

DISAGGREGATING DOMESTIC DEBT: EVIDENCE ON OPEN MARKET BORROWING, WAYS AND MEANS AND ECONOMIC DEVELOPMENT IN NIGERIA

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Abstract

Nigeria's rising domestic debt has become a major policy concern, yet the different channels through which it affects economic development remain poorly understood. In particular, the distinction between market-based domestic borrowing and direct monetary financing through Ways and Means Advances has received limited attention. This study therefore examined the effect of domestic open market borrowing and Ways and Means Advances on economic development in Nigeria from 1981 to 2025. Using per capita income as a proxy for economic development, the study employed the Autoregressive Distributed Lag, ARDL, model to estimate both long-run and short-run relationships. The results show that both components of domestic debt undermine economic development. In the long run, a 1% increase in Ways and Means Advances reduces per capita income by 1.08%, while a 1% increase in domestic open market borrowing reduces it by 0.37%. Both effects are statistically significant, suggesting that monetary financing is about three times more damaging to welfare than market borrowing. In the short run, Ways and Means Advances also exert an immediate negative effect, whereas gross capital formation provides a positive but temporary boost. The error correction term of -0.55 confirms a stable long-run relationship, with about 55% of disequilibrium corrected each year. The study therefore concluded that Nigeria's continued reliance on Ways and Means Advances has come at a high cost to economic development. As such, it recommended strict enforcement of the 5% limit in the CBN Act 2007, improved revenue mobilization to reduce borrowing needs, and channeling borrowed funds into productive capital projects.

Keywords: Domestic open market borrowing, ways and means advances, economic development, per capital income, ARDL

1.0 Introduction

Fiscal deficits have made public borrowing a key policy tool in Nigeria for several decades. Two domestic channels through which the government meets financing gaps are domestic open market borrowing and Ways and Means Advances. Domestic open market borrowing involves the issuance of government securities such as Treasury Bills and Bonds to banks, other financial institutions, and the public through the Central Bank of Nigeria [CBN] and the Debt Management Office [DMO]. The main objective is to finance budget shortfalls and manage liquidity in the economy (Central Bank of Nigeria [CBN], 2023; Debt Management Office [DMO], 2022). Ways and Means Advances are different. They are short-term overdraft facilities extended by the CBN to the Federal Government to cover temporary mismatches between revenue and expenditure, with the expectation that they will be repaid once expected inflows are received (CBN Act, 2007, s. 38).

Nigeria's dependence on domestic borrowing increased significantly after the Structural Adjustment Programme of 1986. The trend became more pronounced after 2015 as oil revenue declined, exchange rate volatility rose, and public spending pressures mounted (National Bureau of Statistics [NBS], 2024; International Monetary Fund [IMF], 2023). In principle, domestic borrowing can support growth by funding infrastructure and social programs. However, when borrowing is excessive, it can lead to higher interest rates, crowd out private sector credit, and raise debt service costs. These outcomes reduce the fiscal space available for development and can affect the welfare of citizens (Easterly, 2001; Pattillo, et. al., 2002).

Measuring economic development can be complex, but per capita income remains a common indicator of living standards because it reflects the average output available to each person (Todaro & Smith, 2020). For Nigeria, the critical question is whether the rising use of Domestic Open Market Borrowing and Ways and Means financing translates into higher Per Capita Income through productive spending, or whether it weakens development by fueling inflation, creating debt overhang, and limiting resources for capital projects.

Existing studies on Nigeria present mixed results. Some evidence suggests that domestic debt can support output and incomes when it is invested in productive activities (Adofu & Abula, 2010; Oke & Sulaiman, 2012). Other studies argue that heavy reliance on domestic debt and monetary financing through Ways and Means undermines fiscal sustainability and diverts resources from health, education, and infrastructure (Obi & Nwosu, 2017; Okonjo-Iweala & Osafo-Kwaako, 2007). A limitation of most of this literature is that it focuses on total public debt or uses GDP growth as the dependent variable. Few studies isolate domestic open market borrowing and Ways and Means Advances and test their specific effect on per capita income over a long period in Nigeria.

This study addresses that gap. Two reasons make this important. First, Ways and Means financing has direct monetary implications. If not repaid within the legal limit, it can expand money supply and contribute to inflationary pressure (CBN, 2021). Second, the period 1981 to 2025 covers major policy shifts in Nigeria: the pre-SAP era, the SAP and debt relief period, and the post-2015 era characterized by fiscal stress and rising domestic debt. A 45-year analysis provides a clearer picture of how the scale and composition of domestic borrowing have influenced development outcomes.

Grounded in Debt Overhang Theory (Krugman, 1988) and the Crowding-Out Hypothesis (Friedman, 1978), this study examines the effect of Domestic Open Market borrowing and Ways and Means Advances on Per Capita Income in Nigeria from 1981 to 2025. It also controls for inflation, government expenditure, and investment to isolate the unique contribution of the two borrowing instruments.

The findings would offer practical guidance to fiscal and monetary policymakers on how domestic borrowing choices affect welfare. The goal is to identify borrowing patterns that support economic development without compromising debt sustainability in Nigeria

2.0 Literature Review

Public borrowing is a fiscal tool through which governments mobilize resources to cover expenditure when current revenue is inadequate. In Nigeria, domestic borrowing has become the dominant source of deficit financing, especially in the face of volatile oil earnings and rising recurrent costs. Two instruments stand out in the Nigerian context: domestic open market borrowing and Ways and Means Advances.

Domestic Open Market Borrowing refers to the sale of government securities such as Treasury Bills, FGN Bonds, and Sukuk to domestic investors, banks, pension funds, and the general public. The process is coordinated by the Debt Management Office [DMO] in collaboration with the Central Bank of Nigeria [CBN] (DMO, 2022). The primary purpose is twofold: to finance budget deficits and to manage liquidity in the banking system. When the government issues securities, it absorbs excess money from the economy, which can help control inflation. At the same time, it

creates an avenue for households and institutions to save. However, large-scale issuance can push up interest rates and compete with the private sector for available funds (Easterly, 2001). The appeal of open market borrowing lies in its transparency and market-based pricing. Interest rates are determined by demand and supply, and repayment terms are clearly stated. Yet, the cost can be high. As domestic debt stock grows, a larger share of government revenue goes to debt servicing. This reduces funds available for health, education, and infrastructure the very areas that drive long-term development (Obi & Nwosu, 2017).

Ways and Means Advances are different in nature. They are direct overdraft facilities granted by the CBN to the Federal Government under Section 38 of the CBN Act 2007. The idea is to provide short-term bridge financing pending the arrival of expected revenue such as oil receipts or tax collections (CBN, 2007). Statutorily, the total outstanding Ways and Means should not exceed 5% of the previous year's actual revenue, and it should be repaid within the financial year. In practice, however, Ways and Means has often exceeded these limits and has been rolled over for several years. This makes it functionally similar to monetary financing. When the CBN creates money to lend to government, it expands the money supply. If the borrowed funds are not channeled to productive uses, the result is often inflation and exchange rate depreciation (CBN, 2021). Unlike open market borrowing, Ways and Means does not go through the market and therefore lacks immediate market discipline. This is why economists view it as a riskier form of domestic borrowing.

Per Capita Income: as a measure of Economic Development. Economic development goes beyond GDP growth. It is about how economic output translates into improved living standards for the average person. Per capita income is measured by GDP divided by population, and it is widely used because it captures the average resources available to each citizen (Todaro & Smith, 2020). In Nigeria, where population growth is rapid, even moderate GDP growth may not lead to higher per capita income if it is not sustained and inclusive.

For fiscal policy to improve welfare, borrowed funds must be invested in projects that raise productivity: roads, power, education, and health. If borrowing is used to finance recurrent consumption or debt service, per capita income would stagnate despite rising debt. This is the central concern in Nigeria today. Between 2015 and 2024, domestic debt more than tripled, but poverty and unemployment remained high (NBS, 2024; IMF, 2023). This suggests a weak link between borrowing and welfare outcomes.

In sum, domestic open market borrowing and Ways and Means Advances are both responses to fiscal pressure, but they operate through different channels. One works through the market and the other through the central bank's balance sheet. Their implications for inflation, interest rates, and ultimately per capita income may therefore differ. Understanding this distinction is critical for policy.

Theoretical Framework

This study is anchored on two complementary theories: Debt Overhang Theory and Crowding-Out Hypothesis.

Debt Overhang Theory was popularized by Krugman (1988). The theory argues that when a country's debt rises to a level where future output is expected to be used largely for debt repayment, it discourages current investment. Both public and private investors anticipate higher future taxes to service the debt. As a result, they reduce investment today. In the Nigerian context, if domestic borrowing and Ways and Means accumulate without generating sufficient returns, the expectation of future debt service can crowd out development spending. This creates a situation where borrowing today reduces welfare tomorrow (Pattillo et. al., 2002).

Crowding-Out Hypothesis is associated with Friedman (1978), focuses on the short-run effect of government borrowing on private sector credit. When government borrows heavily from domestic sources, it competes with firms and households for loanable funds. This pushes interest rates upward and makes credit more expensive for the private sector. In Nigeria, where private investment is already constrained by infrastructure gaps, higher rates can further weaken job creation and income growth. If borrowed funds are not invested productively, the net effect on per capita income can be negative.

Together, these theories suggest that the effect of domestic borrowing on economic development is conditional. Borrowing can support growth if it funds productive projects. But if it is excessive or poorly managed, it can create debt overhang and crowd out private activity, thereby lowering per capita income. This framework guides the examination of both open market borrowing and Ways and Means in the Nigerian economic development context.

Empirical Review

Several studies have examined the relationship between public debt and economic performance in Nigeria, but findings remain mixed and context-specific.

Early Nigerian studies focused largely on total domestic debt and GDP growth. Adofu and Abula (2010) investigated domestic debt and the Nigerian economy from 1990 to 2009. They found a positive relationship, arguing that when debt finances capital projects it can stimulate output. Oke and Sulaiman (2012) covered 1980 to 2010 using OLS and also reported a significant positive effect of domestic debt on growth. They concluded that Nigeria's problem was less about borrowing and more about how borrowed funds were managed.

Obi and Nwosu (2017) took a more cautious view. Using data from 1981 to 2015, they found that high debt service payments reduced fiscal space for development spending and had a negative effect on growth. They emphasized debt sustainability over debt level. Okonjo-Iweala and Osafo-Kwaako (2007) approached the issue from a policy angle, arguing that borrowing for recurrent expenditure rather than investment worsened Nigeria's debt overhang in the 1980s and 1990s. Recent studies have started to disaggregate debt and to pay closer attention to post-2015 developments, which is critical given the surge in domestic borrowing.

Asaolu et. al.,(2025) examined the effect of domestic debt components on human development in Nigeria from 2000 to 2023. Using ARDL, they found that FGN Bonds had a positive effect on health and education spending, but Treasury Bills had a negative effect due to high rollover costs. Their work suggests that not all domestic borrowing instruments affect welfare the same way.

Amu et. al.,(2025) focused specifically on Ways and Means financing and inflation dynamics in Nigeria from 2010 to 2024. They used a VAR model and found that a 1% increase in Ways and Means balance led to a 0.32% increase in inflation within two quarters. They argued that the repeated securitization of Ways and Means after 2020 weakened monetary policy credibility and eroded real incomes.

Ogonegbu and Kagwaini (2025) analyzed the impact of domestic borrowing on inclusive growth in Nigeria from 2005 to 2024. Their panel ARDL results showed that while open market borrowing supported capital expenditure, it crowded out private credit, especially for SMEs. The net effect on per capita income was insignificant, suggesting leakage between borrowing and welfare outcomes.

Ojonye et. al.,(2024) studied fiscal deficits, domestic debt, and living standards in Nigeria from 1999 to 2023. Using DOLS estimation, they reported that domestic debt had a threshold effect: below 25% of GDP it supported per capita income, but above that it became detrimental. They linked the post-2016 deterioration to rising debt service and low capital budget implementation.

Oyadeyi et. al.,(2024) examined the transmission channels of Ways and Means Advances to household welfare using data from 2015 to 2023. Their findings indicated that Ways and Means contributed to exchange rate depreciation and food inflation, which disproportionately affected low-income households. They concluded that monetary financing had weakened the link between government spending and improved living standards. Institutional reports also highlight the same concerns. CBN (2021) and CBN (2023) statistical bulletins show that Ways and Means balances rose from ₦1.35 trillion in 2015 to over ₦22 trillion by 2023 before partial securitization. The IMF (2023) Article IV consultation warned that continued reliance on central bank financing poses risks to price stability and debt sustainability. NBS (2024) data further show that despite rising domestic debt, per capita income in real terms has been stagnant since 2015.

Outside Nigeria, the literature also points to conditional effects. Pattillo et. al.,(2002) found that debt becomes a drag on growth after a certain threshold. Easterly (2001) argued that without productive use, borrowing does not translate to higher living standards.

Synthesis and Gaps in the Literature

Three patterns emerge. First, older studies are largely optimistic about domestic debt but use GDP and aggregate debt. Second, newer studies from 2024-2025 are more critical and begin to separate instruments and to use welfare measures. Third, there is growing evidence that Ways and Means have distinct inflationary and distributional effect compared to market borrowing.

Despite this progress, a gap remains. No study to date has, over a 45-year period, directly and separately estimated the effect of domestic open market borrowing and Ways and Means Advances on per capita income in Nigeria while controlling for inflation, expenditure, and investment. This study fills that gap.

Besides, disaggregation is incomplete. While Asaolu et al. (2025) and Ogonegbu and Kagwaini (2025) separate bond types, none isolates Ways and Means from open market borrowing in a single model with per capita income as the outcome.

Also, welfare measurement is emerging but limited. Ojonye et al. (2024) and Oyadeyi et al. (2024) move toward living standards, but their periods are short and post-2015. A longer horizon from

1981 to 2025 is needed to compare across policy regimes. The post-securitization period of 2023-2025 and its effect on real income has not been empirically tested. This study covers that period.

Therefore, by addressing these gaps, this study provides timely evidence for CBN, DMO, and Ministry of Finance on how to structure domestic borrowing to protect per capita income

3.0 Methodology

Research Design and Data Sources. This study employed an ex-post facto design using annual time series data from 1981 to 2025. The design is suitable because the study examines events that have already occurred and cannot be manipulated. The 45-year period was selected to capture major policy shifts in Nigeria, from the pre-Structural Adjustment era, through SAP and debt relief, to the post-2015 period of fiscal stress and rising domestic debt.

Data were sourced entirely from official publications to ensure reliability. The Central Bank of Nigeria [CBN] Statistical Bulletin provided figures on domestic open market borrowing, Ways and Means Advances, inflation, and government expenditure. The National Bureau of Statistics [NBS] supplied data on GDP, population, and per capita income. The Debt Management Office [DMO] Annual Reports were used to cross-check domestic debt figures, while the World Bank World Development Indicators helped fill gaps and ensure consistency. All variables are measured annually, giving 45 observations.

Model Specification and Variable Measurement. The study investigates how two domestic borrowing instruments affect economic welfare, measured by per capita income. Per capita income is used because it reflects the average resources available to each Nigerian, which is more relevant for development than aggregate GDP alone (Todaro & Smith, 2020).

The model is grounded in Debt Overhang Theory (Krugman, 1988) and the Crowding-Out Hypothesis (Friedman, 1978). Following Adofu and Abula (2010) and Obi and Nwosu (2017), the variables are specified in log form to minimize heteroscedasticity and allow direct interpretation of coefficients as elasticity's.

The model is stated as:

$$\ln PCIt = \beta_0 + \beta_1 \ln DOMt + \beta_2 \ln WAMt + \beta_3 \ln INFt + \beta_4 \ln GEXPt + \beta_5 \ln GCFt + \varepsilon_t$$

Where:

PCI= Per Capita Income measured as GDP divided by population

DOM = Domestic Open Market Borrowing: total Treasury Bills, FGN Bonds and other domestic securities [Billion Naira]

WAM = Ways and Means Advances: outstanding CBN overdraft at year end [Billion Naira]

INF = Inflation Rate: annual consumer price index [%]

GEXP = Government Expenditure: total federal spending [Billion Naira]

GCF = Gross Capital Formation: proxy for investment [% of GDP]

ε = error term, and t = 1981 to 2025[Naira]

A priori expectation and controls justification: β_1 and β_2 may be positive if borrowing finances productive projects, or negative if it leads to debt overhang and crowding out. β_3 is expected to be negative, while β_4 and β_5 are expected to be positive. The inclusion of inflation, government

expenditure, and investment as controls is important. Inflation reduces real purchasing power, while government spending and capital formations are traditional drivers of output and welfare.

Estimation Procedure

Because the data are time series, care was taken to avoid spurious results. The analysis followed a sequence of tests common in applied macroeconomics.

First. The Augmented Dickey-Fuller [ADF] test was conducted to determine the order of integration of the variables. This step is necessary because regressing non-stationary variables can produce misleading results.

Second, given the mixed orders of integration and the relatively small sample of 45 observations, the Autoregressive Distributed Lag [ARDL] bounds testing approach was adopted. The ARDL method is preferred to Johansen cointegration in this context because it accommodates variables that are $I(0)$, $I(1)$, or a mix of both, and it estimates both long-run and short-run relationships simultaneously. This is particularly useful for this study because Ways and Means Advances are inherently short-term, while open market borrowing has more structural effects.

The ARDL model also allows for the estimation of an error correction term, which shows the speed at which the system returns to equilibrium after a shock. To ensure the reliability of results, several diagnostic tests were performed. These include tests for serial correlation, heteroscedasticity, and normality of residuals.

Ethical Consideration

This study used publicly available secondary data. As such, no direct interaction with human subjects occurred and no ethical approval was required. However, efforts were made to ensure accuracy in data extraction, proper documentation of sources, and adherence to academic integrity standards to avoid plagiarism.

4.0 Results and Discussion

The Augmented Dickey-Fuller (ADF) unit root test was applied to investigate the integration properties of the time series data and test the null hypothesis of unit root against the alternative stationary hypothesis. The series are expected to be stationary in order to establish long run relationship among the variables. The 5% Mackinnon Critical value was applied, and the levels of integration of the variables are reported in Table 1.

Table 1:
Augmented Dickey-Fuller (ADF) Unit Root Test Result

Variable	At Level			At First Difference			Level of integration
	Test statistics	5% critical value	Prob	Test statistics	5% critical Value	Prob	
PCI	-0.3664	-2.9323	0.8860	-4.7153	-2.9312	0.0017	I (1)
WAM	-1.42617	-2.9511	0.6460	-4.3993	-2.9313	0.0016	I (1)
DMO	-1.8093	-2.9323	0.3273	-5.3938	-2.9311	0.0012	I (1)
GCF	0.4807	-2.9311	0.9782	-4.5597	-2.9311	0.0029	I (1)
GEXP	1.0116	-2.9311	0.9080	-3.0089	-2.9311	0.0461	I (1)
INF	-4.2905	-2.9511	0.0035	-	-	-	I (0)

Source: E-view 12.0 Version Output.

From Table 1, the results of the unit root test revealed Inflation rate (INF) as stationary at level because its test statistic is significant at 5% level. This means that inflation is integrated of order zero at 5% significant level. The test also revealed per capita income (PCI), ways and means (WAM), domestic open market borrowing (DOM), gross capital formation (GCF) government expenditure (GEXP), and Inflation rate (INF) as stationary after first difference. The results indicate that the variables are integrated of order one at 5% significant level. The findings show that while inflation rate is stationary at level, other variables contained unit root but became stationary after first differencing.

Lag Selection

Systematic lag selection is crucial when ARDL technique is applied. Choosing the right lags determines the accuracy of the short-run dynamics, long-run cointegration bounds tests, and the general validity of the model (Gujarati, 2004, Brooks, 2008). Too few lags length omit important dynamic information, leading to residual serial correlation, causing biased estimates, and too many lags consume relevant data points, causing an inflated standard errors, leading to insignificant coefficient estimates. The appropriate and optimal lag length for the Autoregressive Distributed lag process was determined by Akaike's information criterion (AIC), Schwarz's information criterion (SIC), Likelihood Ratio (LR) and Hannan-Quinn Criterion (HQ). The result of the Lags selection criteria is presented in Table 2.

Table 2:
Lag Selection Result

Lag	LR	AIC	SIC	HQ
0	NA	56.306	68.548	62.235
1	263.287	54.567*	57.106*	55.421
2	102.845	50.281	54.065	50.228

Source: E-view 12.0 Version Output.

**lag order selected by the criterion.*

From the result in Table 2, the selected lags length is indicated by an asterisk (*), which is lag 1. As such, the optimum lags length selected for this model based on the AIC and SIC criteria is one (1).

ARDL Bounds Test Co-Integration Result

From Table 1, it was revealed that while one of the variables was stationary at level, others became stationary after first differencing. With the scenario, there would be an associated complication conducting an F-test, because exact critical values for the test are not available for an arbitrarily mix of I(0) and I(1) variables. To address the scenario, bounds co-integration test was conducted, and the result is presented in Table 3.

Table 3:
ARDL Bounds Test Result

LOS	I(0) Bound	I(1) Bound
10%	2.06	3.56
5%	2.40	3.72
2.5%	2.86	4.12
1%	3.28	4.86
F-Stat	4.9236	
D.F	6	

Source: E-view 12.0 Version Output.

Table 3 reveals that computed ARDL F-statistic is greater than the 5% upper bound critical values, ie $4.92 > 3.72$. Therefore, it is concluded that the variables are integrated of order one i.e. I(1), and are co-integrated. Hence, the null hypothesis of no long run relationship among the variables of the model cannot be accepted. The implication of this result is that the variables would sustain their togetherness in the long run and without wandering apart from one another. Although, the variables could deviate from their relationship in the short run, their relationship would return in the long run (Peseran et al, 2001; Gujarati, 2004).

Based on this finding, it is hereby concluded that with the support of macroeconomic variables used as controls, there exist a stable long run relationship among the variables. As such, the variables used in the model would be able to explain the variations in the Nigerian economic development in the long run.

The ARDL Model Results

The short-run and long-run results are presented in Table 4. Also, the statistical properties and post diagnostic test result is presented in Table 5.

Table 4:
ARDL Short and Long Run Results
Dependent Variable: PCI

Long Run Estimates				Short Run Estimates			
Variable	Coefficient	t-stat	Prob	Variable	Coefficient	t-stat	Prob
WAM	-1.080744**	-4.160957	0.0038	ΔPCI_{t-1}	+0.339709	1.246184	0.3640
DOM	0.368933*	-3.541951	0.0230	ΔWAM_t	-0.268792*	-3.830506	0.0216
GCF	0.319693	0.784416	0.5426	ΔWAM_{t-1}	-0.297126*	-3.562455	0.0415
INF	-0.020401**	-3.810319	0.0038	ΔDOM_t	-0.089893	-1.064467	0.1598
GEXP	0.014356	1.649462	0.0863	ΔGCF_t	0.564038**	4.250431	0.0013
C	12.061968*	2.038863	0.0454	ΔGCF_{t-1}	0.308653	1.900583	0.1056
				ΔINF_t	-0.001305	-1.638539	0.0847
				$\Delta GEXP_t$	0.003669	0.634386	0.6589
				$\Delta CointEq_{t-1}$	-0.549463**	-3.898286	0.0015

Source: E-view 12.0 Version Output. * Implies significant at 5% ** Implies significant at 1%

Table 5:
Statistical Properties and Post Diagnostic Results

Statistical Properties of Results		Post Diagnostic Tests Result	
R-squared	0.6502	BPG Heteroscedasticity (F-Stat)	5.1002
Adj R-squared	0.5984	BPG Heteroscedasticity Prob. F	0.3732
F-statistic	7.8243	Prob. Chi-Square	0.0529
Prob(Fstatistic)	0.0000	B-G Serial Correlation LM (F-Stat)	1.6894
Durbin-Watson Stat	2.2952	B-G Serial Correlation LM Prob. F	0.1882
:		Ramsey RESET (F-Stat)	0.6823
		Ramsey RESET Prob. (F – Stat.)	0.3216
		Ramsey RESET (t – Stat.)	0.6843
		Ramsey RESET Prob. (t – Stat.)	0.4632

Source: E-view 12.0 Version Output.

From Table 4, the long-run estimates reveal that domestic debt exerts a negative pressure on living standards in Nigeria. Ways and Means Advances appear to be the more damaging channel. The result shows that a 1% rise in WAM is associated with a 1.08% fall in per capita income, and this relationship is significant at 1%. Domestic borrowing through open market instruments also matters, with a 1% increase leading to a 0.37% decline in per capita income at 5% significance. The gap in magnitude suggests that financing deficits directly from the Central Bank hurts household welfare far more than borrowing from the public. This outcome aligns with expectations from fiscal dominance and debt overhang arguments, where excessive government borrowing squeezes out resources meant for productive use. This result is in tandem with findings of Obi and Nwosu (2017), Ojonye, et al. (2024) and Oyadeyi, et al. (2024) that debt not used for production is detrimental to development.

Among the control variables, government spending carries a positive but very small long-run effect. A 1% increase in GEXP raises per capita income by just 0.01%, significant only at 10%. Capital formation is positive but fails to attain statistical significance, which may point to inefficiencies and leakages in public investment over the sample period. Inflation enters with the expected negative sign. A one percentage point increase in inflation reduces per capita income by 0.02% in the long run, confirming that price instability erodes real purchasing power.

Turning to the short run, the pattern is largely consistent. Changes in WAM have an immediate negative effect. A 1% increase in WAM cuts per capita income by 0.27% in the same year and by a further 0.30% in the following year, both significant. DOM however does not show any significant short-run impact, suggesting that its adverse effect builds up gradually. On a brighter note, gross capital formation delivers quick gains. A 1% increase in GCF boosts per capita income by 0.56% within the year at 1% significance. Inflation also weighs down welfare in the short term, though the effect is mild.

The error correction term is -0.55 and significant at 1%. The negative sign confirms that a long-run relationship exists, while the size tells us that about 55% of any deviation from equilibrium is corrected within one year. This implies that after a shock, the system gravitates back to its long-run path in less than two years.

Taken together, the evidence points to one key message: domestic debt, especially recourse to Ways and Means, has undermined welfare in Nigeria. The effect is felt both immediately and over time. For policy, this strengthens the case for respecting the 5% statutory limit on WAM in the CBN Act 2007, improving revenue generation to reduce borrowing needs, and ensuring that whatever is borrowed is directed to growth-enhancing capital projects. Without these, debt will continue to crowd out welfare instead of supporting it.

From Table 5, the R-squared value of 0.6502 shows that about 65% of the variation in per capita income is explained by the variables in the model. The adjusted R-squared of 0.5984 confirms that the fit remains strong even after accounting for the number of regressors. The F-statistic of 7.8243 is significant at 1% level with a p-value of 0.0000. This tells us that the model as a whole is statistically meaningful and the variables jointly explain changes in welfare.

The Durbin-Watson statistic of 2.2952 is close to 2, which suggests there is no serious problem of autocorrelation in the residuals. For post-estimation tests, the Breusch-Pagan-Godfrey test for heteroscedasticity gives an F-statistic of 5.1002 with a p-value of 0.0532. At 5% level, we cannot reject the null hypothesis of constant variance. Similarly, the Breusch-Godfrey LM test for serial correlation reports an F-statistic of 1.6894 with a p-value of 0.1882. This also indicates no evidence of serial correlation.

The Breusch Pagan test for heteroscedasticity produced an F-statistic value of 5.1002 with a probability value of 0.3732. Since the probability value is statistically significant, the null hypothesis of homoscedasticity cannot be rejected. Hence, the results indicate that the error variance is constant and the model is therefore valid and reliable for inference.

Finally, the Ramsey RESET test has an F-statistic of 0.6823. The result implies that the model is correctly specified and there is no functional form problem.

In short, the diagnostics confirm that the ARDL model is stable, well-specified, and free from heteroscedasticity and autocorrelation. We can therefore rely on the estimated coefficients for policy interpretation

5.0 Conclusion and Recommendations

This study set out to examine how domestic debt affects living standards in Nigeria between 1981 and 2025, with a focus on separating Ways and Means Advances from regular open market borrowing. Using the ARDL approach, the findings show a clear and consistent pattern: domestic debt has not helped household welfare.

In the long run, both WAM and DOM reduce per capita income. However, WAM is the bigger problem. A 1% increase in Ways and Means leads to more than a 1% drop in per capita income. By comparison, the same increase in market borrowing reduces income by less than half that amount. This tells us that printing money to finance deficits does far more damage than borrowing from the public.

The short-run results tell the same story. WAM hurts welfare immediately, while the negative effect of DOM builds up over time. Capital formation does provide quick gains, but its long-run impact is weak, likely because a large share of borrowed funds never translates into productive projects. Inflation also consistently drags welfare down.

The error correction result confirms that the relationship is stable. About 55% of any shock is corrected within a year, meaning the economy adjusts fairly quickly, but always back to a path where high domestic debt means lower living standards.

Overall, the evidence suggests that Nigeria's rising reliance on domestic debt, especially monetary financing, has come at a direct cost to the average citizen.

Policy Recommendations

Based on the findings, four practical steps stand out:

- i. Making realistic assumption of revenue and expenditure projection.

Federal government should regulate its borrowing by making realistic assumptions of its revenue and expenditure projections. If there is less deficit, there would be a lower urge to borrow.

- ii. Enforce the legal limit on Ways and Means Advances

The CBN Act 2007 caps WAM at 5% of previous year's revenue. This limit has been breached repeatedly. Given that WAM has the largest negative effect on welfare, government and the CBN must return to this rule and treat it as binding, not optional. Monetary financing should be a last resort, not a budgetary tool.

- iii. Reduce dependence on domestic borrowing through better revenue mobilization

Since both forms of domestic debt hurt welfare, the sustainable solution is to borrow less. This means widening the tax net, cutting leakages, and improving the efficiency of public spending. When borrowing becomes unavoidable, it should be transparent and tied to projects with clear returns.

- iv. Channel borrowed funds into productive capital expenditure

Capital formation gave the only positive and significant short-run boost to per capita income. This means debt can still work if it is used well. Government should prioritize infrastructure, health, and education projects that raise productivity, and put mechanisms in place to monitor implementation and reduce waste.

If these steps are taken, debt can shift from being a burden on households to a tool that actually supports growth and living standards. Without them, the current path will continue to erode welfare.

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