

Does Government Debt Affect Economic Growth in Nigeria? A Short and Long Run Assessment

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Abstract

This study employed secondary data from the Central Bank of Nigeria and Nigeria's statistical bulletin to investigate the impact of domestic debt on the economic growth of Nigeria for the period 20 years (2003-2022). The study uses Gross Domestic Product (GDP) as the dependent variable to measure the Nigerian economic growth; whereas, the domestic debt data include debts through Treasury bills, Treasury bonds and FGN bonds as the independent variables. Three hypotheses were tested using Johansen cointegration test and Error Correction model. The study reveals that total domestic debt has consistently increased over the years. The result of the cointegration test reveals that there is a long-run equilibrium relationship between domestic debts and GDP. The ECM result reveals that all the independent variables- Treasury bills, Treasury bond and FGN Bond have an insignificant but positive impact with the growth of Nigerian economy in the short run. The study concluded that the relationship between economic growth and the domestic debt is positive. Based on the outcome of the findings, the study recommended that the government should encourage policies to improve the public participation in the subscription of domestic debt instruments to ensure these variables continue to impact economic growth positively. Also, the positive impact of domestic debt on economic growth, government should channel their effort towards avenues that will boost internally generated funds and lessen the continuous borrowing as it could have a detrimental effect on macroeconomic growth in the long run.

Keywords: economic growth, debt, treasury bill, treasury bonds



INTRODUCTION

The debt structure of a country affects individual citizens, institutions of government, privately owned corporate organizations like banks and consequently the economy at large. Debts are incurred by the government through domestic and foreign borrowing, which implies that a country's debt can be either internal or external. While the external debt is disaggregated into multilateral, bilateral and commercial debts, the domestic debt comprises banking sector debt, non-bank public debt and Central Bank of Nigeria debt - Ways and means advances (Ajayi & Edewusi, 2020; Nneka & Dambatta, 2021). But any way the method of borrowing is, it is carried out for the purpose of growing the economy, sustaining development and ultimately improving the standard of living of citizens (Oji & John, 2022).

Our focus in this study is domestic (national) debt. Domestic debt plays a vital role in an economy because it provides economic agents with an alternative option to banking, for them to allocate their savings accordingly (Ngereboa-A, 2014). It is a part of the total government debt in a country which is owed to lenders within the country. It refers to the funds borrowed by the government from various sources within the country (Nwinee & Torbira, 2012). It is seen as all claims against the government that is held by the private sector of an economy. According to Babu, Symon, Aquilars, and Mose (2015) it is debt owed to holders of Government securities such as treasury bills, treasury certificates, treasury bonds, etc. John (2016) opined that the government of Nigeria usually borrows domestically by issuing its financial securities such as government bonds and bills. This type of government debt is denominated in the local currency (Yusuf & Mohd, 2021).

Furthermore, the instruments which the government issues to its lenders are majorly used as collateral in the financial markets and as such it plays a vital role in monetary policy implementation. As earlier stated, domestic debt is incurred by government through the issuance of some financial instruments which includes treasury certificates, treasury bills, treasury bonds, development stock, promissory note, the green bond of Federal Government of Nigeria (FGN), and the recently introduced FGN Sukuk (CBN, 2019). These instruments are tradable in the secondary market. That is, a person who holds any of them can exchange such for a valuable e.g. money, shares, etc., in the secondary market. Okunronmu (2012) states that Nigeria's domestic debt shows that treasury bills constitute the main component of government domestic debt.

The government of Nigeria borrows domestically in the hope to put such funds on a faster route to economic development through increased investments, increased employment, poverty reduction, increased standard of living, etc. Therefore, the aim of

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government domestic debt is to bring about the country's economic growth and development. Ngerebo-A (2014) and Muhammad et al. (2020) states that it plays a very important role in the economy. However, over the years, Nigeria's domestic debt has greatly increased (Okonjo-Iweala, 2011) while most of the indicators of economic growth and development are yet to be seen within its economy, even though in recent times the government often resort to domestic borrowing as a way of financing its budget deficit, implementing monetary policy, etc (Yusuf & Mohd, 2021). Domestic debt has been accelerating both in loans and service cost (Asolu, Akinadawo, & Oyedoku, 2020).

The increasing dependence on domestic debt by developing economies could be attributed to inadequate revenue being generated from tax, largely because of the low tax base of these economies and sometimes inefficient tax administration. Naturally, governments resort to internal borrowing in order to manage the deficits in their budgets as they seek to improve the socio-economic conditions of their citizens. Okwu, Obiwuru, Obiako, & Oluwalaiye, (2019) states that internal borrowing by the government from the CBN amounts to the injection of high-powered money into the system, which has serious adverse implications on price and exchange rate stability. Hence, Ogunbiyi and Okunlola (2015) opined that in Nigeria domestic debt is always increasing without a corresponding tangible real sector growth.

Theoretically, debt is regarded as growth-enhancing tool when it is used on viable and productive projects (Nwani, 2019; Spilioti & Vamvoukas, 2015; Kobayashi, 2015). Other Scholars view debt as a catalyst for economic retardation due to its crowding out effect on private investment, encouraging capital flight and discouraging capital formation (Boccia, 2013 and Nneka & Dambatta, 2021). From the foregoing, it can be clearly seen that there is an existence of conflict in literature with regard to how domestic debt affects the economy of Nigeria (see, John (2016), Muhammad et al (2020), Yusuf and Mohd (2021), Asaolu et al. (2020), Nneka & Dambatta (2021). Hence, this study is motivated by these conflicting opinions obtained from literature as we intend to answer the questions to what extent does government domestic debt affects the growth of Nigeria's economy for the period 2003 to 2022.

THEORETICAL AND EMPIRICAL REVIEW

The theoretical framework of this study is anchored on Keynesian theory of public debt. The theory explains the situation that prevails in most developing economies such as Nigeria. Keynes assumed that if there were unemployed resources which the private sector could not employ, the resources can be put to use by unbalancing the budget. This

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is typically the practice in Nigeria as government taps from domestic sources to fund deficit year-in-year -out. Keynes held the view that increase in public debt through the multiple effects would raise the national income.

In order to empirically investigate domestic debt on the economic growth of Nigeria, the following studies were reviewed. Oji and John (2022) empirically investigated the effect of domestic debt and the growth of Nigeria's economy for the period of 1980 to 2020. The study is based on the crowding-out hypothesis. To achieve its objectives treasury bills, treasury certificates, and treasury bonds were used as a proxy for domestic debt which constitutes the study's independent variables. Also, gross domestic product (GDP) was used as a proxy for Nigeria's economy which forms the study's dependent variable. Secondary data sourced from the Central Bank of Nigeria (CBN) statistical bulletin was made use of. Multi-linear regression was adopted in the study. While the Ordinary Least Square (OLS) approach was used to carry out a short-run analysis, the Johansen cointegration test was used to carry out a long-run analysis. The statistical result shows that in the short-run domestic debt largely determines economic growth in Nigeria. Also, the obtained result reveals a long-run relationship between domestic debt and the growth of Nigeria's economy.

Yusuf and Mohd (2021) examined how Nigeria's government debt affects its economy using data for the periods 1980 to 2018, with the technique of ARDL. In their result, they found out that domestic debt significantly and positively impacted on economic growth within the long-run and had a negative impact on the economy within the short-run. Hameed, Batool, and Hussain (2020) in their study, where they researched on domestic debt dynamics with implications on some Asian countries' economic growth with the aid of some panel data for the period of 1990 to 2020. ARDL technique was employed to for the investigation of both long-run and short-run relationship. They found negative relationship between domestic debt and economic growth both in the long-run and short-run.

Maithreerathna, Asanka, Chamika, and Athula (2019) used Structural Vector Auto Regression (SVAR) approach to assess the impact of debt on economic growth in Sri Lanka between 1960 and 2016 and the study confirmed that based on the analysis, the domestic public debt has a negative and significant linear relationship with GDP growth in Sri Lanka. The study recommended that responsible government officials should pursue some alternative strategies to augment resource gaps, such as the budget deficit and saving investment gap, without borrowing from domestic or external sources. Thus, the country should promote public private partnerships (PPPs) and foreign direct

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investment (FDI) instead of loans. The study, however, did not disaggregate the domestic public debt into various components with a view to determining the effect of each source of debt. Another drawback of this study is that it was not carried out in Nigeria.

Ibrahim and Khan (2019) examined the long-run relationship between domestic public debt and the fiscal policy of economic growth in Nigeria from the period from 1981 to 2013 using Autoregressive Distributed Lag (ARDL) approach and the Bounds Test. The results revealed that domestic public debt has a positive effect on the economic growth in Nigeria. The main issue with this study is that the gap from the end period of the scope of the study (2013) and the time of conducting the research (2019) was six years. Within this six-year period a lot of economic activities might have taken place, which if captured in the analysis, the finding of the study might have been different.

Idowu, Sanni, Akpan, Ekeocha, Ikenna-Ononugbo, Penzin, Musa, Golit, Ajala, Ibi and Opiah (2018) used Structural Vector Autoregressive (SVAR) model to analyse the dynamics of government borrowing and its Implications for macroeconomic stability and growth in Nigeria from 1991Q1-2016Q4. The study concluded that domestic borrowing had a detrimental effect on macroeconomic growth thereby recommending that government should place less emphasis on domestic borrowing. One of the pitfalls of this study is that the time frame of the study did not capture the year 2017 despite the fact that the data was available. Further, the paper mainly dwelled on aligning fiscal and monetary policy objectives (by reducing the level of domestic debt) rather than looking at debt management objectives and the existing debt management framework which emphasise 60:40 ratio in favour of domestic debt

Lotto and Mmari (2018) examined the effect of domestic debt on economic growth in Tanzania from 1990 to 2015 by applying OLS regression technique. The study revealed an inverse but insignificant relationship between domestic debt and the economic growth of Tanzania. The study recommended that the government should not only create good policies to lure investment from foreign and domestic sources but about the kind of investments that the foreign investors make should be a priority. As the study used annual time series data, the number of observations is not adequate (at least 30) to run a meaningful and robust analysis using econometric technique.

Ozolina, Alfred and Kormay (2017) carried out a study that covered the period 1970 to 2015 with a view to assessing the impact of domestic debt on economic growth in Sierra Leone within the framework of ARDL. The regression results of the model showed that both in the short and long runs domestic debt exerts negative impact on economic growth. The study also found that investment and private sector credit are crowded out

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above the ratio of 20 percent of domestic debt to GDP and recommended that the government of Sierra Leone should aim at reducing the level of domestic debt as well as improve efficiency by applying domestic loans for productive projects - investment growth and promoting development in the financial sector. For more robust and up to date analysis, the study should have captured data for the year 2015.

Uchenna et al (2017) investigated the effect of external debt on economic growth in Nigeria and if external borrowings and its major determinants like exchange rate, gross fixed capital formation and inflation rate have supported the growth of the Nigerian economy. The parameters of the model were estimated using the ordinary least squares method. The robustness of the result was enhanced using the generalized least squares technique. The result indicated there was evidence of significant positive correlation between economic growth and the explanatory variables namely external debt, inflation rate and exchange rate. A negative correlation was however observed between economic growth and gross fixed capital formation. The regression estimates for both the ordinary and generalized least squares tests show significant positive impact of external debt, exchange rate and inflation rate on economic growth. The results also show non-significant negative effect of gross fixed capital formation on economic growth. The study observed that the external debt has significantly promoted economic growth in Nigeria.

Bakare et al (2016) investigated the relationship between Gross Domestic Product, interest rate, domestic debt, budget deficit and domestic credit to private sector by employing the Ordinary Least Square Regression (OLS) technique. The paper revealed a positive relationship between domestic debt and economic growth. The work recommended that there is distinctive knowledge that lies in thumb- the conceptual and empirical linkages between gross domestic product, domestic debt, interest rate, domestic credit to private sector and budget deficit. Hence the linkages strengthen our understanding about various interpretations which have shaped the workability of the variables both in theory and practice.

Omotosho, Bawa, & Doguwa, (2016) investigated the existence of threshold effects in the relationship between public debt and economic growth in Nigeria using quarterly data. Generally, they founded empirical support for an inverted U-shape relationship between public debt types and economic growth. For total public debt as percentage of GDP, model results identified a threshold level of 73.70 per cent, while the estimated inflexion points for external and domestic debts were 49.4 and 30.9 per cent, respectively. Therefore, the implication of the finding was that debt accumulation in excess of the estimated threshold levels could hurt economic growth. A retrospective examination of

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the country's total and external debts profile indicated that the estimated threshold levels were exceeded prior to the debt forgiveness negotiated in 2005 and largely within limits afterwards. Also, the study founded empirical support for external debt accumulation opportunities, however, they caution that such additional debt incurrence be done in a manner that is consistent with the country's growth objectives.

Mbah, Godwin and Agu (2016) investigated the impact of external debt on economic growth of Nigeria using the ARDL bound testing approach, cointegration and error correction models for the periods 1970 – 2013. In addition, the Granger causality test was also used to check for the direction of causality among the variables. The result of the study indicated a long-run relationship among the variables and external debt impacts negatively significant on output. The study also established a unidirectional causality between external debt and economic growth. Consequently, the study recommended that government should imbibe the habit of savings and formulate policies that will attract foreign exchange that could help in financing developmental projects instead of resolving to borrowing.

Babu, Symon, Aquilars, and Mose (2015), explored the effect of domestic debt, as a share of Gross Domestic Product (GDP), on economic growth in the East Africa Community (EAC) over the period 1990-2010. This study was based on the Solow growth model augmented for debt. Levin-Lin-Chu test (LLC) was used to investigate the properties of the data with respect to Unit roots. The Hausman specification test was used to select the panel fixed-effects model, which was corrected for heteroscedasticity. The results show that domestic debt has a positive significant effect on per capita GDP growth rate in the EAC. The policy implication is to promote sustainable levels of domestic borrowing to enhance growth.

Ajide, (2014) investigated the role of Frazer Economic Freedom Index on FDI-growth relationship over the period spanning 1980 through 2010 using annual time series data. A Multivariate Regression approach was employed to estimate augmented growth models. Quite intriguingly, the impact of disaggregated economic freedom over aggregated composite index was found profoundly revealing. Emanated results show that the same set of variables like labour, life expectancy, degree of openness and economic freedom are factors affecting the level of economic growth in both but at different levels of significance. However, the estimates of disaggregated components of economic freedom data show that the size of government (negative effects) and freedom to trade internationally (positive effects) appears as significant out of five variables making the composite (aggregated) index. The following are therefore suggested for policy

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applications: curbing unfettered liberalization in the degree of openness, improving and strengthening of the components of economic freedom index, specifically, through reduction in excessive government intervention and those more budgetary allocations should be channelled towards health delivery schemes and education promoting activities since the likelihood of elongating life expectancy is in tandem with such exercises.

Mba, Yuni, and Chukwuedo (2013) analysed the importance of domestic debt on economic growth of Nigeria. The study investigated the relationship between government domestic debt and economic growth and policy that is likely to improve private sector investment and break growth and development resistance problem. The study empirically determined the relationship between domestic debt and some macroeconomic variables; they employed the error correction model procedures following an examination of properties of the time series using unit root and co-integration test. The result shows that domestic debt and credit have a significant and direct relationship with GDP and that debt servicing has inverse relationship with GDP and also government expenditure has a direct but not significant relationship with GDP. The implication of the findings concluded that domestic debt should be invested in productive sector of the economy and more specifically in the real sector and further productivity gain will be achieved in the improvement on capital project expenditure in Nigeria.

Umaru, Hamidu, and Musa (2013) focused their study on investigating the relationship between external debt, domestic debt, and economic growth. They further investigated the impact of these variables on economic growth. The study utilized a data set between 1970 and 2010 using the OLS estimation and the Granger causality test after logging variables such as GDP and external and domestic debt. The data was equally subjected to the unit root, integration test, and error correction test mechanism, and the long-run relationship between the variables was determined. The results showed bi-directional causation between external debt and GDP, although there is no causation between domestic debt and GDP. The results did not suggest causation between external and domestic debt. The OLS approach suggested a negative impact of external debt on GDP and positive impact of domestic debt on economic growth.

Egbetunde (2012) examined the direction of the causality of public debt in Nigeria between 1970 and 2010 using the Granger causality in a VAR model and domestic and external debt variables. He observed the presence of a long-run co-integrating relationship with economic growth. The model may be inadequate, as it fails in relaying the interplay and role of several key economic fiscal variables in the system, such as



financial deepening and the capital market that may affect the economic policy recommendations.

Onyeiwu (2012) examined the relationship between domestic debt and economic growth in Nigeria. The Ordinary Least Squares Method (OLS), Error Correction and parsimonious models was used to analyze the study data. The result shows that the domestic debt holding of government was far above a healthy threshold of 35 percent of bank deposit as the average over the period of study was 114.98 percent of bank deposit presenting evidence of crowding out of private investments. The study therefore recommended that Government should maintain a debt- bank deposit ratio below 35 percent, resort to increase use of tax revenue to finance her projects and divest itself of all projects the private sector can handle while providing enabling environment for private sector investors such as subsidies, tax holidays, guarantees and most importantly improved infrastructure.

Ajayi and Oke (2012) investigated the effect of the external debt burden on economic growth and development of Nigeria. The study adopted the OLS regression analysis on secondary data sourced from CBN, Economic and Financial review, Business times, Financial Standard and relevant publication from Nigeria on variable like National Income, External Reserves, Debt Service Payment, Interest rate among others. The findings of the study show that external debt burden had a negative impact on the nation income and per capital income of the nation. Therefore, high level of external debt can lead to devaluation of the nation currency, increase in retrenchment of workers, poor educational system and continuous industrial strike. This can have led to the economy of Nigeria getting depressed. Based on the finding the study suggested that debt service obligation should not be allowed to rise above foreign exchange earnings therefore the loan contracted should be invested in profitable venture, which will generate a reasonable amount of money for debt repayment in subsequence time.

Amassoma (2011) conducted a study on the period between 1970 and 2009, with the variables being stationary at first difference. The author applied the cointegration test, which indicated the absence of co-integration between domestic debt and economic growth. With regard to external debt, it indicated the presence of co-integration with economic growth. The findings of the VAR model suggested a bi-directional causality between domestic debt and economic growth, and the VECM indicated uni-directional causality for external debt and economic growth.

Abbas and Christensen (2007) examined the role of the domestic debt market in economic growth in low-income countries and emerging markets during the period

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between 1975 and 2004. They used panel data, employing dynamic single panel data regression equation and the Granger causality test. The proxy for some variables, due to data paucity, confirmed that moderate levels of mild inflationary domestic debt, in proportion to GDP and bank deposits, have a positive impact on economic growth. The Granger causality supported various routes, such as enhanced monetary policy, deepening of financial market development, institutional accountability, improved private savings, and financial intermediation. It also suggested that beyond a ratio of 35% of bank deposits, the effect will be counterproductive to growth, thereby supporting the issues related to crowding out effect and bank efficiency. In conclusion, they stressed that growth influence of domestic debt increases if it is marketable, promotes positive real interest rates, and is outside the purview of the banking system.

Sheikh, Faridi, and Tariq (2010) asserted that public debt has been a crucial economic issue in the governance of Southern countries. Despite the intense debate on external debt, there is little evidence with regard to domestic debt. The study adopted the OLS technique to investigate the period between 1972 and 2009. The findings indicate that the volume of domestic debt positively affects economic growth in Pakistan. This suggests that the proper and effective use of such resources for the funding of some government expenditures promotes economic growth.

Adofu and Abula (2009) applied the OLS approach to an annual data set in the period between 1986 and 2005 and concluded that the rising domestic debt was a result of several factors, such as high budget deficit, low output, increased government expenditure, high inflation rate, and narrow revenue base. Hence, their results demonstrated that domestic growth impacts economic growth negatively. However, the range of data for the analysis remains questionable, coupled with limited variables in the estimation. Similarly, Muhdi and Sasaki (2009) used the OLS estimation for a short-term series study on Indonesia for the period between 1991 and 2006, which indicated that the build-up in external debt is paramount in overcoming high deficit. This could also translate into a positive impact on investment and economic growth. However, the policy resulted in the depreciation of domestic currency, an upsurge of domestic debt, and the displacement of private investment due to the crowding out effect, consequently leading to a reduction in capital stock and output.

Asogwa (2005) investigating the effect of domestic debt on the economy using a comprehensive technique concluded that domestic government debt in Nigeria has continued to suffer confidence crisis as market participants have consistently shown greater unwillingness to hold longer maturities. The government has only been able to

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issue more of short term debt instrument. Christensen (2004) employed a cross country survey of the role of domestic debt in the sub-Sahara Africa using panel data. He found out that domestic debt markets in these countries are generally small, highly short-term and often have a narrow investor's base. He further informs that domestic debt interest payment presents a significant burden to the budget, despite smaller than external debt. He further revealed that the use of domestic debt on economic growth is also found to have significant crowd out effect on private investment. Oshadami (2006) in her own study concluded that the growth of domestic debt has negatively affected the growth of the Nigerian economy. This is based on the fact that majority of the market participants are unwilling to hold longer maturity and as a result, the government has been able to issue more of short-term debt instruments.

Overall, it is noted from the literature that domestic public debt has effect on a country's growth. Although there are different results as to the effect of debt on growth, the differences may be caused by time period, composition of debt, methodological tools, and location of the study among others.

RESEARCH DESIGN AND METHODOLOGY

The Ex post facto research design was utilized for this study. The Ex-post factor design as selected perfectly fits the purpose of this study in the sense that the research aims at exploring effect - relationship; between the domestic debt and economic growth. In carrying out this study, secondary data covering the period 2003 to 2022 was used. The annual time series debt data was obtained from Central Bank of Nigeria Statistical Bulletin and Debt Management Office Annual Reports as well as National Bureau of Statistics reports for the GDP.

Model specification

Based on the literature survey and the existing empirical evidences on the subject, the models for this study are presented. This model is specified with the formulated hypothesis adapted from the work of Cornelius and Desmond (2022). Thus:

The functional form of the model is:

$$\text{GDP} = f(\text{TBILLS}, \text{TBONDS}, \text{FGBONDS}) \dots\dots\dots (1)$$

The mathematical form of the model is:

Because it is imperative to include the estimation parameters, equation (1) is re-written thus:

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$$GDP_t = a_0 + a_1TBILLSt + a_2TBONDSt + a_3FGBONDSt \dots\dots\dots (2)$$

Where

GDP = Gross domestic product

TBILLS = Treasury bills

TBONDS = Treasury bonds

FGBONDS = Federal government bonds

a_0 = Intercept

a_1, a_2, a_3 = Estimation parameters for the independent variables

e_i = Stochastic error term

From theory, it is expected that the employment of the financial resources (funds), which the government sources through domestic debt, in the Nigerian economy, is expected to give an effect that is greater than zero (0), i.e. $a_1 > 0, a_2 > 0, a_3 > 0$.

Technique of Data Analysis

The method of analysis adopted for the study is the Error Correction Model (ECM) which provides information about the short run relationships as well as the speed of adjustment between the variables. However, the cointegration test will be conducted, if two variables are cointegrated, then they exist a long run relationship which gives credence to run the error correction representation. This method helps in determining the contribution of each component of domestic debt and could be used to predict the behaviour of the dependent variable. Prior to the estimation of the regression line, descriptive analysis was used to describe the behavior of the individual variables over the period under review.

DATA ANALYSIS

Unit root test

Unit root test were conducted to ensure that the series were stationary and check the problem of having a spurious regression. This test will be carried out using Augmented Dickey-Fuller (ADF) to test for the stationarity of all the variables. The test will be carried out at first difference, trend and intercept with two as the maximum lag. The table is but a summary of the result of the analysis done using the EViews 12.0 econometric software. The original and complete result as produced by EViews is provided in the appendix section of the research.



TABLE 1 Augmented Dickey-Fuller – Unit Root Test

Variables	No. of lags	ADF Stat	Prob	Order of integration	Notation
GDP	0	-4.664995	0.0019*	Stationary at first difference	I(1)
TBILLS	0	-2.987225	0.0552*	Stationary at first difference	I(1)
TBONDS	4	-3.0488341	0.0564*	Stationary at second difference	I(2)
FGBONDS	0	-2.937510	0.0506*	Stationary at first difference	I(1)

Source: E-views 12.0 statistical software

The results shown in the table above indicated that the ADF test statistics were greater than the critical values at 1%, 5% and 10% level of significance. GDP, TBILLS, and FGBONDS are stationary at first difference while TBONDS is stationary at second difference. The fact that all the variables were stationary at first and second difference means there exist unit root which is the necessary condition for conducting a cointegration test.

Co-integration Test

The results of stationarity analysis presented in the Table 1 show that all the modeled variables are integrated of same order. Therefore, the study then applies the Johansen cointegration tests to explore the long-run relationships among the variables. The results for Maximum Eigenvalue statistic tests are reported in Table 2.

TABLE 2 Johansen Co-integration Test

Unrestricted Co-integration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	0.05 Critical Value	t-statistics	Prob**
None*	0.889413	39.63523	27.58434	0.0009
At most 1*	0.816310	30.50110	21.13162	0.0018
At most 2*	0.579601	15.59792	14.26460	0.0306

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At most 3*	0.246978	5.105904	3.841465	0.0238
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Source: E-views 12.0 statistical software

The results for trace rank tests indicate the presence of four cointegration vector at 5% level of significance. This result suggests that a cointegration vector exists among the dependent variables (GDP) and all the independent variables (TBILLS, TBONDS and FGBONDS). Therefore, the null hypothesis which states that there is no long run equilibrium relationship between the variables is rejected.

Error Correction Model (ECM)

The result of the Johansen cointegration tests signifies that there exist a long run equilibrium relationships in the model. Therefore the necessary condition for the error correction model was satisfied. Hence the error correction model be carried out since the necessary condition (unit root) is satisfied and the sufficient condition (co-integration) is also satisfied.

TABLE 3 ECM regression result

Dependent Variable: D(GDP(-1)) Method: Least Squares				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	27117.11	18391.86	1.474408	0.1642
D(TBILLS(-1))	9.435882	35.49622	0.265828	0.7945
D(TBONDS(-1))	382.4232	1598.358	0.239260	0.8146
D(FGBONDS(-1))	14.81066	54.74548	0.270537	0.7910
ECM (-1)	-0.747739	0.231829	3.225393	0.0408
R-squared	0.593858	F-statistic		4.752120
Adjusted R-squared	0.468891	Prob(F-statistic)		0.013901

Source: E-views 12.0 statistical software



Considering the result of error correction model (ECM) in the regression equation, we have the econometric equation as $GDP =$

$27117.1 + 9.4358TBILLS + 382.42TBONDS + 14.810FGBONDS$. The signs of the coefficient of the independent variables, indicates that changes in TBILLS, TBONDS and FGBONDS will all have a positive impact on economic growth in Nigeria. Thus, the result shows positive relationship between economic growth and the domestic debt instruments. The P-value (0.0066) of the ECM with a negative coefficient sign shows the existence of short run relationship among the variables. Thus, the coefficient of the error correction term is -0.7477, connotes that the short-run disequilibrium is adjusted by 74.77 percent towards the long-run equilibrium. The P-value of the independent variables indicates that none of the independent variables is having statistical significant impact on the dependent variables (GDP).

Further, the Error Correction Model (ECM) in table 4.5 above shows that the dynamic model is a good fit. This is due to the fact that the variation in the economic growth accounts for 59 percent of the total variation of the domestic debts in the model. Specifically, the R-squared value of 46 percent indicated that the variation in GDP explained by treasury bills (TBILLS), treasury bonds (TBONDS), and Federal government bonds (FGBONDS) is 46 percent. The probability (F-statistic) value of 4.752120 which is statistically significant at 5% level shows that all the variables of domestic debt instruments put together have a statistical significant relationship with economic growth in Nigeria. The Durbin Watson (DW) value of 0.189775 which lies between 0 and 2, indicates that there is absent of autocorrelation among the successive values of the variables in the model. Meaning that the successive values of the error term are serially dependent or correlated

DISCUSSION OF FINDINGS

Having satisfied both the unit root and cointegration test, error correction test was conducted to analyze the short run dynamics of the variables. The P-value (0.0066) of the ECM with a negative coefficient sign shows the existence of short run relationship among the variables. Further, the estimated ECM regression analysis results revealed that TBILLS coefficient result was positive but insignificant implying that a percentage change in treasury bills will cause a corresponding percent increase in economic growth in Nigeria. The positive results are aligned with Cornelius & Desmond (2022) who found a positive and significant impact with the growth of Nigerian economy.



Further the results revealed that there is an insignificant but positive impact of treasury bonds on economic growth in Nigeria. This result is contrary to the apriori expectation that the growth of the economy improves as government issues treasury bonds by increasing the availability, affordability of credit and stimulating demand through public investment. This finding is also in agreement with Cornelius & Desmond (2022) who provided evidence that the bond instruments are mostly issued by the Federal Government of Nigeria with low risk and high return making it consistently subscribed to boost investments and increase economic activities.

Lastly, the ECM result for FGBONDS shows a positive impact on economic growth in Nigeria but was statistically significant. This implies that a percentage change in FGBONDS will cause a corresponding percent increase in economic growth in Nigeria. The results are aligned with Cornelius & Desmond (2022) who observed that most FGN bonds are targeted at drastic infrastructural development leading to corresponding economic growth in Nigeria. The results however, contradict Idowu, et al (2018) who concluded that FGBONDS had a detrimental effect on macroeconomic growth.

CONCLUSION AND RECOMMENDATION

From our empirical analysis, the study employed the unit root test and Johansen cointegration test to examine the long run impact of the variables. From the test conducted, the study concluded that domestic debt have a long run implication on economic growth. Furthermore, the estimated ECM analysis results confirms that a statistical significant relationship is available in the short run. The result further reveals that the treasury bills, treasury bonds and federal government bond exhibited an insignificant impact on economic growth. This means that an increasing rate of domestic debts would have no adverse effect on the economic growth. The result also shows positive relationship between economic growth and the bond instruments. Evidence from the result of the research supports the work of Cornelius & Desmond (2022) that domestic debt is a good and affects the economic growth in no negative way.

From the findings, the study makes the following recommendations for policy and practice:

- i. The study recommends that government should encourage policies to improve the public participation in the subscription of domestic debt instruments to ensure these variables continue to impact economic growth positively.
- ii. Another important recommendation is that despite the positive impact of domestic debt in financing infrastructures, government should channel their effort towards

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avenues that will boost internally generated funds and lessen the continuous borrowing as it could had a detrimental effect on macroeconomic growth in the long run.

- iii. Government should ensure the proper and effective use of such resources from domestic debts, for the funding of government expenditures translates to economic growth.

REFERENCES

- Abbas, S. M. & Christensen, J. (2007). The role of domestic debt markets in economic growth: An empirical investigation for Low-Income Countries and Emerging Markets. *IMF Working Papers*, 07(127).
- Asogwa, R.C., (2005). Domestic government debt structure, risk characteristics and monetary policy conduct, evidence from Nigeria. <http://www.imf.org/external/np/res/seminars/2005/macro/pdf/asogwa.pdf>.
- Adofu, I., & Abula, M. (2009). Domestic Debt and the Nigerian Economy. *Current Research Journal of Economic Theory*, 2(1), 22–26
- Albuquerque, B (2021). Corporate debt booms, financial constraints, and the investment nexus. *Bank of England Working Papers* 935.
- Albuquerque, B & Krustev, G. (2018). Debt overhang and deleveraging in the US household sector: gauging the impact on consumption. *Review of Income and Wealth* 64(2), 459–481.
- Alshammari, M.D., Karim, Z.A., Khalid, N. & Ahmed, R. (2020). Debt-Growth nexus in the MENA Region: Evidence from a panel threshold analysis. *Economies*, 2020, 8 (4), 1-12
- Amassoma, D. (2011). External debt, internal debt, economic growth and investment in Nigeria using Causality Approach. *Current Research Journal of Social Sciences*, 3(4), 320–325
- Anyanfo, A. (1993). Public Finance in a developing economy – the Nigerian Case, Enugu
- Ajide, K. B. (2014). Determinants of economic growth in Nigeria. *CBN Journal of Applied Statistics*. 5(2), 5-16.
- Ajayi, L. B. & Oke, M. O. (2012) Effect of External Debt on Economic Growth and Development of Nigeria. *International Journal of Business and Social Science*. 3(12), 2-12.
- Ajayi, H., & Edewusi, C. A. (2020). Fiscal Sustainability: The Unpleasant European Case. *Public Finance Analysis*, 61(1), 19–44.

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- Asogwa, R. C & Ezema, C. C. (2005). Domestic government debt structure, risk characteristics and monetary policy conduct: Evidence from Nigeria. Final Research Report submitted for “International Research Project on macroeconomic policy challenges for low income countries.
- Asolu, T.A., Akinadawo, I.S. & Oyedoku G.E. (2020). Domestic Debt Management and Governance Revenue in Nigeria.
- Abbas, M., K. (2007). The impact of high and growing government debt on economic growth an empirical investigation for the euro area. *Working Paper Series* No. 123
- Babu, J.O., Symon, K., Aquilars, M.K. & Mose, G. (2015). Effect of domestic debt on economic growth in the East African Community. *American Journal of Research Communication*, 3(9), 73-95
- Bakare, I.O.A., Ogunlana, O.F., Adeleye, O. & Mudasiru, A. (2016). Empirical analysis of the effects of domestic debt on Nigerian economic growth. *International Journal of Social Sciences and Humanities Reviews*, 6(1), 40 – 50.
- Boccia, R. (2013). How the United States’ high debt will weaken the economy and hurt Americans: Backgrounder. Working Paper No. 2768. The Heritage Foundation. Leadership
- CBN (2019). Developing Government Bond Markets: A Handbook.
- Christensen, J., (2004). Domestic Debt Markets in Sub-Saharan Africa. IMF Working, Goirle Municipality, Netherlands.
- Cornelius, E., & Desmond, A., (2022). Domestic debt burden and its impact on the growth of Nigerian economy. *Global Scientific Journal*, 10(10), 1101-1112
- Egbetunde, T. (2012). Public Debt and Economic Growth in Nigeria: Evidence from Granger Causality. *American Journal of Economics*, 2(6), 101–106
- Ezirim, C.B. (2005). *Finance Dynamics; Principles Techniques and Applications*. Port Harcourt: Markowitz Centre for Research Develop
- Felix, C.A. (2020). The relative potency and domestic debts on economic performance in Nigeria. *European Journal of Humanities and Social Sciences*, 27(1), 1414-1429
- Giroud, X & Mueller, H, M. (2017). Firm leverage, consumer demand, and employment losses during the great recession. *The Quarterly Journal of Economics* 132(1): 271–316.
- Garba, C. (1998). Debt profile and the economic growth: Evidence from the Nigerian Economy: *A Research Journal of Finance and Accounting*, 3(5) 2012. Central Bank of Nigeria statistical Bulletin 2015



- Hassan, O.M., Sule, A. & Abu, J. (2015). Implications of external debt on the Nigerian economy: Analysis of the dual gap theory. *Journal of Economics and Sustainable Development*, 6 (13), 238-248.
- Ibrahim, A. K. & Khan, S. M. (2019). Domestic debt and economic growth in Nigeria: An ARDL bounds test approach. *Economics and Business*, 33(1), 55-68
- Idowu , A. E., Sanni, H.T., Akpan, D.B., Ekeocha, P.E., Ikenna-Ononugbo, A.A., Penzin, D.J., Musa, A.U., Golit, P.D., Ajala, K., Ibi, E.H. & Opiah, D.C. (2018). Government borrowing: Implications for macroeconomic stability and growth in Nigeria. *Economic and Financial Review*, 56(1), 55-94.
- John, C. E. (2016). Domestic debt and Nigerian economy. Being a Project Submitted to the Department of Finance and Banking, Faculty of Management Sciences, University of Port Harcourt, in Partial Fulfillment of the Requirement for the Award of Bachelor of Science (B.Sc.) Degree in Finance.
- Kalemli-Ozcan, S, L Laeven & D Moreno (2019). Debt overhang, rollover risk, and corporate investment: evidence from the European crisis”, *Working Paper Series* 2241, European Central Bank.
- Kobayashi, K. (2015). Public debt overhang and economic growth. *Public Policy Review*, 11(2), 247-276.
- Lotto, J., & Mmari, C. T. (2018). Domestic debt and economic growth in Tanzania. *Journal of Economics and Management Sciences*, 1(1), 207-219.
- Muhammad, O. L., Lamidi, N.J., Olaleye, E. O. & Adedayo, G. O. (2020). Effect of external debt on economic growth: Evidence from Nigeria.
- Maithreerathna R. D., Mummullage P. Chamika , & Gunasinghe, C. (2019). An empirical analysis of the impact of total debt on the economic growth of Sri Lanka. *Discussion Paper in Economics*. The Economics 201903
- Mba, P. N., Yuni, D. N. & Chukwuedo., S.O. (2013). Analysis of domestic debt: implication for economic growth in Nigeria. *Global Journal of Social Sciences*. 12
- Mbah. A., Godwin, U. & Agu, O. C. (2016). Impact of External Debt on Economic Growth in Nigeria: An ARDL Bound Testing Approach
- Ngerebo-A, TA. (2014). Domestic Debt and Poverty in Nigeria: An Empirical Time Series Investigation. *European Journal of Accounting Auditing and Finance Research*, 2(5),
- Nneka, M. N & Damabatta, S.A., (2021). A disaggregated analysis of the effect of domestic public debt on economic growth in Nigeria. *Journal of Economics and Allied Research*. 6(3), 15-29.



- Nwani, V. (2019). Nigeria in 2019: Low growth versus rising risks advised against further borrowing. First City Monument Bank South-West region media parley in Ibadan, August 29, 2019.
- Nwinee, B.F. & Torbira, L.L. (2012). *Public Financial Management in Nigeria*. Port Harcourt: University of Port Harcourt Press
- Nzotta, (2004). *Money, Banking and Finance*. Owerri ; Hudson-Jude Nigeria Publishers
- Ogunbiyi, S.S. & Okunlola, F.A. (2015): Domestic debt and real sector growth: A VAR Approach". *International Journal on Banking and Finance Research*, 5,2015
- Omotosho, B. S. Bawa, S. & Doguwa, S. I. (2016). Determining the optimal public debt threshold for Nigeria. *CBN Journal of Applied Statistics*. 7(2), 45-67.
- Okunronmu, S. I., (2012). Domestic Debt and Economic Growth in Nigeria. *Journal of Economics and Sustainable Development*, 1(5), 45-60.
- Okonjo-Iweala. (2011). Frets over rising domestic liabilities, The Nation News Paper of 25th August, 2011
- Okwu, A. T., Obiwuru, T. C., Obiakor, R. T. & Oluwalaiye, O. B. (2019). Domestic debt and economic growth in Nigeria: Data-based evidence. *Greener Journal of Economics and Accountancy* 5(1), 001-012.
- Oliinyk, V. & Kozmenko, S. (2019). Forecasting and management of gross domestic product. *Journal of International Studies*, 12(4).
- Oshadarni, O.L. (2006). The Impact of domestic debt on Nigeria's economic growth. BSC Project Page 20, Department of Economics, Kogi State University, Ayigha
- Ozolina, C.E., Alfred, J.H., Aruna, & Kormay, A. (2017). Impact of domestic debt on economic growth in Sierra Leone: An empirical investigation *West African Journal of Monetary and Economic Integration*, 17(2), 2-22
- Oji, U. G., & John, E. C., (2022). Domestic debt effect on Nigeria's economic growth. *International Journal of Business Management*. 05(03), 01-15.
- Oyedeki, T. M.O. (1985). *Nigeria and the IMF*. African Economic Research Consortium, Research Paper No.8. Initiative Publishers, Initiative Limited, Nairobi.
- Onyeiwu, C. (2012). Domestic Debt and the Growth of Nigerian Economy. *Research Journal of Finance and Accounting*. 3(5), 56-70.
- Uchenna, O. L., Modebe, N.J., Adedayo, E. O. & Evbuomwan, G. O. (2017). Effect of External Debt on Economic Growth: Evidence from Nigeria. Sustainable Economic Growth, Education Excellence, and Innovation Management through Vision 2020



- Sheikh, M. R., Faridi, M. Z., & Tariq, K. (2010). Domestic Debt and Economic Growth in Pakistan: An Empirical Analysis. *Pakistan Journal of Social Sciences*, 30(2), 373–387.
- Solow, R., (1970). A Contribution to the theory of economic growth. *Quarterly Journal of Economics*, 70: 65-94.
- Spilioti, S., & Vamvoukas, G. (2015). The impact of government debt on economic growth: An empirical investigation of the Greek market. *The Journal of Economic Asymmetries*, 12(1), 34-40.
- Swean, B. & George T. (2022). What is a conceptual framework?/ Tips and examples. www.scribbr.com
- Todaro, M. P., & Smith, S. C. (2015). *Economic Development*, (12th Ed.). New York, USA, Pearson
- Thuan, V. D. (2018). Determinants of public debt in lower-middle income countries. *VNU Journal of Science: Policy and Management Studies*, 34(3).
- Umaru, A., Hamidu, A., & Musa, S. (2013). External Debt and Domestic Debt Impact on the Growth of the Nigerian Economy. MPRA Paper No. 75122. Retrieved from https://mpra.ub.unimuenchen.de/75122/1/MPRA_paper_75122.pdf
- Yusuf, A., & Mohd, S. (2021). The impact of government debt on economic growth in Nigeria. *Cogent Economics & Finance*, 9(1), 1946249.

