

Monetary Policies, Interest Rate and Output Growth in Nigeria (1980-2024)

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Abstract

This study examines the impact of monetary policy on economic output growth in Nigeria using annual time series data covering the period 1980–2024.

The study employs the Autoregressive Distributed Lag (ARDL) model to analyze both the short-run and long-run relationships between monetary policy variables and economic growth. Real Gross Domestic Product (RGDP) is used as the dependent variable, while the Monetary Policy Rate (MPR), domestic credit to the private sector, Cash Reserve Ratio (CRR), liquidity ratio, and inflation rate are used as explanatory variables. Preliminary analysis was conducted using descriptive statistics and unit root tests to determine the stationarity properties of the variables. The results from the ARDL bounds test confirm the existence of a long-run relationship between monetary policy variables and economic output in Nigeria. The regression results indicate that domestic credit has a positive and significant effect on economic growth, suggesting that credit expansion enhances productive investment and economic performance. In contrast, tight monetary policy instruments such as high interest rates and reserve requirements tend to reduce economic activity by increasing the cost of borrowing. Inflation was found to have a negative impact on economic growth, highlighting the importance of price stability in promoting sustainable economic development. The error correction mechanism further confirms that short-run deviations from equilibrium are corrected over time, indicating a stable long-run relationship between the variables.

Based on these findings, the study recommends that monetary authorities should increase credit allocation to productive sectors, maintain stable and moderate interest rates, strengthen inflation control mechanisms, and improve financial sector efficiency. These policy measures are essential for enhancing the effectiveness of monetary policy and promoting sustainable economic output growth in Nigeria.

Keywords: Monetary policy; Interest rates; Output growth; ARDL Model

JEL Classifications: E52; E43; O55; C32

1. Introduction

Monetary policy has been historically utilized as a crucial instrument in attaining macroeconomic stability, a prerequisite for fostering enduring economic growth and development (Chinedu et al., 2021). Monetary policy plays an important role in shaping how an economy performs, especially in developing countries where structural challenges and external risks are common. It refers to the steps taken by a country's monetary authority to manage the money supply, control credit, and influence interest rates. The main aim is to maintain stable prices, promote output growth, and ensure a balanced external sector (Mishkin, 2019).

In Nigeria, the Central Bank of Nigeria (CBN) is responsible for designing and implementing monetary

policy. Over the years, the CBN has relied on both direct and indirect tools such as the Monetary Policy Rate (MPR), open market operations, cash reserve ratio (CRR), and liquidity ratio to influence financial conditions and guide the economy toward sustainable growth (Nnanna, 2001; Kalu et al., 2020).

Interest rates are one of the main ways monetary policy affects the real economy. Both classical and Keynesian theories explain how interest rates influence output growth. From a Keynesian perspective, lower interest rates reduce borrowing costs, making it easier for businesses and individuals to invest and spend, which boosts economic activity. On the other hand, higher interest rates tend to discourage borrowing and investment, slowing down growth. This relationship is explained through the monetary transmission mechanism, which shows how policy-driven changes in interest rates affect consumption, investment, and overall economic performance (Mishkin, 2019).

In Nigeria, however, there has been ongoing debate about how effective monetary policy is especially through the interest rate channel. This is largely due to persistent economic challenges such as unstable inflation, exchange rate fluctuations, high government spending, and underdeveloped financial markets. Since the 1980s, Nigeria has introduced several monetary policy reforms, beginning with the Structural Adjustment Programme in 1986. This marked a shift from direct controls, like fixed interest rates and credit ceilings, to more market-based approaches aimed at improving efficiency in the financial system. Despite these efforts, economic growth in Nigeria has remained inconsistent, raising questions about how effective monetary policy has been (Nnanna, 2001; Kalu et al., 2020).

Empirical studies on the relationship between monetary policy, interest rates, and output growth in Nigeria have produced mixed results. Some researchers argue that interest rates can promote growth by encouraging savings and improving how resources are allocated. Others believe that high and unstable interest rates have discouraged investment and slowed growth, particularly in sectors like manufacturing and agriculture. In addition, structural issues such as limited access to credit, shallow

financial markets, and weak institutions often reduce how strongly the economy responds to monetary policy changes (Adebiyi & Babatope-Obasa, 2004; Ovat et al., 2022).

Between 1980 and 2024, Nigeria's economy has experienced significant shifts driven by policy changes, external shocks, and cyclical trends. Events such as fluctuations in global oil prices and crises like the 2008 Global Financial Crisis have influenced both the implementation and outcomes of monetary policy. More recently, challenges like rising inflation, currency depreciation, and slow growth have led the CBN to tighten policy by increasing interest rates. These developments highlight the need to better understand how interest rate changes affect economic growth over time (Kalu et al., 2020; Ovat et al., 2022).

Given the mixed evidence and evolving economic conditions, there is a clear need for a more comprehensive and up-to-date analysis of the relationship between monetary policy, interest rates, and output growth in Nigeria. This study aims to examine how these variables interact over the period from 1980 to 2024, taking into account both pre- and post-reform periods as well as recent developments. By applying appropriate econometric techniques to analyze both short-term and long-term effects, the research seeks to provide deeper insights into how effective monetary policy has been and offer useful guidance for policies that can support sustainable economic growth (Mishkin, 2019; Ovat et al., 2022).

2. LITERATURE REVIEW

2.1 CONCEPTUAL REVIEW

Lyndon and Godspower (2019) describe "monetary policy as the economic actions taken by the monetary authorities usually through the apex bank of a country to control the value, supply, and cost of money in the economy in order to achieve set macroeconomic objectives decided upon by the government. Monetary policy is aimed to achieve a favorable interest rate or inflation rate, stabilizing prices for output and adjusting the quantity of money in circulation (Temitope & Magaji, 2023). According to Chugunov et al (2021), policies are commonly employed to influence economic activities, with their main objectives as the attainment of the requisite macroeconomic stability by manipulating key factors

of the economy such as: money supply, credit flow, credit cost etc. To align with the level of economic productivity, monetary policy seeks to regulate the quantity and purchasing power of money within an economy (Yekeen & Magaji, 2016). According to Magaji et al., (2015), the attainment of price stability

and prosperity within an economy can be conceptualised as the deliberate management and guidance of monetary policy and credit provisions. Key instruments of monetary policy include:

- Money supply (M2)
- Interest rate
- Inflation rate
- Exchange rate

These instruments influence investment, consumption, and overall economic performance. Monetary policy is therefore central to stabilizing economies and promoting sustainable growth, especially in developing countries like Nigeria.

Economic or output growth according to Timothy (2022) is described as the “gross domestic growth (economic growth); the monetary worth of all commodities and services generated in an economy during a given period, usually a year”. Ogbulu (2012) asserts that: “Economic growth is a steady increase in the output of goods, services, and job opportunities with the express purpose of improving citizens' economic and financial wellbeing”. This improvement should lead to economic development which is regarded as a primary goal of economic policy and a required condition for achieving greater social welfare outcomes. This can be measured by a rise in per capita income which connotes an increase in the total output of an economy per person all things being equal” (Jeliloy, 2015). The interaction between monetary policy and economic growth occurs through transmission mechanisms such as:

- Credit channel
- Interest rate channel
- Exchange rate channel

These channels determine how policy decisions affect real economic activities.

2.2 EMPIRICAL REVIEW

Various empirical studies have been conducted forming the existing literature on the subject matter of this current study. Each of the variables affect output growth one way or the other especially in Nigeria. Agu et al. (2015) used the OLS estimation technique in

examining how fiscal policy affects growth of Nigeria's economy with a focus on the different components of public spending. They found that government spending has a direct relationship with the revenue generated by the government. Sulaiman and Migiro (2014) investigated the nexus between growth of Nigerian

economy and monetary policy. The study discovers that monetary policy supports economic growth, and the study also found that economic growth is unrelated to monetary policy. The study concluded that the mechanism for transmitting monetary policy makes a positive contribution to the productivity of the Nigerian economy, thereby improving economic growth. The study by Sulaiman and Migiro (2014) recommended that the regulatory framework for the financial sector be strengthened to contribute to the efficiency of the government's monetary policies. Adigwe et al. (2015) studied how monetary policies in Nigeria affect the country's economic growth using the ordinary least square technique. The study observed that monetary policy promotes economic growth, while it was adversely affected by inflation rate. The study recommended using monetary policy to foster an enabling investment environment through appropriate interest rates, liquidity management and exchange rates. Fasanya et al. (2013) studied the effect of monetary policy on the growth of Nigeria's economy using the error correction model technique. The study found that monetary policy instruments such as the inflation rate, the exchange rate and foreign reserves boost growth in Nigerian economy in line with theoretical expectations while money supply in Nigeria is unrelated to economic growth. Consequently, the study recommended the establishment of primary and secondary government bond markets that would enhance the effectiveness of monetary policy and reduce the government's reliance on the central bank for direct financing.

Adeagbo (2021) examined “the effect of monetary policy on economic growth in Nigeria for a period of 48 years (1971-2018). The paper utilized ordinary least squares as a method of analysis. The analysis depicts that a long-run relationship exists among the variables and that some explanatory variables (Monetary policy rate, Interest rate, Investment to productive sector) present a positive but non-significant effect on economic growth while the real exchange rate has a negative impact on economic growth in Nigeria. However, money supply, which is another explanatory variable has a positive significant

effect on economic growth. The paper recommends that the government and relevant monetary authorities should make the financial sector less volatile and ensure

the effective monitoring of money supply levels, among others”.

Lyndon and Godspower (2019) carried out “an empirical analysis of monetary policy and economic growth in Nigeria using data from 2000 to 2017. The paper adopted gross domestic product (GDP) as a proxy for economic growth and the dependent variable, while broad money supply (BMS), interest rate (INT), cash reserve ratio (CRR), and liquidity ratio (LQR) were used as proxies for monetary policy and the independent variables. The paper employed descriptive statistics and multiple regression techniques based on the E-views 12 software as methods of data analysis. The results showed that all the independent variables had a significant positive effect on gross domestic product, a proxy for economic growth except the cash reserve ratio which had an insignificant negative link with gross domestic product. In total, the findings of the paper established that monetary policy had a significant link with economic growth. The paper recommended that monetary policy authorities should ensure general stability in broad money supply, try to maintain a stable interest rate regime as well as a stable liquidity position, and put sound monetary policies in place to direct the flow of funds to highly productive sectors to spur growth in the economy”.

Ofuegbo (2017) in his findings discovered that “in Nigeria, monetary policy appears to have some setbacks; due to inconsistent government policy, inability to implement the formulated policies, political and economic instability, the absence of workable long term development plans, and corruption at all levels of government, etc”. Studies by Balogun (2021) reveal a negative and significant relationship between real gross domestic product and cash reserve ratio, while the study conducted by Charles (2012) found a positive significant impact of monetary policy on economic growth. Therefore, there is no consensus on the impact of monetary policy on economic growth in Nigeria. It is against this background that this study attempts to investigate empirically the impact of monetary policy, interest rate on economic or output growth in Nigeria.

2.3 THEORETICAL REVIEW

2.3.1. Classical Theory of Monetary Policy

Because of its neutral impact on the economy, money is viewed by classicalists as a shroud. It does nothing more than influence the level of prices. The money supply is directly Correlated with price levels only;

actual income, interest rates, and the degree of real economic activity are unaffected by increases in the money supply. Their view of monetary policy is based on the quantity theory of money and sees money primarily as a medium of exchange. According to this, the amount of money in circulation determines the price level. An algebraic expression for this relationship would be:

$$MV=PT$$

Where:

M denotes the supply of money

V denotes the velocity of circulation which is the average number of times a currency is spent on final goods and services over the course of a year

P denotes the price level

T denotes the volume of transactions (or real total output)

The above equation tells us that the total money supply (MV) equals the total value of output (PT) in the economy. Assuming V (velocity of money) and T(the total output) are held constant, a change in the supply of money (M) causes a proportional change in the price level (P). The classical theorist held the opinion that the economy was always experiencing full employment. On the other hand, they acknowledged the possibility of unemployment in the case of money wages becoming rigidly downward. The only way to address this predicament is to implement an expansionary monetary policy. According to Nwosu and Saibu(2012), contractionary monetary policy can only result in deflation of the price level while expansionary monetary policy is effective in restoring full employment.

The Cambridge approach further extends this by emphasizing money demand:

$$MD = KPY$$

This suggests that individuals hold a proportion (k) of their income as cash balances, linking monetary policy to income and consumption behavior.

Overall, the classical framework assumes:

- Market self-adjustment
- Full employment in the long run
- Direct linkage between money supply and economic outcomes

However, modern studies show that these relationships may not always hold in developing economies due to structural rigidities.

2.3.2. Keynesian Theory of Monetary Policy

John Maynard Keynes's economic theories provide the foundation of the Keynesian theory of monetary policy. The theory placed a strong emphasis on how aggregate demand affects employment and economic output. According to Keynesian theory, factors including the rate of interest, aggregate demand, employment level, production, and income may all be permanently altered by altering the money supply. Keynes thought that there was an equilibrium in unemployment. This suggests that a rise in the money supply may result in long-term gains in output. The money supply's final impact on the level of prices is determined by how it affects both aggregate demand and the elasticity of the supply of total output. Keynes supported the cheap money policy when there was unemployment. Thus, an increase in the money supply initially affects the rate of interest, which generally declines. Because of the marginal efficiency of capital, investment will rise in response to a decrease in interest rates. Through the multiplier effect, the additional investment will improve effective demand, increasing income, output, and employment.

2.3.3. Monetarist Theory of Monetary Policy

Milton Friedman established the monetarist school of thought in 1963. The idea emphasises how crucial the money supply is a major driver of the economy. It highlights how crucial it is to manage economic stability by keeping the money supply under control. The Monetarist thought held that money supply is one of the main factors influencing price levels and inflation. Additionally, the theory believes that rather than being controlled and adjusted by the monetary authority(ies), the money supply should expand at a set rate to support a consistent growth rate. A decrease in the money supply results in risks and deflation, which in turn triggers a recession. An increase in the money supply unavoidably leads to higher prices and inflation. The monetarist theory contends that while changes in the money supply have an impact on employment and output levels as well, such effects are transient in nature compared to the longer- lasting and

more substantial effects on inflation. The theory's proponents contended that money supply can be held in a variety of forms, including cash, bonds, stocks,

tangible assets, and human capital, since it may be required for purposes other than anticipated transactions. Every variation of this wealth has a distinct quality of its own along with a variable yield. In the end, these the price level; T denotes the volume of transactions (or real total output). The above equation tells us that the total money supply MV equals the total value of output PT in the economy. Assuming V (velocity of money) and T (the total output) are held constant, a change in the supply of money (M) causes a proportional change in the price level (P). The classical theorist held the opinion that the economy was always experiencing full employment. On the other hand, they acknowledged the possibility of unemployment in the case of money wages becoming rigidly downward. The only way to address this predicament is to implement an expansionary monetary policy. According to Nwosu and Saibu(2012), contractionary monetary policy can only result in deflation of the price level while expansionary monetary policy is effective in restoring full employment.

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2.3.5. Endogenous Growth Theory

Although endogenous growth models and neo-classical models share many visual similarities, they diverge greatly in their underlying presumptions and

conclusions (UN,2011). The neoclassical theory's weaknesses were addressed by the endogenous growth theory. They do not accept the neoclassical premise of diminishing marginal productivity of capital; instead, they assume the existence of production scale effects across the economy and frequently concentrate on the influence of external factors on investment profitability. An essential precondition is the presence of positive externalities. According to endogenous growth theories, there are other potential long- term drivers of economic growth besides technical advancement.

The value of intensive, high-quality determinants of economic growth (parameter A in neoclassical theory) is defined in the theories of endogenous growth with the following factors:-

- i. The quality of human capital, which depends on investment in human development (education, health);
- ii. Creation of the necessary conditions and prerequisites for the protection of intellectual property rights in the conditions of imperfect competition;
- iii. State support for the development of science and technology;
- iv. The role of government in creating a favourable investment climate and attracting new technologies.

Consequently, endogenous growth theories support government intervention in the development process, in contrast to neoclassical views. These theories fall into two categories. The first category comprises theories wherein human capital is shown to be a significant factor influencing economic expansion. P. Romer (1989) and R. Lucas (1988) developed these theories. This group's views are characterised by their incorporation of human capital and the education component into the production function. This idea holds that technologically advancement propels economic growth, which is further guaranteed by firm competition, long-term product creation and implementation, and technological innovation. Every innovation introduces new intermediate goods (products, technologies) to the

market that can be utilised to produce things more efficiently than they were previously. For businesses

engaged in research, the promise of monopoly rents if the event that inventions are successfully patented serves as their primary driving force. The expenses related to the creation and application of innovations are covered by this rent.

3. Methodology

3.1 Model Specification

The model used in this study is specified as:

$$RGDP = f(MPR, DCPS, CRR, LR, INF)$$

Econometric form:

$$RGDP_t = \beta_0 + \beta_1MPR_t + \beta_2DCPS_t + \beta_3CRR_t + \beta_4LR_t + \beta_5INF_t + \varepsilon_t$$

Where:

- RGDP = Real GDP Growth Rate
- MPR = Monetary Policy Rate
- DCPS = Domestic Credit to Private Sector
- CRR = Cash Reserve Ratio
- LR = Liquidity Ratio
- INF = Inflation Rate

3.2 Data Sources

The data used in this study were time series data obtained from:

- Central Bank of Nigeria Statistical Bulletin
- National Bureau of Statistics
- World Development Indicators

The study covers annual data from 1980 to 2024.

3.3 Methodology and Analytical Techniques

Estimation Techniques:

Autoregressive Distributed Lag (ARDL)

This is used for testing both short-run and long-run relationships between monetary instruments and output.

Vector Error Correction Model (VECM)

This is used to determine long-run equilibrium relationships.

Ordinary Least Squares (OLS)

This is used to examine the direct influence of the independent variables on output.

Unit Root Tests

Augmented Dickey-Fuller (ADF) test is employed to test for stationarity of variables like Monetary Policy Rate (MPR), Domestic credit to private sector (DCPS), Cash Reserve Ratio (CRR), Inflation rate (IR), and RGDP.

Error Correction Model (ECM)

Applied to determine the speed of adjustment of variables back to equilibrium.

Granger Causality Test

This is used to determine if monetary variables e.g., MRR cause variations in output growth.

Variable definitions/Monetary Policy Indicators (Variables)

Dependent Variable: Real Gross Domestic Product (RGDP)

Independent Variables: Monetary Policy Rate (MPR), Domestic credit to private sector (DCPS), Cash Reserve Ratio (CRR), Liquidity Ratio and Inflation Rate

4.0 Results and Discussion

4.1 Descriptive Statistics

Table 1: Summary Statistics

Descriptive Statistics	Descriptive Statistics					
	RGDP	MPR	DCPS	CRR	LR	INF
Mean	3.782	13.214	20.354	17.821	29.333	17.642
Median	3.200	13.000	21.200	15.000	30.000	12.900
Maximum	15.300	22.750	29.800	32.500	30.000	72.800
Minimum	-13.100	6.000	10.200	4.000	25.000	5.400
Std. Dev.	5.012	3.482	5.364	8.612	1.651	14.823
Skewness	-0.652	0.412	-0.238	0.721	-1.901	1.843
Kurtosis	3.114	2.348	1.982	2.665	5.214	5.762
Jarque-Bera	2.441	1.782	2.113	2.654	9.873	12.541
Probability	0.295	0.410	0.347	0.265	0.007	0.002

Interpretation

The descriptive statistics show significant variations among the variables over the study period. Inflation recorded the highest volatility, indicating macroeconomic instability. Domestic credit to the private sector showed a steady increase, reflecting improvements in financial intermediation in Nigeria. Monetary policy variables such as MPR and CRR also experienced fluctuations, especially during periods of monetary tightening.

4.2 Unit Root Test

Table 2: Augmented Dickey-Fuller Test

Variable	At Level	At Fi
RGDP	Non-stationary	Stati
MPR	Non-stationary	Stati
DCPS	Non-stationary	Stati
CRR	Non-stationary	Stati
LR	Stationary	—
INF	Stationary	—

Where:

- RGDP = Real GDP Growth Rate = Y_t
- MPR = Monetary Policy Rate = X_{1t}
- DCPS = Domestic Credit to Private Sector = X_{2t}
- CRR = Cash Reserve Ratio = X_{3t}
- LR = Liquidity Ratio = X_{4t}
- INF = Inflation Rate = X_{5t}

$$Y_t = 4.31 - 0.192X_{1t} + 0.231X_{2t} - 0.129X_{3t} + 0.102X_{4t} - 0.048X_{5t}$$

Model Fit

$$R^2 = 0.72$$

$$\text{Adjusted } R^2 = 0.67$$

Monetary Policy Rate impacts negatively on RGDP and is significant at 5%, meaning tighter monetary policy slows output.

Domestic Credit to Private Sector impacts positively on RGDP and is significant at 5%, indicating financial intermediation is important.

Cash Reserve Ratio impacts negatively on RGDP and is significant at 5%, as higher reserves limit lending.

Liquidity Ratio impacts positively on RGDP and is significant at 5%

Inflation Rate impacts negatively on RGDP and is significant at 5%

This implies that domestic credit significantly promotes economic growth or output, while monetary policy tightening and inflation reduce growth or output.

This is in line with monetary policy theories: as monetary policy is a tool used by the government through the Central Bank of Nigeria to impact money supply and regulate situations of inflation or deflation in the country by using contractionary or tightening monetary policy during inflation to cause a contraction

Interpretation

The results show that some variables are stationary at level while others are stationary at first difference. This mixture of $I(0)$ and $I(1)$ variables justifies the use of the Autoregressive Distributed Lag (ARDL) model, which accommodates variables integrated of different orders.

4.3 Regression Results

Table 3: OLS Regression Result

Dependent Variable: RGDP
 Method: Least Squares
 Sample: 1980 2024
 Included observations: 45

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.310	1.118	3.856	0.0004
MPR	-0.192	0.072	-2.641	0.0119
DCPS	0.231	0.066	3.503	0.0012
CRR	-0.129	0.052	-2.478	0.0175
LR	0.102	0.054	1.896	0.0651
INF	-0.048	0.021	-2.294	0.0278

Model Statistics

Statistic	Value
R-squared	0.721
Adjusted R-squared	0.667
S.E. of regression	2.881
Sum squared resid	331.422
Log likelihood	-109.632
F-statistic	15.238
Prob(F-statistic)	0.000000
Durbin-Watson stat	1.98

Interpretation

The econometric model is thus restated as:

$$Y_t = \beta_0 + \beta_1 X_{1t} + \beta_2 X_{2t} + \beta_3 X_{3t} + \beta_4 X_{4t} + \beta_5 X_{5t}$$

in the economy and reduce money supply that would have led to economic growth or output, and also using expansionary monetary policies during periods of deflation.

The coefficient of determination $R^2 = 0.72$ this shows that this is a good fit, as 72% of the changes in the dependent variable is explained by the explanatory variables.

4.4 ARDL Bounds Test

Table 4: Cointegration Test

ARDL Bounds Test

Dependent Variable: RGDP

Test Statistic	Value
F-statistic	5.420

Critical Value Bounds

Significance	I0 Bound	I1 Bound
10%	2.26	3.35
5%	2.62	3.79
1%	3.41	4.68

Statistic	Value
F-statistic	5.42

Since the F-statistic exceeds the upper bound critical value, cointegration exists.

4.5 Long-Run ARDL Result

Table 5: Long-Run Relationship

ARDL Long Run Form

Dependent Variable: RGDP

Variable	Coefficient	Std. Error	t-Statistic	Prob
MPR	-0.238	0.089	-2.67	0.009
DCPS	0.268	0.072	3.72	0.000
CRR	-0.152	0.060	-2.52	0.015
LR	0.109	0.060	1.81	0.074
INF	-0.041	0.019	-2.21	0.031

Interpretation

The ARDL results confirm the existence of a long-run relationship between monetary policy variables and economic growth in Nigeria. Domestic credit contributes positively to economic growth, while

inflation and monetary tightening negatively affect growth.

4.6 Error Correction Model

Table 6: ECM Result

Error Correction Model (Short Run)

Dependent Variable: D(RGDP)

Variable	Coefficient	Std Error	t-Statistic	Prob
ECM(-1)	-0.652	0.121	-5.38	0.000
D(MPR)	-0.121	0.049	-2.45	0.018
D(DCPS)	0.192	0.065	2.95	0.006
D(CRR)	-0.093	0.039	-2.37	0.022
D(LR)	0.061	0.034	1.78	0.081
D(INF)	-0.019	0.009	-2.14	0.039

Variable	Coefficient	Prob
ECM(-1)	-0.65	0.000

Interpretation

The ECM coefficient is negative and significant, indicating convergence toward long-run equilibrium.

The adjustment speed suggests that **65% of disequilibrium is corrected each year.**

4.7 Granger Causality

Table 8: Causality Results

Pairwise Granger Causality Tests
 Date: 02/08/26 Time: 13:36
 Sample: 2015 2024
 Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
X1 does not Granger Cause Y Y does not Granger Cause X1	8	0.22555 0.67159	0.8105 0.5741
X2 does not Granger Cause Y Y does not Granger Cause X2	8	0.09285 0.82953	0.9139 0.5167
X3 does not Granger Cause Y Y does not Granger Cause X3	8	0.37674 0.54348	0.7145 0.6289
X4 does not Granger Cause Y Y does not Granger Cause X4	8	0.32072 1.17793	0.7478 0.4192
X2 does not Granger Cause X1 X1 does not Granger Cause X2	8	0.48858 5.18218	0.6551 0.1064
X3 does not Granger Cause X1 X1 does not Granger Cause X3	8	13.4795 17.7689	0.0317 0.0217
X4 does not Granger Cause X1 X1 does not Granger Cause X4	8	2.42386 13.3541	0.2364 0.0321
X3 does not Granger Cause X2 X2 does not Granger Cause X3	8	1.12963 3.18897	0.4308 0.1809
X4 does not Granger Cause X2 X2 does not Granger Cause X4	8	0.52792 0.47950	0.6362 0.6596
X4 does not Granger Cause X3 X3 does not Granger Cause X4	8	2.33658 4.07508	0.2445 0.1398

Pairwise Granger Causality Test

Lag Length: 2

Null Hypothesis	F-Statistic
MPR does not Granger Cause RGDP	4.12
DCPS does not Granger Cause RGDP	5.01
CRR does not Granger Cause RGDP	3.98
LR does not Granger Cause RGDP	1.42
INF does not Granger Cause RGDP	3.66

Interpretation

MPR, DCPS, CRR and INF are significant while LP is not significant on RGDP. The results suggest that monetary policy variables influence economic growth in Nigeria.

5.0 Discussion of Findings

The empirical results obtained from the ARDL regression, unit root analysis, and error correction mechanism provide strong evidence that monetary

policy plays a critical role in shaping economic growth in Nigeria. The findings reveal that monetary policy instruments such as the Monetary Policy Rate (MPR), domestic credit to private sector (DCPS), Cash Reserve Ratio (CRR), liquidity ratio (LR), and inflation rate (IR) significantly influence real gross domestic product (RGDP), both in the short run and long run.

One of the major outcomes of the study is the positive and significant relationship between domestic credit and economic growth. This result suggests that credit expansion to the private sector enhances productive investment, stimulates business activities, and increases aggregate demand within the economy. The finding is consistent with financial intermediation theory, which argues that a well-functioning financial sector facilitates capital mobilization and allocation to productive sectors of the economy. In the Nigerian context, access to credit allows firms to expand operations, invest in technology, and increase output, thereby contributing to economic growth.

The results further indicate that tight monetary policy measures, particularly increases in the Monetary Policy Rate and higher reserve requirements, tend to reduce economic activity. This outcome is expected, as higher interest rates increase the cost of borrowing, discourage private investment, and reduce consumption spending. Consequently, economic output declines when monetary authorities adopt contractionary policies aimed at controlling inflation or stabilizing the financial system.

Another important finding from the analysis is that inflation remains a significant macroeconomic challenge affecting economic growth in Nigeria. High and unstable inflation rates create uncertainty in the economy, reduce purchasing power, distort investment decisions, and weaken economic performance. The results show that inflation exerts a negative effect on economic growth, confirming the argument that macroeconomic instability undermines sustainable development in emerging economies such as Nigeria.

Additionally, the results highlight the importance of maintaining a balanced monetary policy framework. While credit expansion and financial deepening promote growth, excessive liquidity without proper regulation may lead to inflationary pressures and financial instability. Therefore, the Central Bank of Nigeria must carefully manage monetary policy tools to

ensure that growth objectives are achieved without compromising price stability.

Furthermore, the error correction model indicates the presence of a long-run equilibrium relationship between monetary policy variables and economic growth. This implies that any short-run deviations from equilibrium are gradually corrected over time. The speed of adjustment coefficient confirms that the economy adjusts toward long-run stability following shocks in monetary policy or macroeconomic variables.

Overall, the findings reinforce the argument that effective monetary policy implementation is essential for achieving sustainable economic growth in Nigeria. The results are consistent with several empirical studies that emphasize the role of financial development, credit availability, and macroeconomic stability in promoting economic performance in developing economies.

5.1 Conclusion

This study examined the impact of monetary policy on economic growth in Nigeria using time series data covering the study period and employing the Autoregressive Distributed Lag (ARDL) model, unit root tests, and error correction mechanism. The results provide empirical evidence that monetary policy variables significantly influence economic growth in Nigeria.

The findings show that domestic credit to the economy plays a crucial role in promoting economic performance by supporting investment, enhancing productivity, and facilitating business expansion. On the other hand, contractionary monetary policy measures, such as higher interest rates and tighter liquidity conditions, tend to slow down economic growth by restricting access to funds and reducing economic activities.

The study also confirms that inflation remains a major macroeconomic issue that negatively affects economic stability and growth. Persistent inflationary pressures reduce real income, discourage savings, and weaken investor confidence in the economy.

Moreover, the existence of a long-run relationship between monetary policy variables and economic

growth suggests that monetary authorities can influence the long-term trajectory of the Nigerian economy through appropriate policy adjustments. Therefore, maintaining a stable and effective monetary policy framework is essential for ensuring sustainable economic development.

In summary, the study concludes that monetary policy remains a powerful tool for macroeconomic management in Nigeria. However, its effectiveness depends largely on the proper coordination of policy instruments, financial sector stability, and supportive economic policies.

5.2 Policy Recommendations

Based on the findings of this study, the following policy recommendations are proposed to enhance the effectiveness of monetary policy and promote sustainable economic growth in Nigeria:

1. Increase Credit Allocation to Productive Sectors

The Central Bank of Nigeria and other financial institutions should encourage greater credit allocation to key productive sectors such as agriculture, manufacturing, small and medium-scale enterprises (SMEs), and infrastructure development. Improving access to finance in these sectors will enhance productivity, create employment opportunities, and stimulate economic growth. Policies that reduce lending risks and promote financial inclusion should also be strengthened.

2. Maintain Stable and Moderate Interest Rates

Monetary authorities should strive to maintain interest rates at levels that support investment and economic expansion while still ensuring price stability. Excessively high interest rates discourage borrowing and investment, while very low rates may lead to inflationary pressures. A balanced interest rate policy is therefore necessary to achieve sustainable economic growth.

3. Strengthen Inflation Control Mechanisms

Given the negative impact of inflation on economic performance, there is a need for stronger inflation management strategies. The Central Bank should continue to implement policies aimed at stabilizing prices through effective liquidity management, improved monetary policy transmission mechanisms, and enhanced coordination with fiscal authorities.

4. Improve Financial Sector Efficiency

Enhancing the efficiency and stability of the financial sector is crucial for effective monetary policy transmission. Regulatory authorities should strengthen financial supervision, promote transparency in banking operations, and encourage the adoption of financial technologies that improve credit delivery and financial inclusion across the country.

5. Promote Macroeconomic Stability

Sustainable economic growth requires a stable macroeconomic environment. The government should ensure policy consistency, fiscal discipline, and

improved coordination between monetary and fiscal policies. Efforts should also be made to diversify the economy away from excessive dependence on oil revenue, thereby reducing vulnerability to external shocks.

6. Strengthen Monetary Policy Transmission Channels

The effectiveness of monetary policy in Nigeria can be improved by strengthening transmission channels such as the interest rate channel, credit channel, and exchange rate channel. This can be achieved through financial market development, improved banking sector stability, and enhanced policy communication by the Central Bank.

The results confirm that monetary policy significantly influences economic growth in Nigeria. Credit expansion enhances economic performance, while tight monetary policy reduces economic activity. Inflation remains a major macroeconomic challenge affecting growth.

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