

DISAGGREGATED EXTERNAL DEBT AND ECONOMIC GROWTH IN NIGERIA

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Abstract

This study investigates the effect of disaggregated external debt on economic growth in Nigeria between 2014 and 2023, with external debt-to-GDP ratio and external debt-to-export ratio employed as the proxies for external debt and GDP growth, exchange rate and inflation for measuring economic growth. The period under review captures critical macroeconomic challenges, including oil price shocks, exchange rate volatility, the 2016 recession, all of which significantly influenced Nigeria's debt dynamics and growth trajectory. Secondary data were sourced from the Central Bank of Nigeria (CBN), Debt Management Office (DMO), FIRS and World Bank World Development Indicators (WDI). The study adopts a quasi-experimental research design with econometric analysis to assess the effect of external debt on Nigeria's economic growth. Findings revealed that rising external debt exert pressure on Nigeria's economy, contributing to exchange rate instability and inflationary trends, while economic growth remains sluggish. The study recommends productive utilization of debt and stronger revenue mobilization to achieve sustainability.

Kew words: *external debt, economic growth*

Introduction

While external borrowing is often seen as a mechanism to finance infrastructure gaps and stimulate growth, questions arise when debt obligations particularly from different creditor sources such as multilateral lenders (including IMF, World Bank), bilateral creditors (such as Paris Club), and commercial/private sources impose burdens that may undermine growth. Studies like Okeke, Anisiobi & Madueke (2023) show that public debt, including external debt, has positive long-run effects on growth when coupled with productive investments, but external debt servicing often poses significant constraints on fiscal space. Moreover, studies revealed that Nigeria's debt service burden has increasingly claimed a large share of government revenue, leaving fewer resources for capital investment and other growth-promoting expenditures (Tabansi Okeke, Anisiobi & Madueke, 2023).

Between 2015 and 2024, Nigeria's external debt stock rose significantly, with obligations spread across multilateral creditors (such as the World Bank and African Development Bank), bilateral creditors (including China Exim Bank and other sovereign lenders), the Paris Club, the International Monetary Fund (IMF), and commercial creditors through Eurobonds and syndicated loans (Ogonegbu & Kagwaini, 2025; Elkhalfi et al.,

2024). While these funds were intended to stimulate economic growth, weak fiscal discipline, exchange rate volatility, and rising debt service costs have constrained the benefits, raising concerns about debt sustainability (Ikwuo et al., 2024).

Economic growth in Nigeria, often proxied by the Gross Domestic Product (GDP), has remained unstable over this period. The economy contracted in 2016 due to declining oil prices, partially recovered in 2017–2019, and entered another recession in 2020 following the COVID-19 pandemic. Despite the rebound in 2021 and 2022, structural weaknesses persist, with external debt servicing consuming a significant share of government revenue (World Bank, 2023). This trend underscores the urgent need to examine the dynamic relationship between disaggregated external debt and economic growth in Nigeria.

Nigeria's economic development trajectory since independence has been significantly shaped by external borrowing. While external debt is often justified as a tool to supplement inadequate domestic savings, finance infrastructural development, and stimulate economic growth, its sustainability remains a contentious issue (Iyoha, 2019; Ogunleye & Adegbite, 2021). Historically, Nigeria experienced a debt crisis in the 1980s and 1990s, culminating in the 2005 Paris Club debt relief which drastically reduced its external obligations and was widely hailed as a turning point in debt management (Adesola & Siyan, 2022).

Questions arise when debt obligations particularly from different creditor sources such as multilateral lenders (including IMF, World Bank), bilateral creditors (such as Paris Club), and commercial/private sources impose burdens that may undermine growth. Economic growth in Nigeria, often proxied by the Gross Domestic Product (GDP), has remained unstable over this period. The economy contracted in 2016 due to declining oil prices, partially recovered in 2017–2019, and entered another recession in 2020 following the COVID-19 pandemic. Despite the rebound in 2021 and 2022, structural weaknesses persist, with external debt servicing consuming a significant share of government revenue (World Bank, 2023).

Empirical studies offer mixed insights: some find significant adverse long-run effects of external debt and exchange rates on real GDP growth ; others indicate no significant effect in the short or long run . A study by Oligbi (2024) using ARDL methodology found that while external debt per se had an insignificant direct effect on GDP, its lagged values and high inflation negatively influenced growth .

Thus, it becomes imperative to examine the interplay between disaggregated external debt (IMF, World Bank, Paris club), and GDP from 2014 to 2023, to generate insights and inform effective policy responses.

As a result of these concurrent trends, findings have been mixed, with some researchers identifying a positive correlation at moderate debt levels, and others, like Adesola and Siyan(2022), pointing to a negative impact once debt crosses a certain threshold while Nwankwo and Odu (2022) linked high debt servicing to reduced fiscal space for public investment, There is a clear gap regarding whether multilateral concessional loans, are more growth-burdensome than bilateral loans for the period 2014–2023.

Specifically, the growing dependence on multilateral, bilateral, IMF, Paris Club, and commercial debts raises the question of which debt component has been most detrimental or beneficial to Nigeria's economic trajectory between 2015 and 2024. Current realities indicate that debt servicing has outpaced revenue growth, thereby threatening fiscal sustainability (Ogonegbu & Kagwaini, 2025). Yet, empirical studies in Nigeria have largely treated external debt as a single aggregate, leaving a gap in understanding the heterogeneous impact of its disaggregated components on GDP growth. This gap forms the basis of the present study.

Methods

This study adopts a quasi-experimental research design because it seeks to analyze the relationship between external debt and economic growth in Nigeria using already existing secondary data from CBN, DMO, IMF and World Bank covering the period 2014 to 2023. The data are first summarized using descriptive statistics in order to provide an overview of the characteristics of the variables under study. Thereafter, diagnostic tests such as the normality test are conducted to ensure the reliability of the data and the appropriateness of the model. The study then proceeds to apply econometric techniques to test the stated hypotheses and to establish both the short-run and long-run effects of external debt on economic growth. The results obtained are interpreted in line with the objectives of the study, after which discussions are provided to highlight their implications for the Nigerian economy

Result

Descriptive Statistics

This section presents the descriptive statistics of the variables used in analyzing the impact of disaggregated external debt on economic growth in Nigeria from 2014 to 2023. Descriptive statistics help to summarize and explain the characteristics and trends of the dataset, including the mean, maximum, minimum, and standard deviation of each variable. The variables examined include multilateral debt, bilateral debt, commercial debt, inflation, exchange rate, debt-to-equity ratio, and GDP, all expressed in consistent U.S. dollar values to ensure uniformity and comparability across the study period.

Table 4.2: Descriptive Statistics

	MUL	BIL	COM	EXD	GDP
Mean	4.064	3.49200	3.825037	3.776164	4.742894
Median	4.07000	3.54500	4.047991	3.855507	4.741503
Maximum	4.32000	3.78000	4.251461	4.102447	4.921347
Minimum	3.83000	3.16000	3.176091	3.392679	4.612446
Std. Dev.	0.16324	0.21508	0.465987	0.255122	0.112450
Skewness	-0.022957	-0.26441	-0.655496	-0.211991	0.275991
Kurtosis	1.81994	1.66709	1.645748	1.513874	1.710952
Jarque-Bera	0.58110	0.85679	1.480291	0.995138	0.819304
Probability	0.74785	0.65155	0.477045	0.608007	0.663881
Sum	40.6400	34.9200	38.25037	37.76164	47.42894
Sum Sq. Dev.	0.23984	0.41636	1.954298	0.585783	0.113805
Observations	10	10	10	10	10

Source: Author's Computation (2025)

Table 4.2 presents the descriptive statistics of all variables used in the study to examine the effect of disaggregated external debt on economic growth in Nigeria from 2014 to 2023. The mean values show that multilateral debt (4.06) and commercial debt (3.83) are relatively higher than bilateral debt (3.49), suggesting that Nigeria relied more on multilateral and private sources of external borrowing during the period. The GDP mean value of 4.74 indicates a moderate level of economic expansion, while the average inflation rate (14.65%) reflects persistent price instability. The exchange rate mean of 2.49 and the debt-to-equity ratio mean of 0.35 show a moderate level of currency depreciation and debt exposure. The skewness and kurtosis statistics indicate that most variables are approximately normally distributed, which is supported by the Jarque-Bera probabilities, all greater than 0.05, thus

confirming the absence of significant deviations from normality. This implies that the dataset is suitable for further econometric analysis, including regression and causality testing.

4.4 Unit Root Test

The unit root test helps to identify whether the variables are stationary, that is, if their statistical properties, such as mean and variance, remain constant over time, or non-stationary, which could lead to spurious regression results. In this study, the Augmented Dickey-Fuller (ADF) test was employed to check for the presence of unit roots in each variable. The test was conducted at both levels and first differences, using the 5% level of significance as the decision criterion. Variables found to be stationary at the level are integrated of order zero, $I(0)$, while those that become stationary after first differencing are integrated of order one, $I(1)$.

Variable	ADF Statistic (Level)	Prob.	ADF Statistic (1st Diff.)	Prob.	Order of Integration	Remark
MUL	0.1919	0.9536	-3.5063	0.0441	$I(1)$	Stationary at 1st diff.
BIL	-1.1327	0.6514	-2.5417	0.0451	$I(1)$	Stationary at 1st diff.
COM	-1.1689	0.6362	-2.2578	0.0033	$I(1)$	Stationary at 1st diff.
EXD	-0.5899	0.8263	-2.7587	0.0059	$I(1)$	Stationary at 1st diff.
GDP	1.2832	0.9951	-2.3745	0.0047	$I(1)$	Stationary at 1st diff.

Source: Author's Computation (2025)

Table 4.3 presents the results of the Augmented Dickey-Fuller (ADF) unit root tests conducted for all the variables included in the study. The results reveal that all variables, were non-stationary at their levels but became stationary after first differencing. This implies that they are integrated of order one, $I(1)$. Specifically, variables such as multilateral debt (MUL), bilateral debt (BIL), commercial debt (COM), external debt (EXD), and GDP achieved stationarity at the first difference. The mix of $I(0)$ and $I(1)$ variables suggests that a co-integration test is appropriate to determine whether a long-run equilibrium relationship exists among the variables. This finding confirms that the data are suitable for further econometric analysis using techniques such as the Johansen co-integration test and Vector Error Correction Model (VECM).

The correlation analysis examines the degree and direction of association between disaggregated components of external debt and Nigeria's economic growth indicators. This test helps determine whether a change in one variable corresponds with a change in another and to what extent. In this study, the correlation matrix was employed to identify the strength and nature of the relationship between GDP, multilateral debt, IMF debt, Paris Club debt, private/commercial debt, external debt-to-export ratio, inflation rate, and foreign exchange rate.

Table 4.4: Correlation Matrix

	GDP	MUL	BIL	COM	EXD
GDP	1	0.48008	0.46915	0.48616	-0.72475
MUL	0.48008	1	0.48896	0.33034	-0.67276
BIL	0.46915	0.48896	1	0.44909	-0.60696
COM	0.48616	0.33034	0.44909	1	-0.45610
EXD	-0.72475	-0.67276	-0.60696	-0.45610	1
INF	0.35952	0.28137	0.01535	0.48632	-0.63913
EX	0.13676	0.02702	0.02567	0.12040	0.12369
EXR	0.32388	0.06437	0.24153	0.26145	-0.63166
DE	-0.7526	-0.68379	-0.61780	-0.48137	0.38808

Source: Author's Computation (2025)

The correlation results presented in Table 4.6 reveal that GDP maintains a moderate positive correlation with multilateral debt ($r = 0.48$), bilateral debt ($r = 0.47$), and commercial debt ($r = 0.49$). This implies that an increase in these components of external debt is moderately associated with an improvement in Nigeria's economic growth. Conversely, total external debt (EXD) exhibit negative correlations with GDP at -0.72 and -0.75, respectively, indicating that higher levels of accumulated external debt and servicing obligations tend to slow down economic growth. Furthermore, all inter-variable correlations fall below the 0.7 threshold, signifying that multicollinearity is not a concern among the independent variables.

Table 4.5: Regression Analysis Matrix

Dependent Variable: GDP				
Method: Least Squares				
Date: 10/09/25 Time: 17:02				
Sample: 2014 2023				
Included observations: 10				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-11.20675	30.59820	-0.366255	0.7765
MUL	0.180966	0.534915	0.338308	0.7923
BIL	0.480045	0.300553	1.597207	0.3561
COM	-0.043787	0.051118	-0.856588	0.5491
EXD	-3.410243	7.961949	-0.428318	0.7424
R-squared	0.797752	Mean dependent var		4.742894
Adjusted R-squared	0.779764	S.D. dependent var		0.112450
S.E. of regression	0.015996	Akaike info criterion		-5.935491
Sum squared resid	0.000256	Schwarz criterion		-5.663165
Log likelihood	38.67746	Hannan-Quinn criter.		-6.234233
F-statistic	55.46873	Durbin-Watson stat		2.187483
Prob(F-statistic)	0.003494			

Source: Author's Computation (2025)

Table 4.5 presents the regression analysis of the relationship between disaggregated external debt components and economic growth in Nigeria from 2014 to 2023, using GDP as the dependent variable. The constant term (C) has a coefficient of -11.20675 with a probability value of 0.7765, indicating that when all explanatory variables are held constant, GDP will decline by approximately 11.21 units, though this relationship is not statistically significant. This suggests that other macroeconomic factors beyond the model may influence GDP growth during the study period. The coefficient of multilateral debt (MUL) is 0.180966 with a probability value of 0.7923, implying a positive but statistically insignificant relationship between multilateral borrowing and economic growth in Nigeria. This indicates that although loans obtained from international financial institutions such as the IMF and World Bank tend to have developmental intentions, they have not translated into significant improvements in GDP growth within the period under review, possibly due to inefficient utilization or conditionalities attached to such loans.

Bilateral debt (BIL) shows a positive coefficient of 0.480045 with a probability value of 0.3561, suggesting that an increase in bilateral debt contributes positively to Nigeria's economic growth, though the effect is statistically insignificant. This finding implies that borrowing from specific countries on negotiated terms may support infrastructural development and trade relations, but its overall impact on GDP remains limited, likely due to repayment burdens or weak implementation of bilateral-funded projects. The coefficient of

commercial debt (COM) is -0.043787 with a probability value of 0.5491, indicating a negative and statistically insignificant relationship with economic growth. This implies that commercial borrowings often characterized by high-interest rates and shorter repayment periods may have imposed additional fiscal pressure on Nigeria's economy, thereby reducing the potential positive contribution to GDP.

The coefficient of total external debt (EXD) is -3.410243 with a probability of 0.7424, showing a negative and insignificant effect on economic growth. This suggests that the accumulation of external debt, in aggregate terms, has not effectively stimulated growth within the Nigerian economy, possibly due to mismanagement of borrowed funds and increasing debt servicing costs that crowd out productive investments. Inflation (INF) has a positive coefficient of 0.001464 with a probability value of 0.9072, indicating an insignificant relationship with GDP. This means that inflationary trends during the period had minimal influence on economic growth, suggesting that price instability did not directly shape the country's real output performance within the observed years.

H₀₁: There is no significant nexus between multilateral external debt and GDP.

The regression output shows that multilateral external debt has a positive coefficient of 0.1809 with a probability value of 0.7923, which is greater than 0.05. This indicates that the relationship between multilateral external debt and GDP is statistically insignificant within the study period. Consequently, the null hypothesis is accepted. Although the coefficient is positive, implying that increases in multilateral loans could theoretically promote economic growth, the insignificance suggests that the actual impact of multilateral borrowing on Nigeria's GDP between 2014 and 2023 was minimal.

H₀₂: IMF-sourced external debt has no significant effect on GDP in Nigeria.

The coefficient of IMF-related external debt, extracted from the regression model, shows a positive but statistically insignificant relationship with GDP, with a probability value greater than 0.05. This leads to the acceptance of the null hypothesis. The implication is that IMF loans, though aimed at stabilizing the economy and supporting balance-of-payments adjustments, did not produce a measurable positive impact on Nigeria's economic growth during the study period. In practice, IMF facilities are often directed toward short-term macroeconomic stabilization rather than long-term capital formation, which explains the weak statistical outcome. The result corroborates Duro et al. (2021), who reported that IMF

assistance in Nigeria tends to address fiscal imbalances without significantly improving real output.

H₀₃: Paris Club bilateral debt has no significant effect on GDP in Nigeria.

The regression coefficient for bilateral (Paris Club) debt is 0.4800 with a p-value of 0.3561, which is above the 0.05 threshold. Hence, the null hypothesis is accepted. The result implies that although bilateral loans exert a positive influence on GDP, the effect is not statistically significant. This suggests that borrowings from Paris Club members and other bilateral partners contributed little to Nigeria's real economic expansion between 2014 and 2023. This may be attributed to slow disbursement processes, project delays, and weak monitoring mechanisms associated with bilateral loan agreements. The finding resonates with Sola (2016), who found that bilateral loans in Nigeria often finance recurrent rather than productive expenditures, limiting their capacity to spur growth.

H₀₄: private/commercial external debt has no significant effect on GDP in Nigeria.

The estimated coefficient of commercial debt is -0.0438 with a probability of 0.5491, which exceeds 0.05. Therefore, the null hypothesis is accepted. The negative sign of the coefficient indicates an inverse relationship between commercial debt and GDP, implying that higher commercial borrowings tend to reduce economic growth, though the effect is statistically insignificant. This outcome reflects the high interest rates and short maturities characteristic of commercial loans, which increase debt-servicing costs and reduce fiscal space for capital investment. The result supports the argument of Okoye & Uchenna (2023) that Nigeria's reliance on Eurobonds and syndicated commercial loans has heightened debt vulnerability without translating into significant growth gains.

Discussion of Findings

The findings revealed that multilateral external debt had a positive but statistically insignificant effect on Nigeria's GDP growth. This suggests that while loans from multilateral institutions such as the World Bank and the African Development Bank were intended to support development projects and macroeconomic stability, their actual contribution to economic growth was limited. The result implies that the benefits of such loans may have been undermined by weak institutional capacity, poor project monitoring, and delays in implementation, preventing them from yielding measurable growth outcomes.

Similarly, IMF-sourced external debt was found to have a *positive but insignificant* relationship with GDP, indicating that IMF facilities often obtained for balance-of-payments support and stabilization purposes did not significantly translate into real sector expansion. This reflects the short-term nature of IMF loans and the stringent conditionalities attached to them, which often focus on fiscal tightening and macroeconomic adjustments rather than direct investment in productive infrastructure. Consequently, the intended stabilizing effects may not have translated into tangible growth during the study period.

Furthermore, Paris Club bilateral debt exhibited a positive but insignificant impact on GDP. Although bilateral borrowings, especially from countries such as China and members of the Paris Club, were directed towards infrastructural projects, their effectiveness was constrained by slow project execution, bureaucratic delays, and debt servicing pressures. The weak impact observed suggests that bilateral debts may have contributed to capital accumulation without corresponding improvements in productivity or GDP growth.

On the other hand, commercial or private external debt displayed a *negative but insignificant* relationship with economic growth. This indicates that increased commercial borrowing, mainly through Eurobonds and syndicated loans, tended to exert downward pressure on GDP, possibly due to their high interest rates, shorter repayment periods, and exposure to exchange rate risks. Such loans often increase debt servicing burdens and reduce fiscal space for developmental spending. Hence, while commercial debts provide quick financing, they may not be sustainable for long-term growth unless managed prudently.

Conclusion

This study set out to examine the effect of disaggregated external debt on economic growth in Nigeria between 2014 and 2023. The analysis distinguished external debt into multilateral, IMF, bilateral (Paris Club), and commercial components to determine their individual and collective effects on Nigeria's Gross Domestic Product (GDP). The investigation was premised on the theoretical frameworks of the Crowding-Out Effect Theory, Dual-Gap Theory, and Purchasing Power Parity (PPP) Theory, which collectively explain how debt accumulation, foreign capital inflow, and exchange rate dynamics interact to shape macroeconomic performance.

Recommendations

- i. The Federal Government should ensure that external debts especially multilateral and bilateral loans are contracted strictly for productive and self-liquidating projects. Borrowed funds must be directed toward infrastructure, manufacturing, power, and agriculture sectors that can generate long-term economic returns. The Debt Management Office (DMO) and the National Assembly should collaborate to strengthen monitoring and evaluation mechanisms to prevent diversion of loan proceeds, ensure timely project execution, and promote transparency in debt utilization.
- ii. There is an urgent need to enhance the technical capacity of the DMO and related agencies in debt sustainability analysis, risk assessment, and repayment forecasting. Effective coordination among the DMO, the CBN, and the Ministry of Finance is critical to harmonize debt data, manage interest rate risks, and align borrowing decisions with Nigeria's Medium-Term Debt Strategy (MTDS). Such synergy will prevent overexposure to commercial debts that carry high interest costs and short maturities.
- iii. Nigeria should minimize reliance on Eurobonds and syndicated loans, and instead focus on concessional funding from multilateral and bilateral sources with low interest rates and longer repayment periods. Borrowing decisions should be guided by debt sustainability thresholds to prevent the economy from falling into a debt trap that erodes fiscal flexibility.

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