International Journal of
Development Strategies in Humanities, Management and Social Sciences
p-ISSN: 2360-9036 | e-ISSN: 2360-9044
IJDSHMSS
July, 2025
Vol. 15, No. 1

The Impact of Expansionary Monetary Variables on Economic Growth in Nigeria from 2000 to 2024

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Article DOI:
10.48028/iiprds/ijdshmss.v15.i1.19

Keywords:
Expansionary, Monetary Variables and Economic growth

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Abstract

This study investigates the impact of expansionary monetary variables on economic growth in Nigeria from 2000 to 2024, utilizing the Autoregressive Distributed Lag (ARDL) approach to capture both short-run dynamics and long-run equilibrium relationships. The model incorporates real GDP as the dependent variable, while broad money supply (M2), credit to the private sector (CPS), exchange rate (LOGEXCH), inflation rate (INFL), and monetary policy rate (MPR) serve as the independent variables. The empirical results show that M2, LOGEXCH, and INFL are positively related to economic growth but are statistically insignificant, suggesting limited short-run effectiveness of these policy tools. CPS and MPR exhibit negative coefficients and are also statistically insignificant, indicating weak credit transmission and ineffective interest rate signaling mechanisms. The constant term is positive and significant, reflecting structural or autonomous growth tendencies in the Nigerian economy. The overall model is statistically significant with a high explanatory power ($R^2 = 0.9973$), and the F-statistic confirms joint significance of the regressors. In light of these findings, the study offered key policy recommendations, among them were to intensify efforts to deepen the financial system and improve private sector credit allocation mechanisms, promote exchange rate stability through credible macroeconomic coordination to improve investor confidence and trade performance and improve inflation targeting mechanisms by addressing structural bottlenecks that feed inflation inertia.

Background to the Study

Monetary policy remains a cornerstone of macroeconomic stabilization in developing economies, particularly in resource-dependent countries like Nigeria, where fiscal constraints, structural rigidities, and frequent exposure to external shocks limit the efficacy of fiscal policy instruments. As such, monetary policy often assumes a more proactive role in stimulating aggregate demand, managing inflation, and promoting long-term growth (Mishkin, 2007; Ajakaiye & Fakiyesi, 2009). In Nigeria, the Central Bank of Nigeria (CBN) has persistently adopted expansionary monetary strategies since the early 2000s to facilitate inclusive growth and support critical sectors. These strategies include increasing broad money supply (M2), expanding credit to the private sector, and manipulating the Monetary Policy Rate (MPR), complemented by targeted interventions in agriculture, manufacturing, and MSMEs (CBN, 2023).

Theoretically, expansionary monetary policies reduce borrowing costs, increase liquidity, and encourage investment and consumption, thereby stimulating real economic output (Friedman, 1968; Romer, 1990; Blanchard & Johnson, 2017). Between 2000 and 2024, Nigeria's monetary policy landscape was shaped by major shocks, including the 2008–09 global financial crisis, the 2014 oil price collapse, the COVID-19 pandemic, and recurrent episodes of exchange rate instability. Broad money supply expanded from ₦1.5 trillion in 2000 to over ₦109 trillion by Q3 2024 a staggering 7,000% increase driven by quantitative easing, deficit monetization, and exchange rate adjustments (CBN, 2024). Similarly, private sector credit rose sharply from ₦1.2 trillion to ₦75.5 trillion during the same period (NBS, 2024).

Yet, despite this monetary expansion, Nigeria's economic performance has been lackluster. Real GDP growth fell from an annual average of 6.3% between 2000 and 2010 to just 2.3% between 2015 and 2023 (World Bank, 2024). This paradox characterized by rapid monetary growth without corresponding output gains—raises critical questions about the effectiveness of monetary policy transmission mechanisms in Nigeria (Ajagbe & Usman, 2025). Multiple theoretical channels explain how monetary policy influences growth: the interest rate channel (lowering borrowing costs), the credit channel (increasing investment), and the aggregate demand channel (boosting consumption) (Mishkin, 2007). However, empirical evidence suggests these channels are weak or distorted in Nigeria due to inflationary pressures, weak institutions, underdeveloped financial markets, and crowding-out effects from fiscal dominance (Jato & Nwankwo, 2024; IMF, 2023). For example, inflation hit 34% in May 2024 largely due to exchange rate pass-through and energy costs eroding real incomes and investor confidence (CBN, 2024). Moreover, the credit-to-GDP ratio remains below 30%, compared to Sub-Saharan Africa's average of 33% and a global average exceeding 100% (World Bank, 2024), underscoring the shallowness of Nigeria's financial system. Fiscal dominance has also constrained monetary policy effectiveness, with public borrowing often crowding out private sector lending (Jato & Nwankwo, 2024).

This study is therefore motivated by the urgent need to reevaluate the monetary-growth nexus in Nigeria. While past interventions such as the Anchor Borrowers Programme and COVID-19 stimulus loans aimed to enhance productivity and resilience, their impact on real growth has been modest and inconsistent (Ogun & Adeyemi, 2024). Thus, this research empirically investigates how expansionary monetary variables; M2, credit to the private sector, and interest rates have influenced economic growth in Nigeria from 2000 to 2024, within the context of structural and institutional constraints.

Statement of the Problem

Despite sustained expansionary monetary efforts, Nigeria's real output growth remains sluggish and inconsistent. Between 2000 and 2024, the broad money supply surged by over 7,000% while credit to the private sector increased by more than 6,000% (CBN, 2024). However, GDP growth averaged just 2.3% between 2015 and 2023, down from 6.3% in the preceding decade (NBS, 2024). This persistent disconnect often termed the "monetary-growth paradox" suggests a breakdown in the expected transmission mechanisms between monetary variables and economic growth (Adebayo & Okoye, 2023). Several structural issues explain this divergence. Nigeria's financial system remains shallow and fragmented. The credit-to-GDP ratio stands at under 30%, well below both regional and global benchmarks, which constrains the financial sector's ability to mobilize savings and allocate credit effectively (World Bank, 2024). Furthermore, public sector borrowing continues to crowd out private investment, as documented by Jato and Nwankwo (2024), who found that a unit increase in public debt reduces private credit by approximately 1.5 units reflecting significant fiscal dominance.

Persistent inflation further undermines monetary policy effectiveness. As of May 2024, inflation stood at 34%, driven by energy prices, supply chain disruptions, and the depreciation of the naira (IMF, 2023). This has weakened consumer purchasing power, distorted investment decisions, and shortened the planning horizon for economic agents. Moreover, the interest rate channel remains ineffective. The MPR was raised to 26.25% in 2024 in an attempt to contain inflation, but this simultaneously stifled credit expansion and discouraged investment, particularly among SMEs (CBN, 2024).

Institutional inefficiencies have also plagued CBN's interventionist strategies. For example, the Anchor Borrowers Programme and the ₦3 trillion COVID-19 stimulus disbursed in 2020 achieved limited output gains. Ogun and Adeyemi (2024) report that only 40% of the disbursed funds translated into measurable improvements in productivity or output, largely due to weak targeting, political interference, and corruption.

Despite a growing body of literature on monetary policy in Nigeria, significant gaps remain. First, existing studies often use narrow timeframes or fail to account for the recent structural reforms, such as the post-2023 transition to a unified exchange rate system. Second, few studies integrate macroeconomic and sectoral perspectives to assess the impact of monetary policy across different segments of the economy. Third, the role of

interest rates as both a policy tool and a transmission channel remain underexplored within Nigeria's high-inflation environment (Ajagbe & Usman, 2025; Adebayo & Okoye, 2023). This research therefore addresses these problems.

Research Objectives

1. To examine the impact of broad money supply (M2) on economic growth in Nigeria from 2000 to 2024.
2. To assess the effect of private sector credit on Nigeria's economic growth over the same period.
3. To investigate the influence of interest rate (monetary policy rate) on economic growth in Nigeria.

Research Questions

1. What is the impact of M2 on Nigeria's economic growth between 2000 and 2024?
2. How does private sector credit affect economic growth in Nigeria during the study period?
3. What influence does the interest rate (MPR) have on Nigeria's economic growth from 2000 to 2024?

Research Hypotheses

1. H_{01}: Broad money supply (M2) has no significant impact on economic growth in Nigeria from 2000 to 2024.
2. H_{02}: Private sector credit does not significantly influence Nigeria's economic growth during the study period.
3. H_{03}: Interest rate (MPR) has no significant effect on Nigeria's economic growth from 2000 to 2024.

Literature Review

Conceptual Framework

This anchored in Keynesian macroeconomic theory, which posits that monetary expansion can stimulate economic activity in economies with underutilized resources. Specifically, increases in the broad money supply (M2) and reductions in the Monetary Policy Rate (MPR) lower borrowing costs, encourage private investment, and boost aggregate demand, thereby promoting real output growth (Keynes, 1936). This demand-side mechanism is particularly relevant to the Nigerian economy, which often faces high unemployment, low private sector investment, and weak aggregate demand. In operationalizing monetary expansion, the framework identifies Credit to the Private Sector (CPS) as a core transmission channel, capturing the extent to which monetary policy affects real sector activity. CPS reflects the banking system's ability and willingness to lend to businesses and households, thus linking policy signals (such as MPR changes or liquidity injections) to investment and consumption behavior. A well-functioning credit channel is therefore critical for the effectiveness of expansionary monetary policies in Nigeria.

To ensure a balanced perspective, the framework incorporates insights from Monetarist theory, particularly Friedman's (1968) argument that sustained growth in money supply above real output capacity may result in inflationary pressures. In a country like Nigeria, with weak inflation targeting and fiscal dominance, expansionary policies risk fueling inflation that could undermine long-term growth prospects. This necessitates a careful examination of both the growth-enhancing and inflationary consequences of monetary expansion. The framework models real GDP growth as a function of M2, MPR, and CPS, while incorporating key control variables to account for macroeconomic instability and policy interaction. These include Inflation (INF) to capture price effects, and Exchange Rate (EXCH) to control for external sector shocks and investor uncertainty. These variables are particularly important in the Nigerian context, where economic performance is sensitive to fiscal slippages, oil price fluctuations, and exchange rate reforms.

Finally, the framework justifies the use of dynamic econometric models such as the ARDL or VECM techniques, which allow for distinguishing between short- and long-run effects while accounting for structural breaks and policy regime shifts, such as the 2008 global financial crisis, COVID-19 disruptions, and recent monetary innovations like the e-Naira. This enables a robust empirical investigation of how expansionary monetary tools influence economic growth within Nigeria's volatile and structurally constrained economic environment.

Theoretical Framework

The relationship between expansionary monetary variables; broad money supply (M_2), private sector credit, and interest rates and economic growth in Nigeria from 2000 to 2024 is analyzed through three economic theories: Monetarist, Keynesian, and Endogenous Growth. These frameworks provide distinct yet complementary perspectives on how monetary policy influences output and the role of structural factors in mediating this relationship, offering a robust foundation for examining Nigeria's monetary policy–growth nexus.

Monetarist theory, as articulated by Friedman (1968), posits that changes in money supply directly affect nominal GDP in the short run via the quantity theory of money ($MV = PY$). An increase in M_2 is expected to enhance liquidity, stimulating consumption and investment. However, in the long run, money is neutral, impacting only prices. In Nigeria, M_2 surged from ₦1.5 trillion in 2000 to ₦109 trillion in 2024 (CBN, 2024), aligning with monetarist expectations of short-term output growth. Yet, persistent inflation (34% in 2024) and weak financial intermediation suggest that monetary expansion fuels price increases rather than real GDP, reflecting monetarist critiques of liquidity traps in developing economies with structural constraints (Laidler, 1993).

Keynesian theory emphasizes monetary policy's role in influencing aggregate demand through interest rates and credit channels (Keynes, 1936; Mishkin, 2007). Expansionary policies, such as lowering the Monetary Policy Rate (MPR) or expanding private sector

credit, reduce borrowing costs, boosting investment and consumption. In Nigeria, CBN's interventions, like the Anchor Borrowers Programme and ₦3 trillion in COVID-19 stimulus loans (CBN, 2021), embody Keynesian demand-side stimulus. However, high interest rates (MPR at 26.25% in 2024) and public sector crowding-out effects, where a unit increase in public debt reduces private credit by 1.5 units (Jato & Nwankwo, 2024), constrain private investment, highlighting the need to address structural frictions for effective transmission.

Endogenous growth theory, developed by Lucas (1988) and Romer (1990), posits that long-term growth is driven by endogenous factors such as financial development and innovation. Monetary policy can foster growth by promoting financial deepening, facilitating capital accumulation, and enhancing productivity. Nigeria's low credit-to-GDP ratio (under 30%) compared to global averages (World Bank, 2024) and inefficiencies in credit allocation to agriculture and MSMEs (Ajagbe & Usman, 2025) limit monetary policy's role in sustaining growth. This theory underscores the importance of structural reforms to enhance financial inclusion and sectoral productivity.

This study adopts endogenous growth theory as its primary framework because it effectively captures the interplay between monetary policy and Nigeria's structural challenges, such as weak financial intermediation, inflation inertia, and inefficient credit allocation. By integrating short-term insights from monetarist and Keynesian perspectives, the framework ensures a comprehensive analysis of how expansionary monetary variables influence both immediate and sustained economic growth, guiding policy recommendations to foster sustainable development in Nigeria.

Empirical Review

Empirical research on the monetary policy–economic growth nexus reveals significant heterogeneity across economic contexts, driven by differences in financial systems, institutional frameworks, and policy credibility. In advanced economies, Bernanke and Blinder (1992) highlight the efficacy of the credit and interest rate channels, demonstrating that monetary policy influences output through bank lending and investment. Similarly, Clarida et al. (2000) find that rule-based monetary frameworks, such as inflation targeting, enhance macroeconomic stability and promote sustained growth. These studies, however, rely on Vector Autoregression (VAR) models, which assume well-developed financial markets an assumption less applicable to developing economies.

In contrast, developing economies face structural impediments that weaken monetary transmission. Mishra et al. (2012) argue that in low-income countries, shallow financial systems, high informality, and fiscal dominance limit the effectiveness of conventional tools like interest rate adjustments. Their cross-country study, utilizing panel data, reveals significant lags in policy impact and underscores the need for complementary structural reforms. Similarly, Mbutor (2010) finds that in Sub-Saharan Africa, money supply growth influences output but is often offset by inflationary pressures and policy

inconsistencies. These studies, while insightful, often employ broad aggregates that obscure country-specific dynamics, limiting their applicability to Nigeria.

Ogun and Ajakaiye (2010), using a Structural Vector Autoregression (SVAR) model, found that broad money supply (M2) exerts a statistically significant but weak effect on real GDP, with fiscal policy overshadowing monetary interventions. Their reliance on short-term data (1990–2008) limits the capture of long-run dynamics, a gap this study seeks to address. Adebayo and Okoye (2023) further highlight the inefficacy of the Monetary Policy Rate (MPR) in high-inflation environments, attributing this to weak financial intermediation and structural rigidities. Their findings, based on a Vector Error Correction Model (VECM), suggest that alternative instruments, such as targeted credit schemes, may be more effective.

Ajagbe and Usman (2025) employed an Autoregressive Distributed Lag (ARDL) model to analyze data from 2000–2023, finding that private sector credit significantly drives long-run growth but is constrained in the short run by high credit risk and regulatory bottlenecks. Their study, while robust, does not account for recent policy shifts, such as the CBN's digital currency (e-Naira) and exchange rate unification, which could alter transmission dynamics. Recent CBN reports (CBN, 2024) indicate that initiatives like the Anchor Borrowers' Programme and e-Naira have expanded financial inclusion but face challenges from inflation persistence and exchange rate volatility. These developments highlight the need for studies that integrate both macroeconomic and microeconomic variables to fully capture monetary policy effects.

Research Gap

Despite the rich literature on monetary policy and economic growth in Nigeria, several gaps remain: Many studies rely on short-term datasets, which fail to capture the dynamic interplay of monetary variables across economic cycles (Ogun & Ajakaiye, 2010; Yusuf & Salisu, 2021). Existing research inadequately addresses recent innovations such as the CBN's credit stimulus programs, e-Naira adoption, and exchange rate unification, which have redefined Nigeria's monetary landscape (CBN, 2024). Most empirical models do not explicitly account for structural rigidities such as inflation persistence, fiscal dominance, and financial dualism—that distort monetary transmission (Adebayo & Okoye, 2023).

This study bridges these gaps by employing a comprehensive dataset spanning 2000–2024, utilizing advanced econometric techniques (e.g., ARDL and cointegration analysis) to distinguish short- and long-run effects, and incorporating structural variables such as institutional quality and financial inclusion metrics. By doing so, it offers a nuanced analysis of how expansionary monetary variables; broad money supply (M2), private sector credit, and interest rates interact with real output in Nigeria's structurally complex and policy-volatile economy.

Methodology

This study adopted a positivist epistemological stance, based on the premise that macroeconomic relationships are objective, measurable, and observable through empirical data (Creswell & Creswell, 2017). A quantitative, longitudinal ex post facto design is employed, leveraging secondary time series data to investigate causal linkages without manipulating variables. Annual time series data covering the period 2000–2024 were sourced from reliable national and international institutions (World Bank World Development Indicators (WDI), CBN Statistical Bulletin, IMF International Financial Statistics and Debt Management Office (DMO)) to ensure accuracy, credibility, and comparability. The study utilizes the following variables: Gross Domestic Product (GDP): Real GDP (constant 2010 prices, local currency) as a proxy for economic growth, Broad Money Supply (M2): A measure of monetary expansion (% of GDP), Monetary Policy Rate (MPR): The central bank's policy rate (%),Credit to the Private Sector (CPS): Indicator of financial intermediation (% of GDP), Inflation Rate (INF): CPI-based inflation (%) capturing price instability, and Exchange Rate (EXCH).

These variables were selected based on their relevance to monetary transmission mechanisms, theoretical justification (Keynes, 1936; Romer, 1990), and empirical precedent (Ajagbe & Usman, 2025; Adebayo & Okoye, 2023). Where data inconsistencies or missing values arise, interpolation and alternative sources (e.g., IMF vs. CBN) will be used, consistent with best practices (Enders, 2014).

Model Specification

A general functional form of the model is:

$RGDP\_t = f(M2_t, PSC_t, MPR_t, INF_t, EXCH_t)$

The log-linear econometric form is:

$$\ln(RGDP) = \beta_0 = \beta_1 \ln(M2_{t-1}) + \beta_2 \ln(PSC_{t-1}) + \beta_3 \ln(MPR_{t-1}) + \beta_4 \ln(INF_{t-1}) + \beta_5 \ln(EXCH_{t-1}) + e_t$$

Where;

lnRGDP = Natural log of Real Gross Domestic Product

M_2 = Broad Money Supply

PSC = Private Sector Credit

MPR = Monetary Policy Rate

INFL = Inflation Rate (control)

lnEXCH = Natural log of Exchange Rate

e_t = Stochastic error term

Table 1: A Priori Expectation

Variable	Symbol	Expected Sign	Theoretical Justification
Broad Money Supply	β_1	>0	Simulates liquidity and investment
Monetary Policy Rate	β_3	<0	Higher rates deter investment
Private Sector Credit	β_2	>0	Enhances Capital formation
Inflation rate	β_4	<0	Reduces purchasing power
Exchange Rate	β_5	<0	Increases uncertainty and reduces trade

Diagnostic and Stability Tests

Robustness of the model was validated using: Serial correlation test (Breusch-Godfrey), Heteroskedasticity test (White or Breusch-Pagan), Normality test (Jarque-Bera) and CUSUM and CUSUMSQ tests for model stability

Justification

The selected methodology was consistent with existing empirical literature on monetary policy in developing economies and is appropriate for capturing the complex dynamics between monetary expansion and economic growth in Nigeria. The use of ARDL ensured the model accommodates the long-run relationships, which was critical for policy relevance.

Data Presentation and Analysis

Unit Root Test

Unit root test was used to test the stationarity or non-stationarity of series data was used in the model. The null hypothesis for this test is that the variables are non-stationary, meaning that there is a presence of unit root. Thus, this study employed Augmented Dickey-Fuller (ADF) techniques to test and verify the unit root property of the series and stationarity of the model as captured below.

Table 2: Unit root tests for RGDP, EXDT, SPT and FXR

Variable	ADF t-statistics	P-value	5% critical value	Order of integration	Conclusion
LogRGDP	-3.673870	0.0116	-2.991878	I(1)	Stationary
LogM2	-3.535228	0.0162	-2.998064	I(1)	Stationary
MPR	-3.630790	0.0131	-2.998064	I(1)	Stationary
PSC	-4.102009	0.0046	-2.998064	I(1)	Stationary
INFL	-4.078933	0.0050	-3.004861	I(0)	Stationary
LogEXCH	-5.527646	0.0009	-3.248592	I(0)	Stationary

Source: Author's computation using E-views 10

Based on the ADF Unit root test, the result indicates that INFL and LogEXCH was stationary at levels while LogRGDP, LogM2, MPR and PSC were found to be stationary at first difference (at 5 per cent level of significance) with t-statistic value of -3.673870, -3.535228, -3.630790 and -4.102009, and probability values of 0.0116, 0.0162, 0.0131 and 0.0046 respectively, while INFL and LogEXCH had t-statistic values of -4.078933 and -5.527646 and p-values of 0.0050 and 0.0009 respectively. A unit root result of this nature, where some variables are stationary at different levels (level, first difference, and second difference) requires the use of autoregressive distributed lag (ARDL) model in estimating the equation (Pesaran and Shin, 1999).

The main argument is that variables have to be integrated at level 1(0) or at first difference 1(1) and or the mixture of relationship but not beyond first difference; otherwise the idea of F-statistics in the co-integration analysis will be worthless. Co-integration is established among the series if the calculated F-statistic is beyond the upper critical values at any conventional levels of significance. However, if the value of F-statistic is found less than the lower critical bound value, then long run relationship does not exist. Besides, if the computed value of the F-statistic lies in between the range of lower and upper value then the long run relationship is inconclusive at least using the ARDL bound co-integration approach.

Table 3: ARDL Bound Test

Result of the ARDL Bound Co-Integration Test			
ARDL Bound test			
F-statistic	**Critical value**		
	Significance	Lower bounds I(0)	Upper bounds I(1)
33.072245	5%	2.39	3.38
	10%	2.08	3

Source: Author's computation using E-views 10

From the bound test results above, it could be observed that F-statistic value of 33.072245 is greater than the lower ($I(0)$) and upper bound ($I(1)$) critical values of 2.39 and 3.38 respectively at the 5% significance level. This implies that there is Co-integration with the gross domestic product and the dependent variable. Hence, the researcher can further estimate the ARDL result on the impact of the external debt, debt service payment and foreign exchange rate on the gross domestic product. Thus, the null hypothesis of no long-run relationship is rejected at the 5% significance level.

Auto-Regressive Distributed Lag Model Estimation Result

The ARDL model is an economic model used in a case when some of the variables of study are stationary at I(0) and others are integrated at I(1). It is carried out to catch the short run impact of the independent variables on the dependent variable.

Table 4: The Auto-Regressive Distributed Lag Model Estimation Result

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
LOG_GDP(-1)	0.945620	0.043701	21.63858	0.0000
M2	-0.003295	0.004954	-0.665068	0.5149
CPS	-0.004859	0.006312	-0.769799	0.4520
LOG_EXCH	0.058027	0.058440	0.992928	0.3347
INFL	0.001121	0.004201	0.266879	0.7928
MPR	-0.000161	0.005712	-0.028186	0.9778
C	0.675563	0.366486	1.843355	0.0828

R-squared	0.997934	Mean dependent var	13.34839
Adjusted R-squared	0.997205	S.D. dependent var	0.990032
S.E. of regression	0.052345	Akaike info criterion	-2.823429
Sum squared resid	0.046580	Schwarz criterion	-2.479830
Log likelihood	40.88114	Hannan-Quinn criter.	-2.732272
F-statistic	1368.442	Durbin-Watson stat	2.462279
Prob(F-statistic)	0.000000		

Source: Author's computation using E-views 10

The coefficient of M2 (Broad Money Supply) is -0.003259, indicating a negative relationship with economic growth (LogRGDP). However, the probability value (0.5149) shows that the variable is statistically insignificant at the 5% level. This suggests that a 1% increase in money supply would lead to a 0.3259% decrease in LogRGDP, although this effect is not statistically meaningful. The sign does not align with a priori expectations, which typically predict a positive relationship between money supply and economic growth.

The coefficient of CPS (Credit to Private Sector) is -0.004859, also indicating a negative relationship with economic growth. Like M2, CPS is statistically insignificant with a p-value of 0.4520. This implies that a 1% increase in credit to the private sector would result in a 0.4859% decrease in LogRGDP. The sign is contrary to a priori expectations, which assume that increased private sector credit should stimulate investment and growth. LOGEXCH (Log of Exchange Rate) has a coefficient of 0.058027, suggesting a positive effect on economic growth. The p-value (0.3347) indicates that this relationship is statistically insignificant at the 5% level. A 1% increase in exchange rate (depreciation) is associated with a 5.8027% increase in LogRGDP. Although the positive sign might align with the theory that a weaker currency boosts exports and growth, the insignificance weakens the empirical support for this claim.

INFL (Inflation Rate) shows a positive coefficient of 0.000112, implying a weak positive relationship with economic growth. With a p-value of 0.9344, this variable is highly insignificant. A 1% increase in inflation would lead to only a 0.0112% rise in LogRGDP, a negligible and statistically unimportant effect. This outcome contradicts the a priori

expectation that high inflation tends to hurt economic performance. MPR (Monetary Policy Rate) has a coefficient of 0.005716, which indicates a positive but statistically insignificant effect (p-value = 0.9778) on economic growth. This means a 1% rise in MPR would increase LogRGDP by 0.5716%. The positive sign is unexpected since an increase in interest rates typically discourages borrowing and investment, suggesting a possible divergence from theoretical expectations.

Finally, the constant term (C) has a coefficient of 0.675563 with a p-value of 0.0828, which is insignificant at the 5% level but may be marginally significant at the 10% level. The positive sign suggests that if all independent variables are held constant, economic growth would increase by approximately 0.68 units. Though the constant is not of primary interest, it represents the baseline level of GDP in the absence of the explanatory variables. The coefficient of determination R^2 = 0.997 shows that a 99% change in real economic growth is explained by changes in LogRGDP, M2, MPR, PSC, INFL and LogEXCH. Only 1% is left unexplained and is captured by the error term (μ). The F-test with a value of 1368.442 and p-value of 0.0000 shows the absence of the problem of autocorrelation and heteroscedasticity since Durbin-Watson is 2.46.

Table 5: Post Diagnostics Test

Tests	**F-statistics**	**Probability**
Breusch-Godfrey Serial Correlation LM Test	3.187515	0.0702
Breusch-Pagan-Godfrey Heteroskedasticity Test	2..534379	0.0614
Ramsey RESET Test	5.543853	0.0817
Normality Test	0.292242	0.864054

Source: Author's computation from Eviews 10

Normality Test

Testing at the 5% level of significance, the p-value of the Jarque-Bera statistic (0.864054) is greater than 0.05. This implies that the residuals are normally distributed, which is a desirable result. The result of the stability test is presented in figure 1.

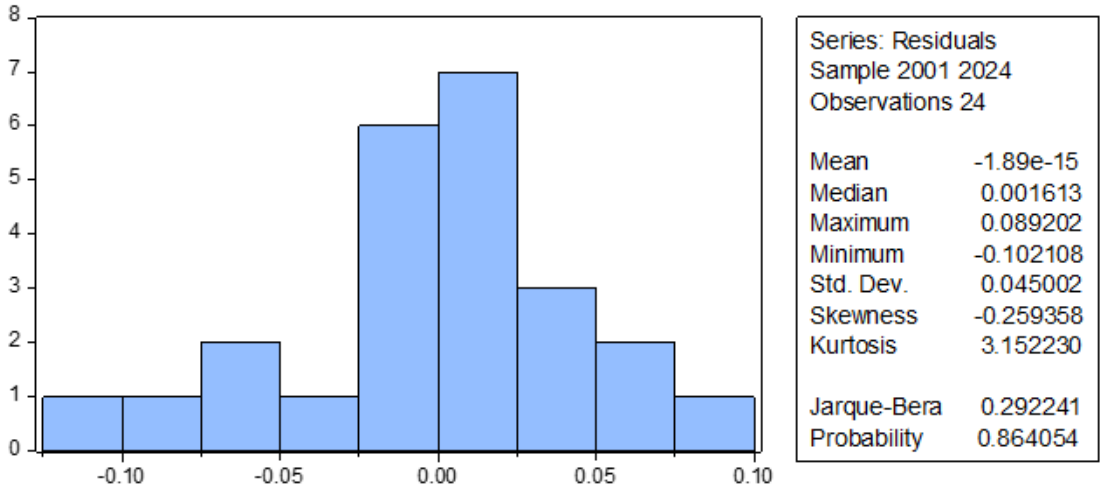

Figure 2: Testing the Normality Assumption
Source: Author's Computation using Eviews 10.

Breusch-Godfrey Serial Correlation Test
From table 5, it can be observed that the probability value of Breusch-Godfrey Serial Correlation LM Test was greater than 0.05. The decision rule stated that if the p-value is greater than 0.05 then the null hypothesis of no serial correlation will not be rejected. Since the p-value was greater than 0.05, we concluded that there was no serial correlation.

Heteroscedasticity Test
The model was evaluated for heteroscedasticity. The decision rule stated that if the p-value is greater than 0.05 then the null hypothesis of no heteroscedasticity will not be rejected. Since the p-value is greater than 0.05, we concluded that there was no heteroscedasticity.

Test for Functional Form
The RAMSEY reset result in table showed that the functional form of the model was correctly specified. This was because the p-value of the RAMSEY reset result was greater than 0.05 which led to our acceptance of the null hypothesis.

Test for Stability
For stability, it is important that the residuals and the cumulative sum of the squares remain within the 5% critical bound (represented by two straight lines). The residuals in the CUCUM test remained within the two lines from 2000 to 2024, which parameters are adjudged to be stable within the years indicated by the graph.

Discussion of Findings
The coefficient of broad money supply (M2) is negative (-0.0033), this implies that increases in money supply do not exert a measurable short-run impact on real GDP.

Economically, this may reflect inefficiencies in the monetary transmission mechanism, where liquidity injections into the financial system fail to translate into real sector investment and output expansion. Structural issues such as low financial inclusion, poor credit access, and informality could be responsible for this outcome. This finding is similar to that of Ogun and Ajakaiye (2010), who found that broad money supply (M2) exerts a weak effect on real GDP, with fiscal policy overshadowing monetary interventions.

Similarly, credit to the private sector (CPS) has a negative coefficient (-0.0049), this suggests that credit to the private sector has no discernible effect on GDP in the short run. The result may reflect challenges in Nigeria's credit environment, including high lending rates, limited credit to SMEs, and the prevalence of non-performing loans. It also indicates that the credit channel of monetary policy is currently weak and ineffective in supporting short-term economic growth. This finding is in support to the long run effect of PSC in the studies of Ajagbe and Usman (2025) who found that private sector credit significantly drives long-run growth but is constrained in the short run by high credit risk and regulatory bottlenecks.

The monetary policy rate (MPR) also has a negative coefficient (-0.0002), this implies that changes in the central bank's policy rate do not influence short-run output. The result underscores the limited effectiveness of the interest rate channel in Nigeria, possibly due to the dominance of the informal sector, limited responsiveness of private investment to interest rates, or policy credibility issues. This finding agrees to that of Adebayo and Okoye (2023) who highlighted the inefficacy of the Monetary Policy Rate (MPR) in high-inflation environments, attributing this to weak financial intermediation and structural rigidities.

Summary, Conclusion and Recommendations

This study analyzed the short-run impact of expansionary monetary variables on Nigeria's economic growth using the ARDL model over the period 2000–2024. The variables examined included broad money supply (M2), credit to the private sector (CPS), exchange rate (LOGEXCH), inflation rate (INFL), and the monetary policy rate (MPR), with real GDP as the dependent variable. The results indicate that only the lagged GDP variable was statistically significant and positively related to current GDP, suggesting a strong dependence of present growth on past economic performance. All other independent variables were statistically insignificant, indicating that expansionary monetary tools did not exert a significant short-run effect on economic growth in Nigeria during the study period.

The ARDL analysis suggests that short-run monetary interventions in Nigeria have limited influence on economic output. While real GDP is largely influenced by its own lag, the expected stimulatory effects of monetary variables such as M2, CPS, MPR, inflation, and exchange rate were not realized in the short term. This result highlights deep-rooted structural bottlenecks, poor financial sector intermediation, and weak monetary policy

transmission mechanisms. The findings suggest the need for institutional reforms, financial sector strengthening, and better policy coordination to enhance the effectiveness of monetary policy as a tool for economic growth. Based on the findings, the following policy actions are recommended:

1. Strengthen the financial sector infrastructure to improve the transmission of monetary policy by encouraging credit flow into productive sectors and reducing financial exclusion. Promote targeted credit allocation by enhancing access to private sector lending, particularly for small and medium enterprises (SMEs), agriculture, and manufacturing.
2. Ensure a stable and transparent exchange rate policy to reduce volatility and attract foreign investment that supports domestic production and GDP growth.
3. Reform inflation targeting frameworks by adopting flexible, growth-supportive inflation targets rather than rigid controls that may stifle economic activity.

References

Adebayo, A., & Okoye, C. (2023). Monetary policy transmission in high-inflation environments: Evidence from Nigeria. *African Development Review, 35*(1), 54–73.

Ajagbe, K., & Usman, A. (2025). Credit allocation, interest rates, and growth in Nigeria: A dynamic sectoral analysis. *Central Bank of Nigeria Research Bulletin, 47*(2), 25–48.

Ajakaiye, O., & Fakiyesi, T. (2009). *Global financial crisis discussion series: Paper 8 – The impact of the global financial crisis on the Nigerian economy*, Overseas Development Institute.

Ajayi, S. I., & Ojo, O. (2006). *Monetary and fiscal policy coordination in Nigeria,* African Institute for Applied Economics.

Bernanke, B. S., & Blinder, A. S. (1992). The federal funds rate and the channels of monetary Transmission. *American Economic Review, 82*(4), 901–921.

Blanchard, O., & Johnson, D. R. (2017). *Macroeconomics (7th ed.)*. Pearson.

Blinder, A. S. (2008). The case against the case against discretionary Fiscal Policy. *In the Macroeconomics of Fiscal Policy* (pp. 25–61). MIT Press.

Central Bank of Nigeria (CBN). (2024). *Annual economic report 2023*. Central Bank of Nigeria.

Clarida, R., Galí, J., & Gertler, M. (2000). Monetary policy rules and macroeconomic stability: Evidence and some theory. *Quarterly Journal of Economics, 115*(1), 147–180.

Davidson, P. (1994). *Post Keynesian macroeconomic theory: A foundation for successful economic policies for the twenty-first century*. Edward Elgar Publishing.

Fisher, I. (1911). *The purchasing power of money*. Macmillan.

Friedman, M. (1968). The role of monetary policy. *American Economic Review, 58*(1), 1–17.

Gambacorta, L., & Signoretti, F. M. (2014). Should monetary policy lean against the wind? An analysis based on a DSGE model with Banking, *Journal of Economic Dynamics and Control, 43*, 146–174.

IMF. (2023). *Nigeria: Staff Report for the 2023 Article IV consultation*, Washington, DC.

Jato, M., & Nwankwo, U. (2024). Public debt, private sector credit, and monetary policy effectiveness in Nigeria, *Nigerian Journal of Economic Policy, 31*(1), 13–32.

Keynes, J. M. (1936). *The general theory of employment, Interest and money*, London: Macmillan.

Levine, R. (1997). Financial development and economic growth: Views and agenda. *Journal of Economic Literature, 35*(2), 688–726.

Mbutor, M. O. (2010). Can monetary policy reduce poverty and inequality in Nigeria? *CBN Economic and Financial Review, 48*(2), 91–124.

Mishkin, F. S. (2007*). Monetary policy strategy*. MIT Press.

Mishra, P., Montiel, P., & Spilimbergo, A. (2012). Monetary transmission in low-Income countries. *IMF Economic Review, 60(2), 270–302.*

NBS (National Bureau of Statistics). (2024). *Quarterly and Annual GDP reports*. Retrieved from https://www.nigerianstat.gov.ng

Nnanna, O. J. (2004). Financial sector development and economic growth in Nigeria: An Empirical Investigation. *CBN Economic and Financial Review, 42*(3), 1–17.

North, D. C. (1990). *Institutions, Institutional Change and Economic Performance*, Cambridge University Press.

Ogun, O., & Ajakaiye, O. (2010). Monetary policy transmission mechanism in Nigeria: A structural VAR approach. *Journal of Monetary and Economic Integration, 9*(2), 69–93.

Ogun, T., & Adeyemi, T. (2024). Effectiveness of CBN Intervention Schemes in Stimulating Real Output: A Sectoral Evaluation. *Nigerian Journal of Monetary and Financial Economics, 19*(1), 41–67.

Romer, P. M. (1990). Endogenous technological change, *Journal of Political Economy, 98*(5), S71–S102.

Snowdon, B., & Vane, H. R. (2005). *Modern macroeconomics: Its Origins*, Development and Current State. Edward Elgar Publishing.

world bank. (2024). *World development indicators: Nigeria,* Retrieved from https://data.worldbank.org/country/nigeria

Yusuf, A., & Salisu, M. (2021). Assessing the Impact of Interest Rate Policy on Economic Growth in Nigeria. *West African Journal of Monetary and Economic Policy, 18*(1), 55–77.

YEAR	GDP(billion naira)	M2	MPR	CPS	INFL	EXCH
2000	70628	14.67	13.5	8.25	6.9	85.98
2001	82345	15.9	14	9.88	18.9	102.5
2002	115014	13.53	19.3	8.08	12.9	111
2003	135569	13.03	15.9	8.91	14	120
2004	181241	11.76	15	8.46	15	128
2005	231218	11.3	13.2	8.44	17.9	134
2006	303952	11.73	13.3	8.12	8.2	130
2007	346759	19.29	9.1	13.8	5.4	122
2008	399542	23.81	9.9	18.63	11.6	118
2009	434615	25.14	7.4	19.63	12.5	158
2010	546123	21.36	6.1	13.49	13.7	151
2011	631347	22.47	8.9	11.04	10.8	158
2012	723515	24.93	12	10.6	12.2	158
2013	810099	25.45	12	11.53	8.5	158
2014	901369	22.69	12.2	13.29	8	184
2015	951777	22.36	12.7	13.07	9	196
2016	1025754	27.38	12.8	14.6	15.7	249
2017	1148992	24.78	14	12.85	16.5	252
2018	1290869	25.36	14	10.24	12.1	360
2019	1456391	23.93	13.6	11.18	11.4	360
2020	1542523	25.22	12.5	12.13	13.25	361
2021	1760755	25.24	11.5	13.45	16.95	499
2022	2023650	25.78	13.7	12.95	18.85	659
2023	2344259	33.81	18.4	17.59	24.66	1483
2024	2774938	40.76	25.5	12.92	33.24	1500