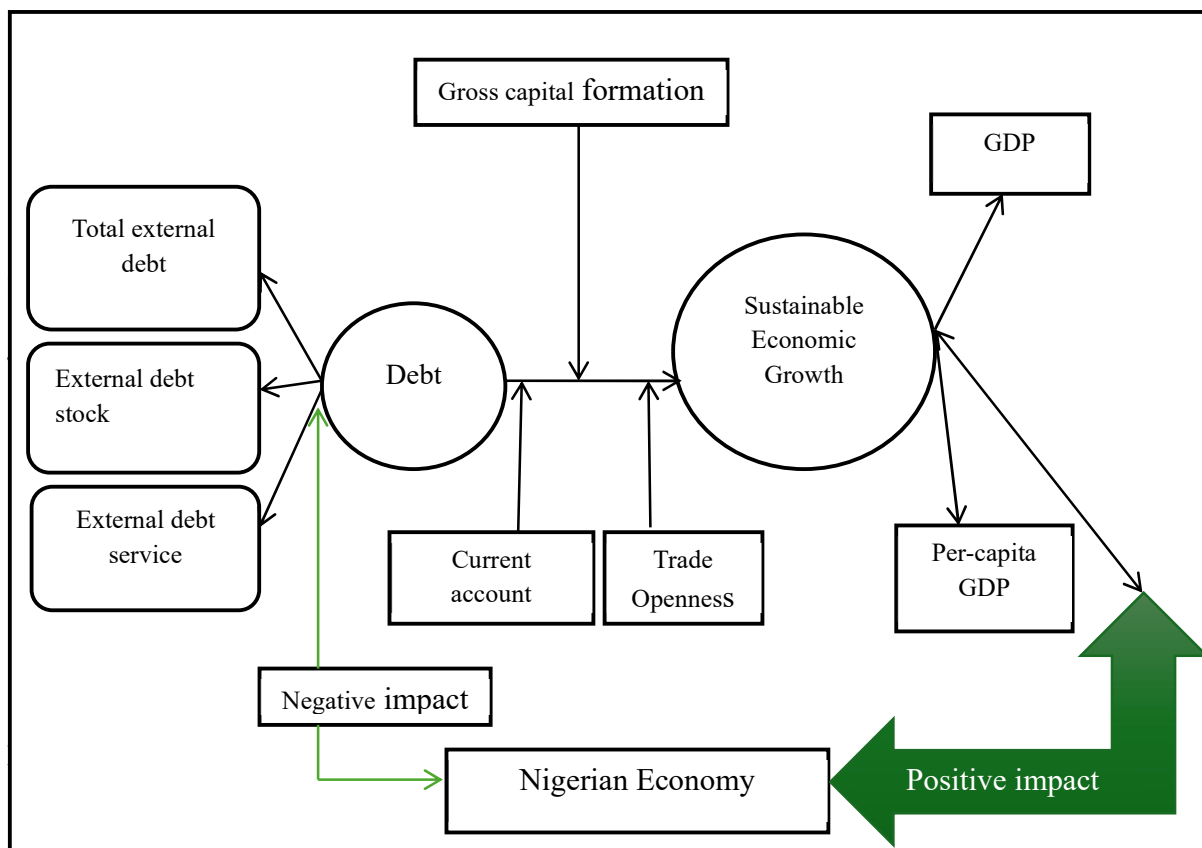
### 3. Methodology

#### 3.1 Research Design

This study uses a causal research strategy to attain its purpose. Causal analysis helps to study the impact of one factor on another (Kothari, 2004). This matches with this research, which attempts to determine the influence of foreign borrowing on Nigeria's economic growth. Also, this study used published data from 1981 to 2023, and the analytical techniques adopted for the research is Vector autoregressive model (VAR) so as to accomplish the objective of the study.

#### 3.2 Theoretical Framework

The overhang debt theory was utilized in this paper and the framework used this study is adapted from Qureshi & Liaqat, (2020). The framework used this study is adapted from Qureshi and Liaqat, (2020), to enable us scrutinize the economic impact of external borrowing on Nigeria's economy using established data from 1981 – 2023.



### 3.3 Data Sources

This study employs the use secondary data spanning from 1981 – 2023 obtained from the CBN’s statistical bulletins and World Development Indicators (WDI), and examine the economic influence of Nigeria’s foreign debt on economic growth.

### 3.4 Pre-estimation Tests

The data obtained for this study were subjected to pre-estimation tests of trend analyses, stationarity test (Augmented Dickey Fuller [ADF]), and cointegration test and determined the levels at which the series were integrated, the long or short term relationships that exist among the variables and the causal effects of each variable on another. Hence, based on the pre-estimation results, knowledge of which model will best suit the model will unfold for data estimation/analysis.

### 3.5 Estimation Technique

The Vector Autoregressive (VAR) model was employed in this paper, following the guidance of pre-estimation tests, which indicated that the entire variables of interest in the model were stationary after taking the first difference i.e. I(1) and there was no long-run relationship existed among them. According to Sims (1980), the VAR model was developed as a standard tool for analyzing how macroeconomic variables respond to structural shocks. It is effectively deemed more than intricate simultaneous models in forecasting the shock impacts of different random dynamics (impulses) on model variables while remaining non-restrictive in its assumptions. Furthermore, the VAR model accounts for interactions between variables by treating all of them as endogenous, each variable expressed as a function of its lagged values and lagged values of other variables in the model (Sims, 1980).

### 3.6 Model Specification

$$LRGDP_t = \lambda + \sum_{n=1}^k \gamma_n LRGDP_{t-n} + \sum_{j=1}^k \phi_j LDEBSERV_{t-j} + \sum_{i=1}^k \beta_i LEXDEB_{t-i} + \sum_{m=1}^k \varphi_m LEXRATE_{t-m} + u_{1t} \quad (1)$$

$$LDEBSERV_t = \sigma + \sum_{n=1}^k \gamma_n LRGDP_{t-n} + \sum_{j=1}^k \phi_j LDEBSERV_{t-j} + \sum_{i=1}^k \beta_i LEXDEB_{t-i} + \sum_{m=1}^k \varphi_m LEXRATE_{t-m} + u_{2t} \quad (2)$$

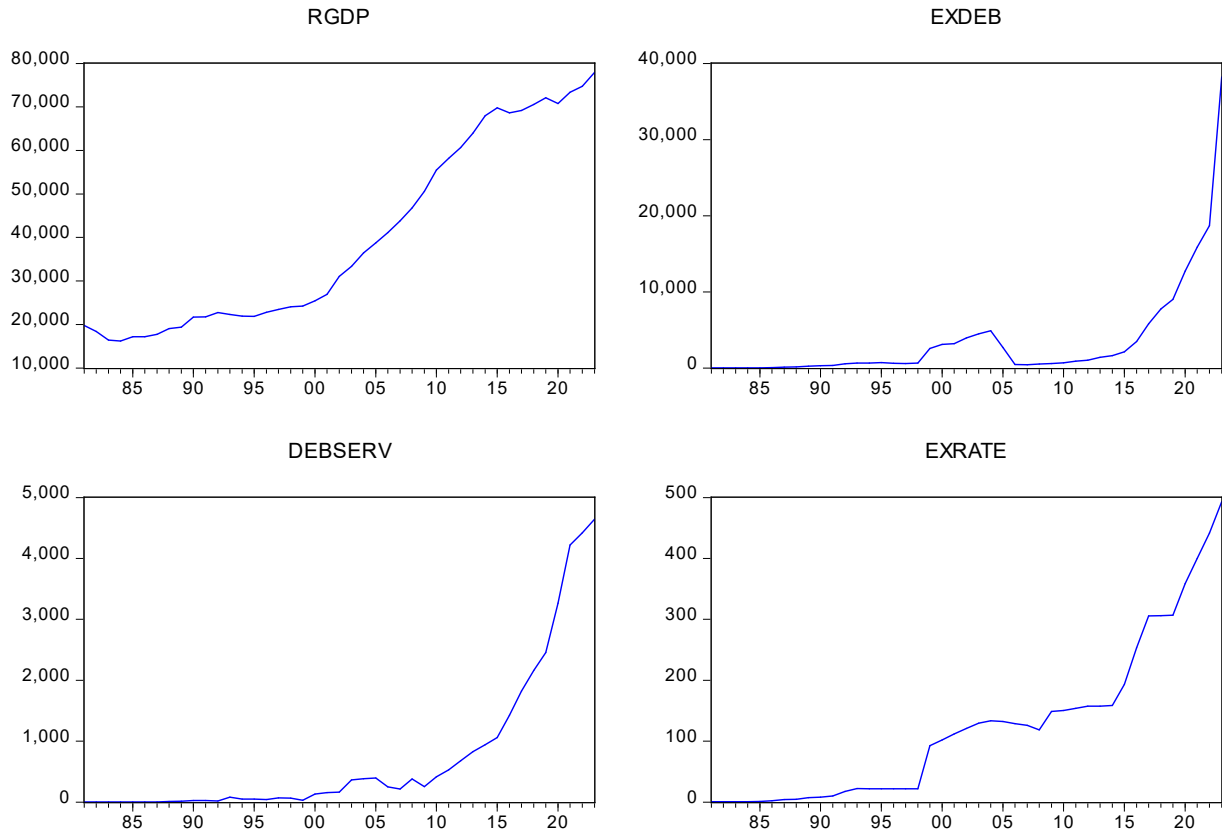
$$LEXDEB_t = \alpha + \sum_{n=1}^k \gamma_n LRGDP_{t-n} + \sum_{j=1}^k \phi_j LDEBSERV_{t-j} + \sum_{i=1}^k \beta_i LEXDEB_{t-i} + \sum_{m=1}^k \varphi_m LEXRATE_{t-m} + u_{3t} \quad (3)$$

$$LEXRAT_t = \vartheta + \sum_{n=1}^k \gamma_n LRGDP_{t-n} + \sum_{j=1}^k \phi_j LDEBSERV_{t-j} + \sum_{i=1}^k \beta_i LEXDEB_{t-i} + \sum_{m=1}^k \varphi_m LEXRATE_{t-m} + u_{4t} \quad (4)$$

- $LRGDP_t$  = log of RGDP at time  $t$ ,  $LEXDEB_t$  = external debt log at periods  $t$ ,  $LDEBSERV_t$  = log of Debt service at time  $t$ , and  $LEXRATE_t$  = log of Real Exchange rate at period  $t$ .
- $\lambda$ ,  $\alpha$ ,  $\sigma$ , and  $\vartheta$  are constants,  $\gamma_n$ ,  $\beta_i$ ,  $\phi_j$ , and  $\varphi_m$  are parameters,  $k$  is maximum lag length, while  $u_{it}$  are impulses or random terms in the model.
- From the equation (1) to (4) above, we formed structural equations in the system, and all the dependent variables ( $LRGDP_t$ ,  $LEXDEB_t$ ,  $LDEBSERV_t$ , and  $LEXRATE_t$ ) are determined by their past values as well as the historic values of every other variable in the model.

## 4. Presentation of Results and Discussions

### 4.1 Trend Analyses



**Figure 1:** Trend Analyses

Source: Authors' Draft, 2024

The above figure 1 shows that from 1983 to 1992 Nigeria has been witnessing increase in economic growth until 1994 through 1995 that the growth slightly declined, but from 1996 to 2014 to 2018, there was rapid economic growth experienced. In contrast between 2019 and 2020 the country witnessed waning economic growth and this could be attributed to the global pandemic of Covid-19, afterward, the economy continued a steady growth till 2023. On the other hand, figure 1 also shows that, from 1981 to 1994 Nigeria has been facing increase in external debt stock until 1997 where it slightly falls, from 1997 the debt stock rose through 2004 but declined in 2006. However, the external debt stock steadily rose from 2006 to 2014, and from 2015 the external debt exponentially increased to date. Again, figure 1 shows that, from 1981 to 1990 Nigeria has been recording rise in her external debt service, from 1990 to 1992 the debt service slightly falls, it then later rose in 1993, it falls, rose and falls between 1994, 1995 and 1996. Again, the external debt service rose and falls between 1997 through 1999. But from 2000 to date, Nigeria's external debt service has been increasing geometrically. Similarly, figure 1 depicts that the Nigeria's real exchange rate has been volatily increasing over time.

### 4.2 Unit root Tests

**Table 1. Unit Root Test Results (Augmented Dickey Fuller)**

Variables	Levels			First Difference			Order of Integration
	ADF t-statistics	Critical Values	P-values	ADF t-statistics	Critical Values	P-values	
RGDP	-0.925	-3.606* -2.937** -2.607*** -3.601*	0.770	-4.102	-3.601* -2.935** -2.606*** -3.601*	0.003	I (1)
EXDEB	-1.070	-2.935** -2.606*** -3.601*	0.719	-4.918	-2.935** -2.606*** -3.601*	0.000	I (1)
DEBSERV	-1.28	-2.935** -2.606*** -3.597*	0.631	-8.352	-2.935** -2.606*** -3.601*	0.000	I (1)
EXRATE	-2.192	-2.933** -2.605***	0.212	-5.502	-2.935** -2.606***	0.000	I (1)

**Source:** Estimated by Author, 2024. **Note:** Critical values at 1%, 5% and 10% are represented by \*, \*\*, and \*\*\* respectively.

The Augmented Dickey Fuller unit root test presented in table 1 above, based on the test result, all the variables were not stationary at levels after comparing with the ADF statistics. Furthermore, it was observed that all the series become stationary after first transformation (difference) that is, the series were integrated at I(1) and this result pave way for us to further subject the series for cointegration test in order to know the suitable model for estimation.

### 4.3 Cointegration Tests

In this sub-section, the cointegration test enable us to establish the fact whether long-run relationship exist among the variables or not, given that in our stationarity test all the series were integrated at first difference.

**Table 2. Johansen Cointegration Test Results**

Cointegration Rank Test (Trace)				
Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistics	Critical Value	Prob**
None	0.356	37.129	40.175	0.098
At most 1	0.245	19.062	24.276	0.198
At most 2	0.147	7.545	12.321	0.274
At most 3	0.025	1.031	4.130	0.360
Cointegration Rank Test (Maximum Eigenvalue)				
Hypothesized		Max-Eigen	0.05	
No. of CE(s)	Eigenvalue	Statistics	Critical Value	Prob**
None	0.356	18.066	24.159	0.269
At most 1	0.245	11.517	17.797	0.339
At most 2	0.147	6.514	11.225	0.295
At most 3	0.025	1.031	4.130	0.360

**Source:** Estimated by Author, 2024

Table 2 above shows the Johansen cointegration test results for both trace and maximum eigenvalue statistics. The trace statistics indicates no long-run association at 0.05 percent level of significance, as all the coefficient of the trace statistics are less than their corresponding critical values meaning that long-run relationship doesn't exist among the series, yielding to the acceptance of null hypothesis which suggest that there is no cointegration if T-statistic is lower than critical value. Also, the Max-eigenvalue reveals that there is no long-run relationship at 0.05 percent level of significance, as all the coefficient of the Max-eigenvalues are less than their corresponding critical values meaning that long-term association doesn't occur among the variables, leading to the acceptance of null hypothesis which suggest that there is no cointegration if Max-eigenvalue is less than critical value.

#### 4.4 Optimum Lag Order Selection

**Table 3. Selection Criterion for Lag Lengths**

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-138.996	NA	0.0150	7.150	7.319	7.211
1	80.453	384.037*	5.75e-07	-3.023*	-2.178*	-2.717*
2	95.773	23.746	6.11e-07	-2.989	-1.469	-2.439
3	110.832	20.329	6.84e-07	-2.942	-0.746	-2.148

**Source:** Estimated by Author, 2024

Table 3 above shows the best lag criteria choosing for the model indicated that one (1) lag was the optimum lag selected for the model in order to avoid the problem of model under specification. Because many lags could lead to loss of the degree of freedom with statistically insignificant coefficients due to the presence of multicollinearity, and few lags may lead to specification errors.

#### 4.5 VAR Estimated Result for Equation One

**Table 4. VAR Estimates**

Variables	Coefficients	Standard Error	t-statistics	p-values
C	-0009	0.442	-0.022	0.982
RGDP(-1)	1.006	0.045	22.319	0.000
EXDEB(-1)	-0.002	0.010	-0.180	0.857
DEBSERV(-1)	-0.016	0.018	-0.873	0.384
EXRATE(-1)	0.064	0.032	2.018	0.046

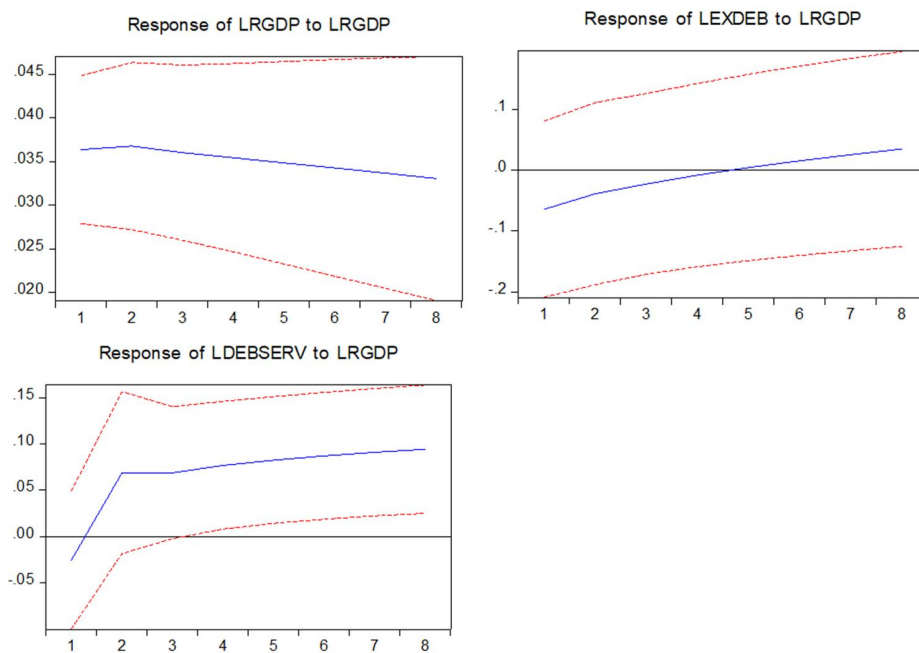
**Source:** Estimated by Author, 2024. Note: *RGDPD* (Endogenous)

Table 4 depicts the VAR estimates for equation (1), where RGDP is modelled as a function of its historical values and the lagged values of other variables in the system. The parameter of the first lagged value of the of real gross domestic product (RGDP[-1]) is significantly positive, indicating that a unit increase in RGDP(-1) leads to a 1.005784 increase in RGDP. Conversely, the coefficient of the first lagged value of external debt (EXDEB[-1]) is negative and statistically insignificant, implying that an increase in EXDEB(-1) reduces LR GDP by 0.001817. Similarly, the first lagged value of debt service (DEBSERV[-1]) also has a negative and insignificant effect on LR GDP, meaning that an increase in (DEBSERV[-1]) decreases LR GDP by 0.015863. However, the coefficient of the first lagged value of the real exchange rate (EXRATE[-1]) is positive but statistically insignificant, suggesting that a unit increase in EXRATE(-1) leads to a 0.063724 increase in RGDP. Our findings of external borrowing having negative influence on

economic growth corroborate the findings of Onafowora, (2017); Muhammad & Studies, (2022); Jaradat, (2019); and Favour et al., (2017), however, the findings invalidate the findings of Saeed & Mohamed, (2019); Chukwujekwu, (2021); Didia & Ayokunle, (2020); and Efuntade & Adegboyo, (2020) where in their studies the established that external borrowing has positive influence on economic expansion.

#### 4.6 Impulse Response Function

Response to Cholesky One S.D. (d.f. Adjusted) Innovations  $\pm 2$  S. E.



**Figure 2:** Impulse Response Function. **Source:** Author’s Draft, 2024

Figure 2 above displays how a shock to RGDP affects itself (RGDP) over time. The initial response is positive and relatively strong, indicating that a one standard deviation increase in RGDP leads to a statistically significant increase in RGDP, however it gradually decreases but remains positive over the 8 periods horizon. This suggests a self-reinforcing effect that weakens over time but does not turn negative. Also, figure 2 depicts how a shock to external debt (EXDEB) impacts RGDP. The response is negative and significant, implying that an increase in external debt leads to a decline in RGDP. The negative impact appears to grow stronger and more pronounced over time, suggesting that external debt shocks have a cumulative adverse effect on economic growth. Lastly, shows the effect of a shock to debt service (DEBSERV) on RGDP. Initially, the response is slightly negative but quickly turns positive and increases over time. This indicates that a shock in debt service initially has a mild adverse effect, but over time, it transitions to a positive influence on RGDP. This behaviour might reflect a scenario where higher debt service payments, while initially constraining, could lead to economic adjustments that boost growth.

#### 5. Conclusion and Recommendations

The influence of external debt on Nigeria’s economic expansion was analysed in this paper, in order to validate or invalidate the already existing argument on the nexus between external borrowing and economic growth. Consequently, this study established that external borrowing exerts negative and insignificant

consequence on economic growth in Nigeria, this reaffirms the argument that external borrowing leads to debt overhang and negatively impact the economy because, significant part of income generated through economic growth will be channeled to service debt, instead to pump it into the economy (increase supply) and meet up the corresponding increase in aggregate demand. Thus, from findings of this study, we recommend that decision makers should implement suitable mechanisms towards guaranteeing adequate management of external debts; governments should make sure that incurred national loans are channeled towards investment-driven initiatives in the country, through constant supervision and review. In addition, the government should implement appropriate debt management measures, improve the business atmosphere via legislation, allocate foreign loans to infrastructure development, and replace external borrowing with investing in human capital. It is also recommended that government should embark on policies that stimulate foreign direct investment in the country so as to reduce excessive reliance on external debt.

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