Effect of Public Debt Servicing on Economic Growth in Nigeria

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Abstract:
This study evaluated the effect of public debt servicing on the economic growth of Nigeria using external debt servicing and domestic debt servicing as explanatory variables. The gross domestic product is the explained variable of the model. The study used time series research design and collected data from CBN statistical bulletin for the period, 1982 to 2023. The study conducted the Descriptive statistics, stationarity and co-integration tests and found out that the variables were stationary in mix order and had long-run relationship. The study therefore adopted the autoregressive distributed lag model for analysis. The findings suggest that external and domestic debt servicing have significant effects on economic growth for the period examined. The study recommended the re-negotiation of externally sourced debts so as to reduce accumulated interest outstanding as paying less from the foreign reserve will reduce the negative effect which the external debt servicing has on the Nigerian economy. It was further recommended that domestic debt service requirement should not be allowed to increase above a certain percentage of the gross domestic product in order to reduce the incidence of debt over-hang on the economy. Furthermore, domestic debt should be devoted to infrastructure development only.

Keywords: Public debt servicing, external debt servicing, domestic debt servicing, economic growth.

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1. INTRODUCTION

The economic goals of every nation are to ensure economic growth, full employment, price stability and favourable balance of payments. In Nigeria, these objectives are enshrined in Section 16 of the 1999 constitution as the promotion of national prosperity, promotion of a balanced economy, provision of needs of citizens and harnessing resources in a bid to ensure economic growth. A country's economic growth rate is the most important macroeconomic variable reflecting the economy's overall performance because it results from the production of more goods and services, which leads to improved output and employment. Economic growth happens when there is a combination of more educated and efficient workforce; more infrastructure or facilities; increased use of new technology; efficient markets to allocate resources and the rule of law to enforce contracts (Ndubuisi, 2017). Economic growth is a major determinant of the quality of life of the citizens of a country.

Many developing and emerging countries globally, face paucity of capital to meet their desired economic growth requirements largely owing to their low domestic output of goods and services and inadequate taxable capacity. Governments resort to borrowing from outside the country to bridge the resource gap. Basically, debt servicing is concerned with the cost of meeting interest payments and regular contractual repayments of principal on a loan along with any administration charges borne by the borrower (Uma et al., 2019). The resort to borrowing by government, thus stems from its inability to generate enough revenue internally, a situation that was made worse by shocks from the COVID-19 pandemic, insecurity, climate change and other related natural disasters. Most of the states still depend on federal allocations to fund their budgets, as their internally generated revenue remains perennially weak. Unfortunately, with the dwindling revenue of the Federal Government, the situation is getting worse by the day.

Countries borrow to promote economic growth and development, by creating a conducive environment for people to invest in various sectors of their economies. Tamunonimim (2018) posits that the specific reasons for which countries may borrow include: to finance their reoccurring budget deficit as a means of deepening their financial markets; to fund the increasing government expenditures, and to enhance narrow revenue sources and low productivity which result in poor economic growth. Public debt

is used as a vital tool by the government to control exchange rate, inflation, among others, because it forms a major part of the total credit supply of the economy.

Reports from the Debt Management Office (DMO) shows that the total public debt stock rose from ₦42.84 trillion in the second quarter to ₦44.06 trillion in the third quarter of 2023, indicating a 2.85% increase quarter-on-quarter, while the country acquired a ₦1.22 trillion debt within three months. In a breakdown, the DMO said the total public debt stock consists of domestic debt of ₦26.92 trillion and external debt of ₦17.15 trillion. This total public debt stock comprises the total domestic and external debt stock of the Federal Government of Nigeria, the governments of all states in the federation, and the Federal Capital Territory stood at ₦44.06 trillion (DMO, 2023).

The appropriateness of public borrowing depends on the purpose for which the fund will be used and the conditions the funds are subjected to. Sulaiman and Azeez (2022) posit that government sometimes borrows internally to fund capital expenditure programmes. This study used external and domestic debt to form part of the model. There are many publications issued on GDP per capita and its relationships with population, land area, transparency score, transparency ranking etc. The publications have been scanned to see if the findings of this study are in conformity with the literature in this field. GDP per capita being the (dependent variable) in this study and its relationship with external debt, domestic debt and total debt (the independent variables) were analyzed to see if it would be a supporting study article in this field.

The oil boom era of the 1970s coincided with the formulation of Nigeria's second development plan of 1970-1974. The oil boom provided the financial resources required to implement the development plan. This period further ushered in large scale public expenditure by different tiers of government. During this period, the Nigeria economy witnessed a tremendous increase in public expenditure in the provision of basic and social infrastructure. But with the collapse of oil prices in the 1980s and its consequences on public expenditure, Nigeria faced serious financial challenges and downward trend in government revenue. The situation was so serious that the government had to resort to external borrowing to finance public expenditure (Nwamuo & Agu, 2021). This structural deficiency already associated with the economy in terms of the pattern and trends of production, consumption and exchange rate of the Nigerian currency, serves as a barrier

to the country's growth in most of its vital sectors. In the effort to sustain the current level of consumption and investment trends, massive importation of commodities continues unabated, far exceeding exports resulting in fiscal imbalances. The government may resort to public borrowing to reduce the fiscal imbalance caused by the pattern and trends of production and consumption.

There has been increased concern regarding prudential use of borrowed fund and the management of public debt. The country's debt profile is also growing at an exponential rate while the economy seems to be experiencing little or no growth. As such, there is fear that the debt burden has overgrown a manageable level, thereby inhibiting growth as large sums of money are diverted from productive sectors of the economy such as education, health, power and communications, agriculture, and mining to service debts which may not have been used productively. This study therefore evaluates the effects of public debt servicing on economic growth in Nigeria using the explanatory variables of external debt servicing and domestic debt servicing as determinants of economic growth.

1.2 The specific objectives of the study are to:

    (i)   Evaluate the effect of external debt servicing on the gross domestic product of Nigeria.

    (ii)   Determine the effect of domestic debt servicing on the gross domestic product of Nigeria.

1.3 Hypotheses of the Study are:

Ho_1: External debt servicing has no significant effect on the gross domestic product of Nigeria.

Ho_2: Domestic debt servicing has no significant effect on the gross domestic product of Nigeria.

The rest of the study is structured as follows: literature review which encompasses conceptual, empirical and theoretical literature; methodology, results and discussions, and conclusion and recommendations.

2. LITERATURE REVIEW

2. 1 Public Debt Servicing

Debt service is the amount needed to cover the repayment of principal and payment of interest on a loan for a particular period. It is a contractually fixed charge on domestic real income and savings. As the size of debt grows, or as interest rate rises, debt service charge increases. Public debt services payment is done only with the export earnings, curtailed import, or with further external borrowing. Thus, if export earning diminishes, debt-service difficulties are likely to arise. International Monetary Fund (IMF) (2003) defines debt service as the payments required to be made in respect of both principal and interest for an existing loan. Debt service is the amount of interest and sinking fund payments due annually on long-term debt. In similar lines, Adesola (2019) posited debt servicing as the cash that is required for a particular time period to cover the repayment of interest and principal on a debt. He further noted that debt servicing results to acute decline in the standard of living, gross social and economic overhead depreciation, high external dependence, currency depreciation, balance of payment disequilibrium, exchange rate depreciation and rising inflationary rate.

Damian and Chukwunonso (2014) defined debt servicing as the regular payment of installments of loans taken by a country from domestic and external sources. An installment includes interest on debt and a part of the principal. For servicing debt, a country or corporate organization should have those timely cash flows. If a country is unable to honour its debt service obligations due to the absence of required funds, the country is said to be unable to service her debt. This variable is expected to be inversely related with economic growth. This is because the higher the amount of money required to service the current of domestic and foreign debts, the lesser would be the amount of funds available for provision of qualitative and quantitative economic growth.

2.1.1 External Debt Servicing

External debt servicing refers to the proportion of external debt to be paid in a certain period composed of the sum of principal installments and interests. It could be further described as debt service on foreign loans in form of the sum of principal repayments and interest actually paid in currency, goods, or services on long-term debt, interest paid on short-term debt, and repayments (repurchases and charges) (Ibrahim

and Danjuma, 2024). Essien (2024) explained that external debt service payment is the accrued debt and interest repayments for a specified time period. External debt service payment refers to reimbursements made to offset both the principal and interest earned on external loans for a given period of time. Debt service payments are usually paid to non-residents, foreign firms, international financial institutions and governments for outstanding business transactions in foreign currency.

2.1.2 Domestic Debt Servicing

Domestic debt servicing is the payment of principal and interest components of an outstanding loan as and when due to lenders within the country (Choong et al., 2020). In Nigeria, the proportion of interest payments in total debt service has been high in absolute terms and it is still on the increase. Interest payments constitute a major cause of concern in the country's debt servicing difficulties. Domestic debt service is the amount of cash required to make principal repayment and interest payment on loan for a defined period of time.

Debt service has some negative effects on economy as it causes distortions in an economy, hindering investments and economic growth (Barik, 2018). Debt service payments can negatively affect productivity growth by crowding out public investment. This is supported by Fosu (1996) (cited in Omodero, 2019), who argued that the opportunity cost of public debt service is the neglect of the health and education sectors which are productive sectors of the economy. Large public debt servicing payments put pressure on the government to either borrow more from local financial institutions thereby over-crowding the private sector or raise tax levels to get out of the public debt trap. However, increased internal borrowing deprives private investors of the much-needed funds for investment.

2.2 Economic Growth

Economic growth may be described as the sustained increase in the rate of increase in domestic output above population growth: that is, a rise in per capita income. According to Mukui (2014), economic growth is the rise in the productive capacity of an economy, compared periodically. Economic growth is expressed in nominal terms where it is not adjusted for inflation and also expressed in real terms where it is adjusted for inflation. Economic growth is an increase in the capacity of an economy to produce goods

and services, compared from one period of time to another (Ndubuisi, 2017). It is the key policy objective of any government. It is described as the positive and sustained increase in aggregate goods and services produced in an economy within a given time period (Kasidi & Said, 2018).

When measured with the population of a given country, then economic growth can be stated in terms of per capita income according to which the aggregate production of goods and services in a given year is divided by the population of the country in the given period. Economic growth can also be stated in nominal terms which include inflation or in real terms which are adjusted for inflation. Uwakaeme (2015) notes that economic growth, proxied by Gross Domestic Product (GDP) is noticed with the rise in the general standard of living of the populace as measured by per capita national income, making income distribution easier to achieve, and enhancing the time frame for meeting the basic needs of man to a substantial majority of the populace. With this in place, there will be development and improvement in the operations of the state which will incidentally provide enhanced standard of living of the citizenry and create an enabling environment for investment and further development.

2.3 Empirical Review

Essien (2024) evaluated public debt service payments and its effect on economic growth in Nigeria. The specific objectives of this study were to determine the effect of foreign debt servicing on GDP, and to examine the effect of domestic debt servicing on GDP. The study modeled foreign debt service and domestic debt service payments as determinants of economic growth. The study used GDP as its explained variable and adopted the time series approach for its research design. The research period covered was 2005 to 2021. The study conducted the Descriptive statistics, correlations analysis, and stationarity test and adopted the ordinary least squares (OLS) for its analysis. Findings revealed that both foreign debt servicing and domestic debt servicing have a significant effect on GDP. The study concluded that debt servicing in Nigeria be managed with utmost sincerity to stimulate economic growth. This current study adds value by extending the period covered in Essien's study.

Ibrahim and Danjuma (2024) evaluated the effects of national debt on economic growth for the period 2000 to 2023. The study utilizes the quantitative method of

research where the required study data were collected from published reports of the International Monetary Fund (IMF) and the World Development Indicator of the World Bank from 2000 to 2023. The collected data was analyzed using descriptive statistics, Regression, and correlation techniques of analysis. The study found that national debt has a negative and significant influence on the economic growth of Nigeria for the period under review. In this current study, debt servicing provides additional light on the effect of debts on the growth of GDP in Nigeria.

Osobase et al (2023) evaluated the contribution of external debt to economic growth in Nigeria, using data from 1981 to 2020. This study explored the relationship between external debt and economic growth in Nigeria. The macroeconomic variables utilized are economic growth measured using real gross domestic product while the explanatory variables are total external debt, debt servicing, gross fixed capital formation and inflation rate. The main econometric tools are the Autoregressive Distributed Lag Model (ARDL) estimate and Granger causality tests. The ARDL results indicate that total external debt, gross fixed capital formation and inflation rate have a negative significant nexus with economic growth in the short-run but insignificant direct effect in the long-run period. Furthermore, the Granger causality test unveiled bidirectional causation between external debt and real gross domestic product. However, the study period of this research is not very current. Moreover, the study added gross fixed capital formation and inflation which are not directly related to debt as determinants of economic growth in its model.

Akujor et al. (2022) determined the effect of external and domestic debt servicing on per capita income of Nigerians. Secondary data were sourced from Central Bank of Nigeria (CBN) Statistical Bulletin and Debt Management Office (DMO) from 2001 to 2020 (period of 20 years). The statistical tool used for data analysis was multiple regression method. The result of test of the hypothesis revealed that debt (external and domestic) servicing has an insignificant effect on per capital income in Nigeria in the short-run, while in the long-run debt (external and domestic) servicing has a significant effect on per capital income in Nigeria.

Efuntade, et al. (2021) examined debt service and its impact on economic growth in Nigeria. It specifically examined the impact of debt servicing on economic growth using

its role on public sector financial management as a mediating factor. The study was predicated on dependency theory, Keynesian theory and neoclassic theory. Secondary data source was explored in presenting the facts of the situation. The secondary data were obtained from the Debt Management Office which covered the period of 30 years spanning from 1990-2020. Data collated were analyzed using both descriptive and covariance estimate method of analysis. The findings revealed among other things that there was presence of co-integration (long-run relationship) among the dependent and all the explanatory variables which is a clear indication that working debt servicing has positive and significant impact on economic growth of the country both in short and long run if properly managed. It was concluded that debt servicing has significant impact on the economic growth due to its positive relationship with gross domestic product, while exchange rate reflected a negative significant relation to gross domestic product. However, the recommendation did not speak in line with the findings and the topic, which is debt servicing and economic growth, rather the study made recommendation on internal debt and external debt.

Omodero (2019) examined the effect of foreign debt and debt servicing on the economic growth of Nigeria. Data for the study were collected from the World Bank and Central Bank of Nigeria Statistical Bulletin. The variables on which data are sourced include nominal gross domestic product, foreign debt stock, foreign debt servicing, inflation rate, and exchange rate. Nominal gross domestic product is the dependent variable while foreign debt stock and foreign debt servicing are the major explanatory variables. Inflation and exchange rates are used as the control variables. The scope of the study covers the period from 1997 to 2017 and data are analyzed using the ordinary least squares regression technique. The regression results indicate that foreign debt exerts a significant negative effect on economic growth while foreign debt servicing has a strong and significant positive effect on economic growth. The other factors are insignificant in explaining economic growth under this scenario. However, it is noticed that the study used OLS regression for analysis without testing for stationarity and co-integration tests. The results obtained from the analysis may be spurious.

Ndemange (2018) examined the effect of foreign debt service on GDP in Kenya through savings and capital formation transmission channel. The first specific objective

of this study is what is the effect of external debt servicing on Kenya's capital formation? The second objective is, what is the effect of external debt servicing on gross domestic growth in Kenya? Longitudinal research design was adopted where time series data on external debt, capital formation was analyzed. Time series properties of the data was checked in terms of stationary tests, and the standard diagnostic tests of regression including the unit root and co-integration tests. Regression of capital formation on lagged debt service was carried out which indicated negative relationship between the two variables. Regression of gross domestic product on labour and predicted capital was done, and the result is that debt service affects gross domestic product negatively through its effect on capital formation. The study however, was done in a different economy and its findings may not be relevant to Nigeria due to differences in macroeconomic fundamentals.

2.4 Theoretical framework

2.4.1 The Debt Overhang Theory

The debt overhang theory suggests that if a country is highly indebted to the extent that the debt is more than its repayment capacity, debt service will strangulate investments and hinder economic growth (Gordon & Cosim, 2018). Debt overhang is a circumstance where the debt burden is so huge that a country cannot secure further debts to finance new projects. According to Coccia (2017), the theory posits that public debt and public debt servicing impact economic growth by making debt repayment a priority rather than other expenditure. According to the theory, excessive public borrowing has a dual effect on the domestic economy. The first is the crowding out effect, and the second is the increase in interest rate. High interest payment obligation can raise a country's budget shortfall. Huge debt service will hamper growth by reducing public resources available for productive spending to stimulate growth (Yusuf & Mohammed, 2021). The Debt-Overhang theory underpins this study.

3. RESEARCH METHODOLOGY

The study adopted the ex post facto research design. Data were collected from the CBN statistical bulletin for the period 1982 to 2023.

The study was guided by the following multiple model:

$$GDP_t = \beta_0 + \beta_1 EDS_{t-1} + \beta_2 DDS_{t-2} + U_t$$

Where:

GDP=Gross Domestic Product, β_0 =Constant, EDS= External Debt servicing, DDS= Domestic Debt servicing, u_t=Error Terms

Table 1: Measurement of Variables

S/N	Variable	Measurement	Source
Economic Growth	Dependent	Economic growth refers to an increase in the total monetary value of all the finished goods and services in a specific time period	Safia and Shabbir (2009); Rais and Anwar (2012); Agu (2012).
External Debt Servicing	Independent	External debt servicing is the aggregate value of foreign debt servicing paid within the period of the study.	Ndung'u and Ngugi (2000); Sheyin (2015)
Domestic Debt Servicing	Independent	Domestic debt servicing is the total amount in naira of public domestic debt repayment for the period of the study	Abdelmonem and Mohamed (2018); Kibert (2015); Sheyin (2015).

Source: Researchers' compilation, 2024.

4. RESULTS AND DISCUSSION

This section evaluates the statistical properties of variables, method of analysis and test of hypotheses for the variables under study.

Table 2: Descriptive Statistics

	GDP	EXDS	DDS
Mean	40874.27	187.4374	473.5442
Median	9766.840	53.68435	152.9259
Maximum	9766.840	1251.465	2974.596
Minimum	137.9300	0.386800	0.268700
Std. Dev.	54909.44	308.7144	712.4391
Skewness	1.311554	2.264829	1.774571
Kurtosis	3.588844	7.230631	5.491153
Jarque-Bera	12.64801	67.22805	32.90394
Probability	0.001793	0.000100	0.000002
Observations	42	42	42

Source: E-views computation, 2024

The above table shows the statistical properties of the explained and explanatory variables of the study. The average of GDP, external debt servicing and domestic debt servicing are ₦40874.27, ₦187.4374 and ₦473.5442 respectively. This indicates that external debt servicing constituted about 39.5 percent of domestic debt servicing for the period under review.

The maximum and minimum values of GDP for the period are ₦9766.840 and ₦137.9300 respectively. The range between the maximum and minimum values of GDP is 9,766.840. The maximum value of external debt servicing is greater than its minimum value by ₦1,251.0782, while the maximum value of domestic debt servicing is greater than its minimum value by ₦2,974.3273. This indicates that GDP has the highest range of values in the data set.

The Jarque-bera statistics indicates the normality of data distribution, while the probabilities for the variables in the Descriptive statistics suggest that the data are not normally distributed as they are less than 0.05 percent.

Table 3: Correlation Analysis

	GDP	DD	EXTD
GDP	1		
EXDS	0.5685	1	
DDS	0.6324	0.6033	1

Source: E-views computation, 2024

The table 3 shows the relatedness of the variables in the model, with values above 70 indicating multi-collinearity. None of the variables has a coefficient above 70 in the Correlations table.

Table 4: Unit Root Test Summary

Augmented Dickey-Fuller Unit Root Test Table 3: Augmented Dickey-Fuller Unit Root Test

	At Level			At First Difference			
Variable	ADF Test Stat @ %	Critical Value	Prob-Value	ADF Test Stat @ %	Critical Value	Prob-Value	Order of Integration
GDP	-3.203163	6.306105	1.0000	-2.935042	2.487970	1.00	1(1)
EXDS	-3.020970	-2.91184	1.0000				1(0)
DDS	-2.928787	-2.93772	0.9801				1(0)

Source: E-views computation, 2024

The null hypothesis that GDP has a unit root is accepted at level. However, GDP became stationary at first difference. Domestic debt and external debt were stationary at level, thereby providing the basis for testing the long-run co-movement among the time series.

Table 5: Co-integration Result

Unrestricted Co-integration Rank Test (Trace)				
Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.783015	148.3693	69.81889	0.0000
At most 1	0.352276	21.64571	15.49471	0.0052
At most 2	0.101341	4.274062	3.841465	0.0387
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.783015	61.11707	33.87687	0.0000
At most 1	0.352276	17.37165	14.26460	0.0156
At most 2	0.101341	4.274062	3.841465	0.0387

Source: E-views computation, 2024

Findings from the co-integration result suggest that there is long-run relationship among external debt servicing, domestic debt servicing and economic growth in Nigeria as revealed by the probability values (of At most 1 and At most 2 of the Trace statistic and Maximum Eigen).

Table 6: Long-run Estimation

Cointegrating Eq	CointEq1
LGDP(-1)	1.000000
LEXDS(-1)	2.001881
	(0.36883)
	[5.42765]
LDMDS(-1)	-0.820959
	(0.48879)
	[-1.67956]
C	-0.260895

Source: E-views computation, 2024

From the long run estimation, it is observed that external debt servicing has a significant and positive effect on economic growth of Nigeria in the long run. This could be based on the huge amounts of debt forgiveness the Nigerian government has received which is evident in the period of the study. These funds may have been used to finance productive sectors of the economy to stimulate growth.

Domestic debt servicing has an_insignificant effect on economic growth. Furthermore, domestic debt servicing has a negative effect on economic of Nigeria as seen from the coefficient of -0.820959 and corresponding t-value of -1.67956 which is less 1.97 threshold (incomplete sentence). In the long run, servicing debt may become a serious liability as it causes distortions in an economy which hinders investment and economic growth as debt service payments can negatively affect productivity growth by crowding out public investment. High debt service costs will hamper growth by reducing the public resources available for productive spending to stimulate growth

Table 7: Vector Error Correction Model

Vector Error Correction Estimates
Standard errors in ( ) & t-statistics in [ ]

Error Correction:	D(LGDP)	D(LEXTDS)	D(LDMBS)
CointEq1	-0.344702	-0.289734	0.080314
	(0.01223)	(0.07093)	(0.07821)
	[-2.83748]	[-4.08451]	[1.02692]
D(LEXD(-1))	-0.164684	-0.312380	0.469344
	(0.03731)	(0.33240)	(0.36648)
	[-2.87365]	[-0.93978]	[1.28067]
D(LEXD(-2))	-0.110981	-0.113055	-0.045133
	(0.04018)	(0.23306)	(0.25696)
	[-2.76196]	[-0.48509]	[-0.17564]
D(LDMD(-1))	0.237442	-0.375157	0.303347
	(0.07621)	(0.44205)	(0.48738)
	[3.11550]	[-0.84867]	[0.62240]
D(LDMD(-2))	0.244311	-0.197240	-0.687305
	(0.08870)	(0.51447)	(0.56722)
	[2.75439]	[-0.38339]	[-1.21170]
D(LEXTDS(-1))	0.094129	0.034842	0.001237
	(0.02478)	(0.14370)	(0.15844)
	[3.79935]	[0.24247]	[0.00781]
D(LEXTDS(-2))	-0.027873	-0.150693	0.243322
	(0.02282)	(0.13237)	(0.14595)
	[2.22128]	[-1.13839]	[1.66718]
D(LDMDS(-1))	0.072959	-0.274194	-0.238334
	(0.03186)	(0.18478)	(0.20373)
	[2.29012]	[-1.48387]	[-1.16984]
D(LDMDS(-2))	0.081718	-0.146140	-0.091740
	(0.03367)	(0.19528)	(0.21530)
	[2.42723]	[-0.74838]	[-0.42610]
C	0.020196	0.408747	0.076050
	(0.01702)	(0.09869)	(0.10881)
	[1.18691]	[4.14155]	[0.69889]
R-squared	0.730970	0.692314	0.200246
Adj. R-squared	0.621365	0.566960	-0.125580
Sum sq. resids	0.024612	0.828004	1.006533
S.E. equation	0.030192	0.175119	0.193078
F-statistic	6.669143	5.522880	0.614579
Log likelihood	88.33877	19.78121	15.97388
Akaike AIC	-3.914809	-0.399037	-0.203789
Schwarz SC	-3.402944	0.112828	0.308076
Mean dependent	0.079315	0.086339	0.097406
S.D. dependent	0.049066	0.266116	0.181988

Source: E-views computation, 2024

The estimated coefficient of the vector error correction model above is 0.344702. This implies that CointEq1 is the speed of adjustment towards equilibrium at the rate of thirty-four (34%) per cent annually. The negative sign implies that there is co-integration among the variables. The negative significant vector is an indication that the vector is statistically significant. This means that there is short run causality running between external debt, domestic debt, external debt servicing and domestic debt servicing and economic growth in Nigeria. The import of this findings is that 34% of the previous year's disequilibrium in economy growth is corrected in the short run which implies that adjustment of the deviation of the explanatory variable back to normality is relatively low.

Furthermore, the R-squared shows a very high variability in economic growth accounted for by the explanatory variables; external debts, domestic debts, external debt servicing and domestic debt servicing. This means that these highlighted variables are important in predicting the level of economic growth with 73% variability. The F-Statistic coefficient of 6.669143 is greater than the t-value of 1.97 confidence level suggesting that the model is fit for this study. The log-likelihood value of a regression model is a way to measure the goodness of fit for a model. The higher the value of the log-likelihood, the better a model fits a dataset. The log-likelihood value for a given model can range from negative infinity to positive infinity. From this result, it can be seen that the log-likelihood stands at a value of 88.33877 which is considered high and indicates that the model is fit around the data set.

4.1 Test of Hypotheses

From the result, it can be seen that external debt servicing has a positive coefficient of 0.094129 at lag 1 and a negative coefficient of -0.0278 at lag 2. This means the effect of debt servicing on economic growth range from positive to negative depending on the data generating process of Nigeria. The import of this outcome is that a percentage increase in the value of debt servicing will lead to both an increase and a decrease in the value of Nigerian's gross domestic product while holding external debt, domestic debt and domestic debt servicing constant. However, the t-values at both lags are greater than 1.97

and as such it can be inferred that in the short run, external debt servicing has a significant effect on economic growth in Nigeria. Given the significant level, the study did not validate the hypothesis which states that external debt has no significant effect on economic growth in Nigeria. These finding align with the "debt overhang theory" under which debt service becomes so burdensome that a large proportion of the budget is paid out to external creditors. This situation is aggravated by resultant capital flight, extreme poverty, deplorable standards of living, and diminishing growth. This finding aligns with Ochuko and Idowu (2019) Sempala, et al. (2019) and but contradicts Efuntade, et al. (2021); Ndemange (2018).

The study also found that in the short run, domestic debt servicing has a positive and significant effect on economic growth in Nigeria. This is evidenced by the coefficient of 0.0729 and 0.0817 and a corresponding t-value of 2.2901 and 2.4272 which is found to be greater than 1.97 threshold. This implies that a percentage increase in domestic debt servicing will lead to an increase in economic growth of Nigeria in the short run while holding external debt, domestic debt and external debt servicing. Thus, the study did not validate the second hypothesis which states that domestic debt servicing has no significant effect on economic growth in Nigeria. This finding aligns with findings from the works of Abula and Ben (2016); Okwu, et.al (2016) and contradicts Omodero (2019); Ndemange (2018).

5. CONCLUSION AND RECOMMENDATIONS

This study evaluated the effects of public debt servicing on economic growth in Nigeria using external and domestic debt service payments as explanatory variables determining economic growth in Nigeria. Findings from the study suggest that external debt servicing significantly affects the economic growth of Nigeria negatively, as debt

burden weighed heavily on the economy, birthing consequences such as high inflation, unemployment, the majority of the population living in poverty and corruption. Domestic debt service on the other hand had a better effect on economic growth as debt service payments are made to residents and firms domiciled in Nigeria and may be used to finance consumption and production of goods and services, leading to increment in the growth level. However, debt service generally shifts public expenditure away from important social services such as healthcare and education.

Based on the findings and conclusion, the following recommendations are made;

(i)   This study recommends that the Nigerian government should re-negotiate externally sourced debts so as to reduce accumulated interest outstanding as paying less from the foreign reserve will reduce the negative effect external debt service has on the Nigerian economy.

(ii)   The study recommends that domestic debt service requirement should not be allowed to increase above a certain percentage of the gross domestic product in order to reduce the incidence of debt over-hang on the economy. Furthermore, domestic debt should be devoted to infrastructure development only.

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