Effect of Public Debt on Economic Growth in Nigeria

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Abstract
This study assessed the effect of public debt on Nigeria's economic growth. Background: Public debt denotes the liabilities incurred by the government through the process of borrowing, which could be domestic or external borrowing. It is pertinent to note that government debt burden is basically caused by her inadequate revenue or budget deficit. It is obvious that the poor management of borrowed funds and their inadequate application in the productive sectors of the economy has contributed to the sorry state of the Nigerian economy and our poor GDP. Hence, the economy is unable to guarantee the generation of future and increased revenue from which such debt can be repaid. Aims: The specific objectives were to assess the effect of domestic debt and external debt on gross domestic product in Nigeria. Methods: The data for the period 1981 to 2023 was obtained from CBN bulletin 2023, while ex-post facto research design was adopted. The data was analyzed using descriptive statistics and multiple regression. The independent variables were: domestic debt and external debt, while the dependent variable was gross domestic product (GDP). The hypotheses were tested at 5% significance level. This study adopted the Neo-classical debt theory by Williams et al., (1900). Results: Domestic debt had positive and significant effect on GDP, while external debt had negative but significant effect on GDP. The probability (f-statistic) was 0.000000 while adjusted R^2 value was 0.837757. Conclusion: The public debt variables contribute to economic growth in Nigeria. Recommendations: The government should

ensure that borrowed funds are applied in productive sectors of the economy. The government should have plans for repayment of borrowed funds and interest.

Key words: *Domestic debt, External debt, budget deficit, economic growth.*

Introduction

Public debt denotes the liabilities incurred by the government through the process of borrowing. In essence, the act of governmental borrowing engenders the phenomenon of public debt. Nymphas et al. (2023) characterized it as the totality of outstanding bonds that have been issued by the government at any point in the historical timeline but remain unredeemed. The government engages in borrowing when exigencies arise, which are intended to be settled at an appropriate future date. A principal objective of such borrowing activities is to address the governmental budgetary shortfall. This shortfall occurs when the government is unable to augment its revenue streams and is not inclined to reduce its anticipated expenditures to align with its fiscal plans. Ikwuo et al. (2024) asserted that the imperative to finance essential infrastructure and various developmental initiatives amid constrained resources stemming from insufficient savings is the predominant rationale for national borrowing. Governmental borrowing may occur from domestic sources or international entities. The acquisition of funds from within the national economy is classified as domestic debt, whereas borrowing from foreign nations and global financial institutions is categorized as external debt.

Nigeria's external debt stood at ₦2.33Billion in 1981, ₦298Billion in 1990, ₦3,097Billion in 2000 and ₦689Billion in 2010. It is worrisome to note that the external debt profile have skyrocketed to ₦12.7Trillion, ₦18.8Trillion, ₦18.7Trillion and ₦38.2Trillion in years 2020, 2021, 2022 and 2023 respectively (CBN, 2023). Also, Nigeria's domestic debt stood at ₦11.19Billion in 1981, ₦84.09Billion in 1990, ₦898Billion in 2000 and ₦4,551Billion in 2010. The internal debt profile skyrocketed to ₦16trillion, ₦19.2 trillion, ₦22.2 trillion and ₦53.2 trillion in years 2020, 2021, 2022 and 2023 respectively (CBN, 2023). Hence, our total public debt stood at a staggering ₦91.4trillion as at 2023 from its ₦40.9trillion in 2022.

The major sources of federal government external debt are borrowings through multilateral, bilateral, Eurobond and diaspora bond, while that of domestic debt are treasury bills, FGN bonds, promissory note, FGN Sukuk, treasury bonds, FGN green bond and FGN savings bond (CBN, 2023). External borrowings of the federal government can be from foreign countries or international lending institutions as International Monetary Fund (IMF), World Bank (WB), African Development Bank (AfDB) and Paris Club (PC).

It is a commonplace practice for governments to engage in borrowing as a means to finance their projects, particularly in the context of insufficient funding, with an expectation of repayment within a specified timeframe. Such borrowings are anticipated to be utilized judiciously in order to generate revenue that will facilitate the repayment of the principal amount borrowed along with the accruing interest. Certain borrowing arrangements may impose rigorous conditions and exorbitant interest rates, which could ultimately render them detrimental for the borrowing nation. Consequently, while borrowing can serve as a catalyst for economic growth, it may also induce adverse effects and a stifling impact on the economy if acquired and utilized ineffectively. The imperative for sustained economic growth is of paramount importance for developing economies

such as Nigeria. The concerning reality is that sluggish economic growth poses significant challenges for developing nations like Nigeria, as it is closely associated with unemployment, escalating crime rates, and increasing poverty, among other socio-economic issues (Ekesiobi & Dimnwobi, 2020; Nwokoye et al., 2020).

Yusuf and Mohd (2021) stated that although public debt may be an economic stimulant when moderately obtained and properly applied. This is the situation in Nigeria today as the debt burden is outrageous with the government not relenting on further borrowings. High debt to GDP ratio is of serious concern to economies as such can discourage foreign investors from coming in to invest.

Public debt comes to the rescue when there is need for countries to bridge their deficits and be able to execute economic growth enhancing projects that will better the living standard of her populace. That is why the government borrowings are expected to be channeled to productive uses and not on white elephant projects. This will enable the government to grow her economy through the growth of her productive sectors. It is appalling to note that some of these borrowings are not properly channeled or utilized hence not helping to achieve the desired economic growth in the country. Abdulmumin (2022) succinctly captured the forgoing submission when he stated that, public debt, therefore, may be an economic stimulant but when its accumulation gets to a very substantial level, a reasonable proportion of government expenditure and foreign exchange earnings will be used to service and repay the debt with a heavy opportunity costs even for future generations.

Saka (2021) opined that public debt is unavoidable for government as many nations seek to borrow within itself and also to borrow from international monetary organizations such as International Monetary Fund (IMF) and World Bank. He further stated that external borrowing has a significant impact on the growth and investment of a nation up to a point where high levels of external debt servicing sets in and affects the growth as the focus moves from financing private investment to repayments of debts. Economic theory suggests that a developing nation’s reasonable borrowing levels are expected to improve its economic growth (Onuoha et al., 2023).

It is pertinent to note that government debt burden is basically caused by her inadequate revenue and the approval of budget with deficit by the National Assembly. The forgoing implies that the government therefore must seek out funds through borrowing to meet her funds requirements deficit. Vincent (2018) is of the view that over reliance of the nation on oil for revenue to the neglect of other viable sectors that could have been exploited for foreign earnings is a major factor that has compounded debt incurrence and repayment problem in Nigeria. It has been noted that debt accumulation and zigzag but negative economic growth of Nigeria will continue as long as these borrowed funds are not tied to meaningful and impactful projects (Danlami & Teilla, 2019).

Yusuf and Mohd (2021) noted with dismay that Nigeria is currently ranked among Sub-Saharan Africa heavily indebted countries with a stunted GDP growth rate, retarded export growth rate, a fast dwindling income per capita and an increasing poverty level. The unabated increase in the level of external debt service payment has led to huge imbalances in fiscal deficits and budgetary constraints that have militated against the growth of the Nigerian economy (Eke & Akujuobi, 2021).

It is obvious that the poor management of debt has contributed to the sorry state of the Nigerian economy. This is because the resources borrowed may not be optimally deployed or allocated into the various productive sectors of the economy, which will guarantee future and increased revenue from which such debt can be repaid. Ikwuo et al. (2024) noted that in a bid to achieve higher gross domestic product, Nigeria has borrowed heavily from both domestic and external sources but its contribution to GDP remains a mirage. Corroborating the forgoing, Nymphas et al. (2023) stated that there has been accumulation of loans aimed at various development projects without obvious results as expected.

Furthermore, Joy and Panda (2020) emphasized that excess borrowings without appropriate planning for investment may lead to heavy debt burden and interest payment, which in turn may create several undesirable effects for the economy. This was reiterated by Johnny and Johnnywalker (2018) who stated that rising debt burdens can restrict the government's ability to pursue more productive investment programmes in infrastructure, education and public health.

It is against this backdrop that this study examined the effect of public debt on the economic growth of Nigeria for the period 1981 to 2023. The public debt was decomposed into external debt and domestic debt.

The broad objective of this study was to assess the effect of public debt on Nigeria's economic growth for the period 1981 to 2023. Specifically, the study sought to:

1) Examine the effect of domestic debt on gross domestic product in Nigeria.
2) Assess the effect of external debt on gross domestic product in Nigeria.

In line with the above specific objectives, the following hypotheses were formulated:

1) Domestic debt had no significant effect on gross domestic product in Nigeria.
2) External debt had no significant effect on gross domestic product in Nigeria.

Literature review

Conceptual review

Public debt can be defined as money or resources a government acquires on behalf of its citizens to provide basic needs for the welfare of the mass populace (Saka, 2021). Public debt, usually referred to as national debt, refers to all of a country's foreign and internal debt (Abdulmumin, 2022). Public debt is incurred by government through borrowing in the domestic and international markets in order to finance domestic investment. Public debt arises as a result of nation's inability to fund the capital needed for her projects from its own treasury. This may be as a result of the government's quest to provide more public amenities for the well-being of her citizens than her available resources can carry.

Public debt could be divided into two, namely; external debt and domestic debt. Domestic debts are public debt which a government of country owes her citizens. In other words, it is debt that originates from within the geographical region of a country which is contracted through debt instrument such as treasury bills, treasury certificate, bonds amongst others. On the other hand, external debt is money owed to foreign countries or foreign financial institutions. External debt is the amount, at any given time, of disbursed and outstanding contractual liabilities of residents of a country to non-residents to repay principal, with or without interest, or to pay interest, with or without principal (World Bank, 2019).

Lopes and Ferreira's study (2014, as cited in Nymphas et al., 2023) defined public debt as a set of state obligations to third parties; and falls into either one of two categories namely domestic

debt when the debt is issued on the domestic market and external debt when it is issued on the foreign market, regardless of the currency and the nationality of the creditors.

Economic growth describes the increase of the country's national output or gross domestic product (Ikwuo et al., 2024). It is the quantitative increase in the volume of goods and services produced in an economy over a given period of time. Also, Ajayi and Adewusi (2020) assert that a growth is achieved in the economy whenever a unit of production is successfully inputted into the economic system. Agboola et al. (2020) asserts that economic growth serves as the cornerstone for economic progress in every country, hence is often gauged by the rate at which a country's national GDP is growing.

Theoretical review

The Neoclassical Debt Theory: The Neoclassical Debt theory emerged around the 1900 to compete with the earlier theories of public debt. The main advocates of this theory include; William Stanley Jevons, Carl Menger, and Leon Walras. The theory states that debt has a direct relationship with economic growth and that as long as countries use the borrowed funds for productive investment and do not suffer from macroeconomic instability, policies that distort economic incentives or sizable adverse shocks, growth should increase and allow for timely debt repayment. The Neoclassical Debt Theory highlights the transmission mechanism of debt on growth. In addition, the theory captures the burden of unpaid debt on future generations as well as the crowding out effect of debt on investment (Nymphas et al., 2023).

The debt overhang hypothesis: The debt overhang hypothesis is the preeminent idea in the literature on the possible detrimental impact of a high external debt burden on growth. With his theory of firm valuation in corporate finance and the impacts of debt-financing, Stewart C. Myers initially proposed the notion of debt overhang in 1977. According to the debt overhang theory, excessive borrowing results in high debt, debt traps and a slowdown in economic growth. According to the debt overhang hypothesis, large debt servicing costs will deter additional domestic and international investment hence hinder economic growth. Potential investors would be deterred on the grounds that they would be less eager to incur investment costs today in order to increase future output since governments would tax them more heavily the more production increases (Abdulmumin, 2022).

The Dual-Gap Theory: Dual-Gap Models of development are essentially rooted in the Post-Keynesian growth models for closed economies as designed by (Harrod, 1939) and (Domar, 1946) who tried to identify the pre-conditions needed in order to enable an industrialized developed economy. This theory is proposed on the condition that states that, to achieve a reasonable level of development in an economy, investment is a key player. However, such investment cannot be successively achieved without huge domestic savings meaning that for a country to achieve a sustainable level of development, investment and huge domestic savings is required. However, in attaining comprehensive growth, this domestic savings and investment is not sufficient enough hence there is need to borrow fund from abroad. This implies that the combination of domestic savings, investment and foreign borrowed fund is a function of economic development as opted by this theory.

Empirical review

Ikwuo et al. (2024) examined the effect of public debt on the economic growth of Nigeria spanning from 1990 to 2022. The proxies for public debt were domestic debt, external debt and domestic servicing, while gross domestic product proxied economic growth. Secondary data were collected from Central bank of Nigeria Statistical Bulletin, National Bureau of Statistics (NBS) and Debt Management Office (DMO). The co-integration test and Ordinary Least Square (OLS) were employed in the analysis. The findings showed that domestic debt has a negative and significant effect on economic growth, external debt has a positive and significant effect on economic growth while debt servicing has a negative and significant effect on economic growth.

Nymphas et al. (2023) examined the impact of public debt on economic growth in Nigeria. The ex-post facto research design was adopted and time series data obtained from the World Development Index (WDI) and the Central Bank of Nigeria (CBN). The test for stationarity, Augmented Dickey Fuller unit root test and Autoregressive Distributed Lagged model were done. Findings revealed that the time series data became stationary at first difference while the coefficients of external debt and domestic debt had positive and significant impact on economic growth in Nigeria.

Ekperiware et al. (2022) assessed the effect of public debt on economic growth in Nigeria. The data was obtained from the Debt Management Office and Federal Office of Statistics. The Vector Error Correction Model (VECM) was used analyze the data. The findings confirmed that domestic debt in the short-run is inversely related to growth but positively related in the long run, while external debts was both negatively related to economic growth at both short-run and long-run. The findings confirm that public debts significantly do affect economic growth.

Abdulmumin (2022) examined the effect of public debt on economic growth in Nigeria. The study employed secondary data sourced from Central Bank of Nigeria Statistical bulletin for the period 1987 to 2020. The study adopted ex-post facto research design. The Autoregressive distributive lag (ARDL) was used for data analysis which revealed that external debt is a positive determinant of economic growth in Nigeria with a p-value of 0.0255. Also that domestic debt is a negative significant determinant of economic growth in Nigeria with a coefficient value of 0.0005. The study concludes that public debt has significant effect on economic growth in Nigeria.

Eke and Akujuobi (2021) investigated the effect of public debt on economic growth in Nigeria, covering the period 1981-2018. Employing a co-integration approach, the study revealed prominent among others that a significant short-run relationship exists between Nigeria's public debt and economic growth. Also, that whereas both the domestic debt and the external debt variables were statistically significant, only the latter failed the a-priori expectation test and thus, exerts a negative contribution to economic growth in Nigeria.

Efuntade et al. (2020) empirically investigated the impact of external debt on economic growth in Nigeria between 1981 and 2018 using ARDL ECM estimation technique. The variables used in the study were tested for stationarity using the Augmented Dickey Fuller. The result revealed that EDS, DDS, FDI and GOVE were stationary at first differencing while GDPGR was stationary at level. Their findings showed that external debt and foreign direct investment

positively affect economic growth while domestic debt and government expenditure hinders economic growth in Nigeria.

Alagba and Idowu (2019) investigated the effect of public debts on economic growth of Nigeria using data covering 1981 to 2018. They sourced secondary data from Central Bank of Nigeria Statistical bulletin and Debt Management Office. The findings showed that domestic debts of the Federal government of Nigeria is positive and statistically significant to economic growth of Nigeria, while foreign debts was positive but non-significant. Also, cost of debts servicing is significant and has a negative effect on economic growth.

Methodology

The *ex-post-facto* research design was used in the study. The Central Bank of Nigeria statistical bulletin, 2023 was the source of secondary data used. The descriptive statistics and multiple regression analysis were done. The essence of the multiple regression was to measure the association between a given dependent variable (gross domestic product) and two independent variables (domestic debt and external debt) in the given regression function.

The *a-priori* expectation is that the independent variables (domestic debt and external debt) should have positive and significant effect on the dependent variable (gross domestic product).
This relationship is expressed thus:

$Y_t = b_o + b_1x_1 + b_2x_2 + b_3x_3 + \ldots\ldots\ldots B_tx_t + e_t$

Where:
Y = dependent variable
b_o = intercept
x_1 , x_2 , x_3 are the independent variables
e_t = random error term
b_o, b_1, b_2, b_3 are the parameters of the model
This study used the model:
GDP = f(DOMDEBT, EXTDEBT)
The above is estimated as follows:

$GDP = b_o + b_1DOMDEBT + b_2EXTDEBT + e_t$

GDP = gross domestic product
DOMDEBT = domestic debt
EXTDEBT = external debt

Presentation of findings

Descriptive statistics

	GDP	DOMDEBT	EXTDEBT
Mean	45375.22	5182.704	3528.220
Median	11383.66	1166.001	689.8375
Maximum	229912.9	53258.01	38219.85
Minimum	137.9294	11.19260	2.331200
Std. Dev.	61699.72	9474.801	6872.584
Skewness	1.407025	3.375032	3.513921
Kurtosis	4.011701	16.65700	16.77727
Jarque-Bera	16.02183	415.8046	428.5733
Probability	0.000332	0.000000	0.000000

Sum	1951134.	222856.3	151713.5
Sum Sq. Dev.	1.60E+11	3.77E+09	1.98E+09
Observations	43	43	43

The above table showed the descriptive statistical behaviour of parameters used in this study.

Regression output

Variables	Coefficient	Std. error	t-statistic	p-value	Decision
DOMDEBT	8.588117	1.361981	6.305605	0.0000	Reject null
EXTDEBT	-3.893619	1.877678	-2.073634	0.0446	Reject null

Source: Researcher's extract from the regression table (Eviews10).

Test of Hypotheses:

1) Hypothesis 1: H_0: Domestic debt had no significant effect on gross domestic product in Nigeria.

The result of the regression analysis showed that domestic debt had probability value of 0.0000. The null hypothesis is therefore rejected and it is concluded that there is a significant effect of domestic debt on gross domestic product in Nigeria for the period reviewed.

2) Hypothesis 2: H_0: External debt had no significant effect on gross domestic product in Nigeria.

The result of the regression analysis showed that external debt had probability value of 0.0446. The null hypothesis is therefore rejected and it is concluded that there is a significant effect of external debt on gross domestic product in Nigeria for the period reviewed.

Discussion of findings

The output of this study's analysis showed that domestic debt had a positive coefficient of 8.588117 and probability value of 0.0000, implying that domestic debt have both positive and significant relationship with gross domestic product. That coefficient showed that a unit increase in our domestic debt leads to 8.59 increase in gross domestic product. The forgoing finding is commendable of domestic debt. On the other hand, the external debt had coefficient of -3.893619 and probability value of 0.446, implying that external debt have negative but significant relationship with gross domestic product. That coefficient sign implies that a unit increase in our external debt will lead to 3.893619 decrease in gross domestic product. This could be due to the ever increasing volume of our external debt without commensurate productivity or GDP growth in the economy.

Furthermore, the study showed the adjusted R^2 value is 0.829645 implying that 83% of changes in gross domestic product can be explained by public debt in absolute terms. The prob(F-statistic) value is 0.000000 showing the model used is statistically fit.

The review of other studies showed that some agreed with the findings of this study while some differ. The finding that domestic debt have a significant effect on GDP agrees with the findings of Abdulmumin (2022), Ikwuo et al. (2024), Nymphas et al. (2023), Alagba and Idowu (2019), Eke and Akujuobi (2021) but disagrees with those of Saka (2021), Ekperiware et al. (2022) who found a non-significant effect. Also, its positive effect aligns with the findings of Saka (2021), Nymphas et al. (2023), Alagba and Idowu (2019), Eke and Akujuobi (2021) but does not align

with Abdulmumin (2022), Ikwuo et al. (2024), Ekperiware et al. (2022) who found a negative effect.

The finding that external debt have a significant effect on GDP agrees with the findings of Abdulmumin (2022), Ikwuo et al. (2024), Nymphas et al. (2023), Onyenwife et al. (2023), Ekperiware et al. (2022), Eke and Akujuobi (2021), but disagrees with those of Saka (2021), Alagba and Idowu (2019) who found a non-significant effect. Also, its negative effect aligns with the findings of Ekperiware et al. (2022), Eke and Akujuobi (2021), but does not align with those of Abdulmumin (2022), Saka (2021), Ikwuo et al. (2024), Nymphas et al. (2023), Onyenwife et al. (2023), Alagba and Idowu (2019).

Conclusion

This study assessed the effect of Nigeria's public debt on her economic growth proxied by gross domestic product. The evidence of the regression analysis indicated that Nigeria's domestic debt had a positive and significant effect on her gross domestic product. Also, that Nigeria's external debt had a negative but significant effect on her gross domestic product. These variables have growth enhancing ability especially in the short-term which should necessitate proper utilization of borrowed funds on growth enhancing sectors. The proper use of public debt remains the key to jump-start our economy through sustained and remarkable growth of our gross domestic product, hence economic growth.

Recommendations

(1) The federal government should ensure that her domestic debt is channeled properly for a continued positive and significant effect on the economy.
(2) The federal government should watch the level of her borrowing to avoid crowding out effect on the private sector businesses. Since the private sector also contribute to economic growth.
(3) The federal government should ensure the use of external borrowing in productive sectors. This will help reverse its negative effect on the economy.
(4) The federal government should have mapped out strategy for debt repayment. This is because the excessive debt cum interest is a big burden to the fiscal capability of Nigeria.

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