

Monetary Policy and Economic Growth in Nigeria

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Abstract

The broad aim of this study is to examine the effect of monetary policy on economic growth in Nigeria. The study was evaluated empirically over a period of thirty-five (35) years, that is, from 1990 to 2024. Four specific objectives, four research questions and four hypotheses were designed to guide the study. Monetary policy was proxied by monetary policy rate, broad money supply, cash reserve ratio and exchange rate while Real Gross Domestic Product in Nigeria was measured by Real Gross Domestic Product. The study adopted ex-post facto research design and made use of annual time series data which were mainly sourced from Central Bank of Nigeria (CBN) Statistical bulletin. The techniques of data analysis adopted include descriptive statistics, trend analysis, multicollinearity test using correlation matrix, ADF unit root test, bounds cointegration test and ARDL approach. The findings of the study revealed that monetary policy rate and cash reserve ratio have a negative and significant effect on Real Gross Domestic Product in Nigeria both in the short and long run, broad money supply has a positive and insignificant effect on Real Gross Domestic Product in Nigeria both in the short and long run while exchange rate has a positive and significant effect on Real Gross Domestic Product in Nigeria both in the short and long run. Based on these findings, the study concluded that monetary policy significantly affects economic growth in Nigeria, although the effects of individual policy instruments differ in magnitude and direction. The study recommended among others that Central Bank of Nigeria should pursue a more growth-supportive interest rate policy by avoiding excessively high policy rates that increase borrowing costs for businesses and households. Lower and stable monetary policy rates would encourage investment, consumption, and business expansion, thereby stimulating productive economic activities and enhancing economic growth.

1.0 Introduction

The monetary policy is still one of the strongest macroeconomic policy tools that governments and central banks can use in managing economic performance especially in the developing economies where structural rigidities, inflationary pressures and financial market imperfections are rife. Monetary policy is broadly defined as the measures that are taken by a central bank to control the supply of money and the level of credit within an economy with the main aim being price stability, healthy economic growth and stability of the financial system. In Nigeria, the Central Bank of Nigeria (CBN) uses a range of monetary policy tools to control the economic processes and to attain macroeconomic balance including the Monetary Policy Rate (MPR), open market operations, cash reserve ratio, liquidity ratio, and the exchange rate control (Central Bank of Nigeria, 2020; Central Bank of Nigeria, 2021). The importance of monetary policy in relation

to economic growth in Nigeria is difficult to overestimate. Being the largest economy in Africa, Nigeria has been facing macroeconomic difficulties such as inflation that is high and volatile, exchange rate volatility, unemployment, low output growth as well as constant balance of payment pressures. These difficulties have enhanced controversy over whether monetary policy is effective in the stimulation of growth and price and financial stability. There is growing empirical and policy discussion on whether the Nigeria monetary policy system is properly serving real sector growth or whether it is focusing the price stability to the output growth (Afolabi and Wapji, 2025; Ogwuche and Obiaje, 2023). The growth rate of the real gross domestic product (GDP) is the most prominent indicator of economic welfare and performance. Hypothetically, there are a number of transmission channels where the monetary policy affects the economic growth and may be considered in the interest rate channel, credit channel, exchange rate channel, and expectations channel. The central bank can influence investment, consumption, and aggregate demand by modifying policy rates and liquidity conditions, which subsequently have an impact on the output growth (Ugwu & Njeze, 2023). Nevertheless, the success of those channels is highly reliant on the financial markets depth and institutional quality as well as structural features of the economy, which are quite limited in the Nigerian setting (Nwobia et al., 2020; Ajisafe, 2021). The monetary policy environment of Nigeria has changed by a great deal throughout history, influenced by the change in the macroeconomic conditions and the priorities of the monetary policies. Until the mid-1980s when market-oriented monetary policy instruments were adopted the Nigerian economy greatly depended on direct controls like credit ceilings and interest rate controls. With the Structural Adjustment Programme (SAP) instituted in 1986, there was a shift towards indirect and market focused monetary policy with the object of trying to make better the efficiency and growth prospects. Regardless of such reforms, the results have been rather variable, and the positive growth was often accompanied by massive inflation and an unstable exchange rate (Ufoeze et al., 2018; Nzotta, 2020). Over the past few decades, the issue of inflation management has become one of the main monetary policy concerns in Nigeria. The demand of food prices, pass through of exchange rates, and supply shocks have also made it hard to achieve price stability, and tight monetary policies have been following, which could have limited growth. A number of reports believe that the attraction of high policy rates on price care can reduce the investments and credit growth of the private sector and, as a result, prevent the growth of the economy (Akande and Joshua, 2020; Ovat et al., 2022). On the other hand, the advocates of monetary tightening argue that sustainable growth and long-term investment cannot be achieved without stable prices (Abdulkareem & Yusuf, 2021; Ozili, 2024).

Despite the Central Bank of Nigeria's continued and active use of monetary policy instruments to stabilise the economy, Nigeria's Real Gross Domestic Product growth has remained volatile, with periods of contraction occurring even as monetary authorities pursued various interest rate, reserve requirement, and liquidity management strategies. This apparent tension, between sustained monetary policy activism and an inconsistent growth trajectory, raises the question of whether Nigeria's monetary policy instruments genuinely support economic growth, or whether some instruments constrain growth even as others support it. While a substantial body of empirical work has examined the relationship between monetary policy and economic growth in Nigeria, and a separate body of work has examined the effect of monetary policy on inflation, stock market performance, and industrial output, comparatively few studies have jointly modelled the monetary policy rate, broad money supply, cash reserve ratio, and exchange rate against Real Gross Domestic Product within a single, updated empirical framework extending to

2024. It is against this backdrop that this study empirically examined the effect of monetary policy on economic growth in Nigeria from 1990 to 2024. The specific objectives were to: determine the effect of monetary policy rate on Real Gross Domestic Product in Nigeria; ascertain the effect of broad money supply on Real Gross Domestic Product in Nigeria; evaluate the effect of cash reserve ratio on Real Gross Domestic Product in Nigeria; and examine the effect of exchange rate on Real Gross Domestic Product in Nigeria.

Literature Review

Theoretical Framework

The theories adopted in this study are discussed in this section as follows.

a. Quantity Theory of Money

The Quantity Theory of Money was formulated by Irving Fisher in 1911. Fisher's equation, $MV = PT$, expresses the relationship between money supply (M), the velocity of money (V), the price level (P), and the volume of transactions (T), positing that changes in the money supply have a direct, proportional effect on the price level in an economy, assuming that the velocity of money and the volume of output remain constant. The theory holds that persistent inflationary pressures result primarily from excessive growth in the money supply relative to output, and that by controlling money supply growth through instruments such as the monetary policy rate, open market operations, and the cash reserve ratio, a central bank can achieve price stability, thereby mitigating the destabilising effects of inflation on consumption, investment, and economic growth. In the context of Nigeria, the Quantity Theory of Money provides the theoretical justification for the Central Bank of Nigeria's use of monetary aggregates, particularly broad money supply and the monetary policy rate, as instruments for influencing macroeconomic outcomes, including Real Gross Domestic Product. The theory suggests that where money supply growth outpaces the growth of productive capacity, the resulting inflationary pressure can undermine the stability needed for sustained economic growth, while credible, well-managed monetary aggregates can support price stability and, by extension, an environment conducive to investment and growth. Applied to this study, the Quantity Theory of Money underlies the expectation that broad money supply exerts a positive effect on Real Gross Domestic Product, provided that monetary expansion is channelled into productive economic activity rather than merely fuelling inflation.

b. Keynesian Theory of Interest and Liquidity Preference

The Keynesian Theory of Interest and Liquidity Preference was developed by John Maynard Keynes and emphasises the role of liquidity preference in determining interest rates and its subsequent influence on investment, consumption, and aggregate demand. According to Keynes, individuals prefer to hold money for transactions, precautionary, and speculative motives, and the equilibrium interest rate is established where the demand for money equals the supply of money. Higher interest rates increase the opportunity cost of holding money, reduce borrowing, and slow down aggregate demand, which in turn can stabilise prices but may also constrain output growth if borrowing costs rise excessively.

In the Nigerian context, this theory underscores how the Central Bank of Nigeria's adjustments to the monetary policy rate and liquidity ratios, including the cash reserve ratio, influence interest rates, thereby affecting private sector investment and consumption patterns. Higher monetary policy rates and cash reserve ratios increase the cost and reduce the availability of credit, which can constrain investment and slow economic growth, while lower rates and ratios can stimulate

borrowing, investment, and growth. Applied to this study, the Keynesian Theory of Interest and Liquidity Preference underlies the expectation that the monetary policy rate and cash reserve ratio exert a negative effect on Real Gross Domestic Product, since higher values of both instruments raise the cost of credit and constrain the liquidity available for productive investment, while the exchange rate, as a further transmission channel, influences the competitiveness of Nigeria's tradable sector and, by extension, aggregate output. Taken together, the Quantity Theory of Money and the Keynesian Theory of Interest and Liquidity Preference provide a joint theoretical grounding for this study, explaining both the demand-side, liquidity-cost channel through which the monetary policy rate and cash reserve ratio affect economic growth, and the monetary-aggregate channel through which broad money supply affects growth.

Empirical Review

Mbanefo and Nnebedum (2024) examined the relationship between monetary policy and economic growth in Nigeria from 2007 to 2022, using cash ratio, interest rate, and liquidity ratio as proxies for monetary policy and Real Gross Domestic Product as the proxy for economic growth. The study adopted an ex-post facto research design and analysed data sourced from the Central Bank of Nigeria Statistical Bulletin using the Ordinary Least Squares regression method. The findings revealed that interest rate and liquidity had an insignificant relationship with Real Gross Domestic Product, while liquidity ratio and cash ratio had a positive and significant relationship with Real Gross Domestic Product.

Balogun (2021) investigated the effects of cash reserve ratio and monetary policy rate on the Nigerian economy from 1999 to 2020, using Real Gross Domestic Product as the dependent variable and cash reserve ratio and monetary policy rate as the explanatory variables, with prime lending rate included as a control variable. The study employed the ARDL bounds test for cointegration and the Augmented Dickey-Fuller test for unit root, finding a negative and significant long-run relationship between Real Gross Domestic Product and cash reserve ratio, and concluded that the Central Bank of Nigeria should take a holistic approach to monetary policy to stimulate bank credit to desired economic agents and spur economic growth.

Etale and Oweibi (2021) conducted an empirical analysis of monetary policy effects on economic growth in Nigeria from 1981 to 2019, using the Autoregressive Distributed Lag bounds testing approach on national accounts, interest rate, and money supply data. The study found that both short-run and long-run monetary policy interventions had significant effects on Gross Domestic Product growth, although inflationary pressures sometimes weakened policy transmission, and concluded that structural constraints must be addressed for monetary policy to effectively stimulate growth. Ugwu and Njeze (2023) explored the transmission mechanisms of monetary policy on economic growth in Nigeria between 1999 and 2021, using a combination of Vector Autoregression and cointegration analysis. The study found that interest rate and credit channels significantly influenced growth outcomes, while direct money supply effects were more muted, concluding that understanding multiple transmission mechanisms is critical for designing effective monetary policy interventions in Nigeria.

Eyitayo et al. (2023) analysed monetary policy shocks and economic growth in Nigeria from 1985 to 2022 using structural Vector Autoregression models on quarterly macroeconomic data covering Gross Domestic Product, interest rates, inflation, and money supply. The study found that positive monetary policy shocks positively influenced growth in the long run but could suppress short-term investment due to higher borrowing costs, concluding that careful calibration of policy instruments is required to balance growth and inflation objectives.

Afolabi and Wapji (2025) examined monetary policy and economic growth in Nigeria using annual data from 1990 to 2021, employing cointegration and error-correction modelling techniques on broad monetary aggregates, interest rates, and Gross Domestic Product growth. The study found a positive long-run relationship between monetary policy instruments and economic growth, although short-run fluctuations showed mixed effects, concluding that monetary policy can support sustainable growth but its effectiveness is contingent on stable macroeconomic conditions and policy credibility.

Uju and Ugochukwu (2021) examined the effect of monetary policy on industrial growth in Nigeria between 1986 and 2019, adopting manufacturing sector output as the dependent variable and analysing data using a multiple regression model estimated by Ordinary Least Squares. The study found that Open Market Operation, measured by the treasury bill rate, and cash reserve ratio both had a positive and significant effect on manufacturing sector Gross Domestic Product, while the monetary policy rate had a negative and significant effect, concluding that monetary policy is a veritable tool for enhancing industrial sector growth in Nigeria.

Asiagwu, Utalor, and Anaele (2021) empirically analysed monetary policy and industrial growth in Nigeria using data spanning 1996 to 2019, compiled from the Central Bank of Nigeria Statistical Bulletin and World Development Indicators. Using descriptive statistics, the Augmented Dickey-Fuller test, Granger causality, and Ordinary Least Squares, the study found that lending rate, deposit interest rate, and money supply growth rate, as proxies for monetary policy, had a significant impact on industrial growth.

Ajisafe (2021) focused on the exchange rate and banking stability channels through which monetary policy affects financial stability in Nigeria, using data from 2000 to 2019 and Vector Autoregressive modelling on banking sector indicators, exchange rates, and monetary aggregates. The results revealed that monetary policy shocks transmitted through exchange rate fluctuations significantly influenced bank stability, demonstrating an indirect channel linking policy actions to broader economic outcomes.

Abdulkareem and Yusuf (2021) investigated the effect of monetary policy instruments on price stability in Nigeria from 1986 to 2018, using an econometric framework combining regression and time-series analysis on money supply, interest rates, and inflation. The study found that monetary policy instruments significantly influenced price stability, but the impact was constrained by structural inefficiencies and exchange rate volatility, concluding that complementary fiscal and structural policies are necessary to enhance overall monetary policy effectiveness. Idisi et al. (2023) examined the impact of monetary policy on inflation in Nigeria using annual data spanning 1990 to 2020, applying ARDL and cointegration techniques. The results indicated that monetary tightening reduces inflation over the long term, but that the short-term pass-through is often limited by fiscal dominance and exchange rate volatility, concluding that effective inflation control requires a credible and consistent monetary policy framework combined with supportive fiscal discipline.

Lawrence (2023) investigated the impact of monetary policy on disaggregate inflation in Nigeria from January 2002 to June 2020, using the structural Vector Autoregression approach. The results showed evidence that a decline in the monetary policy rate does not reduce inflation, and that a shock to the exchange rate decreases core inflation in the long run but has no impact in the short run, while an exchange rate shock increases food inflation in the long run, and the study established that oil price shocks are key in explaining fluctuations in Nigeria's macroeconomic variables. Udochukwu et al. (2024) focused on the relationship between the monetary policy rate and food inflation in Nigeria, analysing quarterly data from 2000 to 2022 using quantile

regression techniques. The study found that monetary policy rate adjustments had asymmetric effects on food inflation across different inflation quantiles, with stronger effects observed during periods of high inflation, concluding that monetary policy can partially stabilise food prices but must be complemented by interventions addressing supply-side constraints.

Ali et al. (2023) investigated the short-run and long-run effects of monetary policy on food inflation in Pakistan from September 2005 to October 2020, using the Autoregressive Distributed Lag model on food consumer price index, the State Bank of Pakistan's reverse repo rate, the world food price index, the real effective exchange rate, and manufacturing and transport price indices. The findings indicated that food inflation can be stabilised by restrictive monetary policy in both the short run and long run, with short-run shocks adjusting at a speed of 13.9 percent per month. Ali et al. (2022) researched the role of the monetary policy rate in stabilising food inflation using monthly data from September 2005 to October 2020, employing the Quantile Regression Approach. The study found that monetary policy and transportation prices remained highly significant across all quantiles, exhibiting a positive impact on food inflation, concluding that restrictive monetary policy leads to higher food inflation in the country examined.

3.0 Methodology

This study adopted ex post facto research design. Also, annual time series data from 1990 to 2024 were used and these data were sourced from Central Bank of Nigeria Statistical Bulletin.

Model Specification

This section models the relationship between monetary policy and economic growth in Nigeria. The theoretical framework was hinged jointly on the Quantity Theory of Money and the Keynesian Theory of Interest and Liquidity Preference, which together provide a comprehensive framework for understanding the motivations for monetary policy and their effect on economic growth. Empirically, this study adopted a multiple regression model, and the model was built on the model of and Oweibi (2021), who conducted an empirical analysis of monetary policy effects on economic growth in Nigeria. The model was modified and expressed in its functional, mathematical, and econometric forms respectively:

Expressing the model in its functional form, we have:

$$RGDP = f(MPR, M2, CRR, EXR) \quad (1)$$

Transforming equation (1) into a mathematical model, we have:

$$RGDP = \lambda_0 + \lambda_1 MPR + \lambda_2 M2 + \lambda_3 CRR + \lambda_4 EXR \quad (2)$$

Transforming equation (2) into an econometric model gives:

$$RGDP = \lambda_0 + \lambda_1 MPR + \lambda_2 M2 + \lambda_3 CRR + \lambda_4 EXR + \mu_t \quad (3)$$

Transforming equation (3) into an log linear model gives:

$$\ln RGDP = \lambda_0 + \lambda_1 \ln MPR + \lambda_2 \ln M2 + \lambda_3 \ln CRR + \lambda_4 \ln EXR + \mu_t \quad (4)$$

The long run ARDL specifications of the models are provided as follows:

$$\begin{aligned} \Delta \ln(RGDP_t) &= \lambda_0 + \lambda_{1i} \Delta \ln(RGDP_{t-1}) + \lambda_{2i} \Delta \ln(MPR_{t-1}) + \lambda_{3i} \Delta \ln(M2_{t-1}) + \lambda_{4i} \Delta \ln(CRR_{t-1}) \\ &+ \lambda_{5i} \Delta \ln(EXR_{t-1}) + \sum_{t=1}^p \alpha_{1i} \Delta \ln(RGDP_{t-1}) + \sum_{t=1}^q \alpha_{2i} \Delta \ln(MPR_{t-1}) + \sum_{t=1}^p \alpha_{3i} \Delta \ln(M2_{t-1}) \\ &+ \sum_{t=1}^q \alpha_{4i} \Delta \ln(CRR_{t-1}) + \sum_{t=1}^q \alpha_{5i} \Delta \ln(EXR_{t-1}) + \varepsilon_{1i} \end{aligned} \quad (5)$$

In furtherance, the short run dynamic parameters are arrived at by the estimation of an error

correction model linked with the long-run estimates. The models are stated below:
 $\Delta \ln(RGDP_t)$

$$= \alpha_0 + \sum_{t=1}^p \alpha_{1i} \Delta \ln(RGDP_{t-1}) + \sum_{t=1}^q \alpha_{2i} \Delta \ln(M2_{t-1}) + \sum_{t=1}^p \alpha_{3i} \Delta \ln(MPR_{t-1}) \\ + \sum_{t=1}^q \alpha_{4i} \Delta \ln(CRR_{t-1}) + \sum_{t=1}^q \alpha_{5i} \Delta \ln(EXR_{t-1}) + \beta ECT_{t-1} + \varepsilon_{14i} \quad (6)$$

A Priori Expectation: Monetary policy rate: $\lambda_1 < 0$; broad money supply: $\lambda_2 > 0$; cash reserve ratio: $\lambda_3 < 0$; exchange rate: $\lambda_4 < 0$.

Where: RGDP = Real Gross Domestic Product, MPR = Monetary Policy Rate, M2 = Broad Money Supply, CRR = Cash Reserve Ratio, EXR = Exchange Rate, λ_0 = Constant, λ_1 – λ_4 = Parameters, μ_t = Disturbance term.

Data Analysis Techniques

The analytical procedure for this study began with descriptive statistics, trend analysis, and a multicollinearity test using the correlation matrix, followed by the Augmented Dickey-Fuller unit root test and the ARDL bounds cointegration test, to ensure the estimated model is not spurious and that a cointegrating regression can be estimated. In estimating the model, the study adopted the Autoregressive Distributed Lag (ARDL) technique developed by Pesaran, Shin, and Smith (2001), since the unit root test results showed evidence of mixed stationarity, with a mixture of I(0) and I(1) series. Post-estimation diagnostic tests, including the Jarque-Bera normality test, the Breusch-Godfrey serial correlation test, the Breusch-Pagan-Godfrey heteroskedasticity test, the Ramsey RESET test, and the CUSUM stability test, were also conducted. Data analysis was facilitated by EViews 12 statistical package.

4.0 Data Analysis and Discussion of Findings

Descriptive Statistical Analysis

Table 1: Descriptive Statistics of Real Gross Domestic Product (RGDP), Monetary policy rate (MPR), Broad money supply (M2), Cash reserve ratio (CRR)

	RGDP	MPR	M2	CRR	EXR
Mean	46718.55	14.27857	14983.02	12.77429	198.9620
Median	43837.39	13.50000	5127.400	9.800000	132.1500
Maximum	80607.14	27.50000	79422.59	32.50000	1478.970
Minimum	21680.20	6.000000	47.42000	1.000000	8.040000
Std. Dev.	21252.74	4.435722	19693.37	9.333411	263.6077
Skewness	0.134238	1.008864	1.604075	0.738948	3.510469
Kurtosis	1.397912	4.884291	5.147161	2.284669	17.17712
Jarque-Bera	3.848197	11.11509	21.73285	3.931488	364.9978
Probability	0.146007	0.003858	0.000019	0.140052	0.000000
Sum	1635149.	499.7500	524405.5	447.1000	6963.670
Sum Sq. Dev.	1.54E+10	668.9714	1.32E+10	2961.827	2362627.
Observations	35	35	35	35	35

Source: Author's Computation, 2026 (EViews, 12.0 Output).

Unit Root Test

In order to avoid the problem of spurious regression, the series is subject to stationarity test using

Augmented Dickey Fuller (ADF) statistic. The results of the Augmented Dickey Fuller (ADF) unit root test are provided in Table 2 below:

Table 2: Augmented Dickey-Fuller (ADF) Test Results

Variables	@ Levels		At 1 st Difference		Order of Integration	Decision		
	ADF Statistic	5% Critical Value	ADF Statistic	5% Critical Value				
$\ln RGDP_t$	-2.467813	-2.954021	-6.131991	-2.957110	I(1)	Stationary Differences	@	1 st
$\ln MPR_t$	-0.065666	-2.954021	-3.868296	-2.957110	I(1)	Stationary Differences	@	1 st
$\ln M2_t$	-1.869657	-2.954021	-5.592359	-2.957110	I(1)	Stationary Differences	@	1 st
$\ln CRR_t$	-1.338400	-2.954021	-9.226052	-2.957110	I(1)	Stationary Differences	@	1 st
$\ln EXR_t$	-6.797264	-2.954021	-	-	I(0)	Stationary @ Level		

Source: Author's Computation, 2026 (EViews, 12.0 Output).

From the results of the ADF unit root test presented in Table 2, the null hypothesis of unit root can be rejected for exchange rate (EXR) at level. This implies that exchange rate (EXR) is stationary at levels and are integrated of order zero, that is, [I(0)]. On the other hand, the null hypothesis of unit root cannot be rejected for Real Gross Domestic Product (RGDP), monetary policy rate (MPR), broad money supply (M2), and cash reserve ratio (CRR) at levels. This implies that these variables have contained unit root at levels. However, the null hypothesis of unit root can be rejected for Real Gross Domestic Product (RGDP), monetary policy rate (MPR), broad money supply (M2), and cash reserve ratio (CRR) at first difference. This therefore means that these variables are stationary at first difference and are integrated of order one, that is, [I(1)]. The results of the unit root test indicate that the data are expected be free from spurious and misleading regression estimates. Therefore, since all the variables are mixed of I(0) and I(1) that is mixed stationarity, co-integration analysis is justified.

Multicollinearity Test

For the purpose of this study, correlation matrix is used to detect multicollinearity. The result of the correlation matrix is presented in Table 3:

Table 3: Correlation Matrix Result

	$\ln RGDP_t$	$\ln MPR_t$	$\ln M2_t$	$\ln CRR_t$	$\ln EXR_t$
$\ln RGDP_t$	1				
$\ln MPR_t$	-0.10303	1			
$\ln M2_t$	-0.39975	-0.22321	1		
$\ln CRR_t$	-0.19621	0.335816	-0.44618	1	
$\ln EXR_t$	0.143578	0.187773	-0.75824	0.872096	1

Source: Author's Computation, 2026 (EViews, 12.0 Output).

The correlation test result reported in Table 3 shows that monetary policy rate (MPR), broad money supply (M2), cash reserve ratio (CRR) and exchange rate (EXR) all have weak negative

and positive relationship with Real Gross Domestic Product (RGDP) over the research period (1990 - 2024). The implication of this is that there is absence of multicollinearity problem among the independent variables and this therefore gives us confidence to proceed with our econometric analysis.

Bound Cointegration Test

Given that the variables have mixed stationarity, that is, integrated of order zero $I(0)$ and integrated of order one $I(1)$, we therefore proceed to establish or ascertain the existence or nonexistence of long-run cointegrating relationship among the variables in the equation using Autoregressive Distributed Lag (ARDL) bounds test. The result of the bounds cointegration test is presented in Table 4:

Table 4: ARDL Bounds Cointegration Test Result

Null Hypothesis: No Long-Run Relationships Exist				
Critical Value Bounds				
T-statistic	Value	Significance	I(0)	I(1)
F-statistic	8.6452111	10%	2.2	3.09
K	4	5%	2.56	3.49
			2.88	3.87
		1%	3.29	4.37

Source: Author's Computation, 2026 (EViews, 12.0 Output).

The ARDL bound cointegration test result as presented in Table 4 shows that the value of F-statistics which is 8.6452111 is greater than the upper bound critical value and the lower bound critical value both at 5%, indicating the rejection of the null hypothesis and showing that there is cointegration among the variables in the model. The result of the bounds test further indicates that there exists a long run relationship or cointegration among Real Gross Domestic Product, monetary policy rate, broad money supply, cash reserve ratio and exchange rate. This means that monetary policy rate, broad money supply, cash reserve ratio and exchange rate are good determinants of Real Gross Domestic Product in the long run. Having detected cointegrating relationships in the model, we therefore proceeded to estimate our Autoregressive Distributed Lag (ARDL) model.

Estimation of Autoregressive Distributed Lag (ARDL) Short Run RGDP Model Estimation

Table 5: Short Run Autoregressive Distributive Lag (ARDL) Model

Dependent Variable = $\ln RGDP_t$				
Variable	Coefficient	Std. Error	t-Statistic	Prob.*
$D(\ln RGDP_{t-1})$	0.368315	0.185340	1.987234	0.0633
$D(\ln RGDP_{t-2})$	0.621668	0.165879	3.747727	0.0016
$D(\ln MPR_t)$	-2.772269	0.986780	-2.809409	0.0121
$D(\ln M2_t)$	0.569199	0.285988	1.990290	0.0629
$D(\ln CRR_t)$	-3.415495	0.845144	-4.041319	0.0008
$D(\ln CRR_{t-1})$	2.208801	1.197156	1.845040	0.0825
$D(\ln EXR_t)$	5.360657	2.049427	2.615686	0.0346
$D(\ln EXR_{t-1})$	-0.229343	0.295900	-0.775067	0.4489
$D(\ln EXR_{t-2})$	-1.123239	0.296144	-3.792878	0.0015

CointEq(-1)*	-0.980091	0.186488	-5.255507	0.0001
Adjusted R-squared = 0.676233; Durbin-Watson stat = 2.143856				

Source: Author's Computation, 2026 (EViews, 12.0 Output).

The short run ARDL result in Table 5 reveals that monetary policy rate (MPR) has a positive coefficient value (-2.772269) and probability value (0.0121) that is less than 5 percent level of significance. This indicates that monetary policy rate (MPR) has negative and significant effect on Real Gross Domestic Product (RGDP) in the short run. Hence, Real Gross Domestic Product (RGDP) will decrease by 2.772269 given a unit increase in monetary policy rate (MPR) while Real Gross Domestic Product (RGDP) will increase by 2.772269 given a unit decrease in monetary policy rate (MPR).

Also, broad money supply (M2) has a positive coefficient value (0.569199) and probability value (0.0629) that is greater than 5 percent level of significance. This indicates that broad money supply (M2) has positive and non-significant effect on Real Gross Domestic Product (RGDP) in the short run. Hence, Real Gross Domestic Product (RGDP) will increase by 0.569199 given a unit increase in broad money supply (M2) while Real Gross Domestic Product (RGDP) will decrease by 0.569199 given a unit decrease in broad money supply (M2).

Additionally, cash reserve ratio (CRR) has a negative coefficient value (3.415495) and probability value (0.0008) that is less than 5 percent level of significance. This indicates that cash reserve ratio (CRR) has negative and significant effect on Real Gross Domestic Product (RGDP) in the short run. Hence, Real Gross Domestic Product (RGDP) will decrease by 3.415495 given a unit increase in cash reserve ratio (CRR) while Real Gross Domestic Product (RGDP) will increase by 3.415495 given a unit decrease in cash reserve ratio (CRR).

Furthermore, exchange rate (EXR) has a positive coefficient value (5.360657) and probability value (0.0346) that is less than 5 percent level of significance. This indicates that exchange rate (EXR) has positive and significant effect on Real Gross Domestic Product (RGDP) in the short run. Hence, Real Gross Domestic Product (RGDP) will increase by 5.360657 given a unit increase in exchange rate (EXR) while Real Gross Domestic Product (RGDP) will decrease by 5.360657 given a unit decrease in exchange rate (EXR).

In furtherance, the short run ARDL result in Table 5 shows that the expected negative sign (-0.980091) of CointEq(-1) is significant (0.0001). This confirms the existence of the long run relationship among the variables with their various significant lags. The coefficient of CointEq(-1) which is -0.980091 indicates that the deviation from Real Gross Domestic Product long-term is corrected by 98% by the following year.

Additionally, the adjusted R-squared (R^2) value of 0.676233 indicates that 68 percent of the systematic variation in Real Gross Domestic Product is explained by monetary policy rate (MPR), broad money supply (M2), cash reserve ratio (CRR) and exchange rate (EXR) in the short-run while the remaining 32 percent are explained by other factors (variables) outside the model. Lastly, the Durbin Watson statistic of 2.143856 indicates that there is absence of serial correlation in the model.

Estimation of Autoregressive Distributed Lag (ARDL) Long Run RGDP Model Estimation **Table 6: Long Run Autoregressive Distributive Lag (ARDL) Model**

Dependent Variable = $RGDP_t$

Variable	Coefficient	Std. Error	t-Statistic	Prob.
InMPR _t	-0.580798	0.149207	-3.892565	0.0060
InM2 _t	6.588989	5.356837	1.230015	0.2354
InCRR _t	-5.326224	1.053132	-5.057509	0.0015
InEXR _t	1.320155	0.312304	4.227147	0.0039
C	33.11932	8.549843	3.873676	0.0012

Source: Author's Computation, 2026 (EViews, 12.0 Output).

The long run ARDL result reveals that monetary policy rate (MPR) has positive coefficient value (-0.580798) and probability value (0.0060) that is less than 5 percent level of significance. This indicates that monetary policy rate (MPR) has positive and significant effect on Real Gross Domestic Product (RGDP) in the long run. Hence, Real Gross Domestic Product (RGDP) will increase by 0.580798 given a unit decrease in monetary policy rate (MPR) while Real Gross Domestic Product (RGDP) will increase by 0.580798 given a unit decrease in monetary policy rate (MPR). In addition, the long run ARDL result reveals that broad money supply (M2) has a negative coefficient value (6.588989) and probability value (0.2354) that is greater than 5 percent level of significance. This indicates that broad money supply (M2) exerts an insignificant negative effect on Real Gross Domestic Product (RGDP) in the long run. Hence, Real Gross Domestic Product (RGDP) will increase by 6.588989 given a unit increase in broad money supply (M2) while Real Gross Domestic Product (RGDP) will decrease by 6.588989 given a unit decrease in broad money supply (M2). Moreover, the long run ARDL result reveals that cash reserve ratio (CRR) has a negative coefficient value (5.326224) and probability value (0.0015) that is less than 5 percent level of significance. This indicates that cash reserve ratio (CRR) has positive and significant effect on Real Gross Domestic Product (RGDP) in the long run. Hence, Real Gross Domestic Product (RGDP) will decrease by 5.326224 given a unit increase in cash reserve ratio (CRR) while Real Gross Domestic Product (RGDP) will increase by 5.326224 given a unit decrease in cash reserve ratio (CRR). Lastly, the long run ARDL result reveals that exchange rate (EXR) has a positive coefficient value (1.320155) and probability value (0.0039) that is less than 5 percent level of significance. This indicates that exchange rate (EXR) has positive and significant effect on Real Gross Domestic Product (RGDP) in the long run. Hence, Real Gross Domestic Product (RGDP) will increase by 1.320155 given a unit increase in exchange rate (EXR) while Real Gross Domestic Product (RGDP) will decrease by 1.320155 given a unit decrease in exchange rate (EXR).

Post-Estimation Tests of Real Gross Domestic Product (RGDP) Model

The post estimation tests conducted in this study and its results are presented below:

Table 7: Post-Estimation Tests Results

Test	F-Statistic	P-value	Null Hypothesis	Decision
Breusch-Godfrey Serial Correlation LM Test	0.244832	0.7859	H ₀ : No serial correlation	Retain H ₀
Heteroskedasticity Test:	1.145564	0.3895	H ₀ : Homoscedasticity	Retain H ₀
Ramsey RESET test	1.930677	0.0705	H ₀ : Correctly specified	Retain H ₀

Source: Author's Computation, 2026 (EViews, 12.0 Output).

The results of the post-estimation tests were shown in Table 4.9. The serial correlation of the residuals was tested using Breuch Godfrey test or Lagrange Multiplier (LM). This test was carried out to find out whether the residuals are serially independent or not. However, the null hypothesis of no serial correlation was retained because the probability value of 0.7859 was greater than the 5 percent level of significance. This indicates that there was absence of serial correlation in our model. Also, the result of the Breusch-Pagan-Godfrey test showed that there was no heteroscedasticity in our model. This is because the null hypothesis of homoscedasticity was retained. Precisely, a probability value of 0.3895 showed that the errors were homoscedastic and independent of the explanatory variables. Hence, the model has a good fit and is adequate for any conclusion drawn from it. Lastly, the probability value of 0.0705 against the Ramsey Regression Equation Specification Error Test (RESET) test was greater than the proposed 5 percent level of significance. As a result, the null hypothesis that the model was correctly specified was sustained. Therefore, there was no possibility of the model being specified incorrectly which may result in the omission of certain variables.

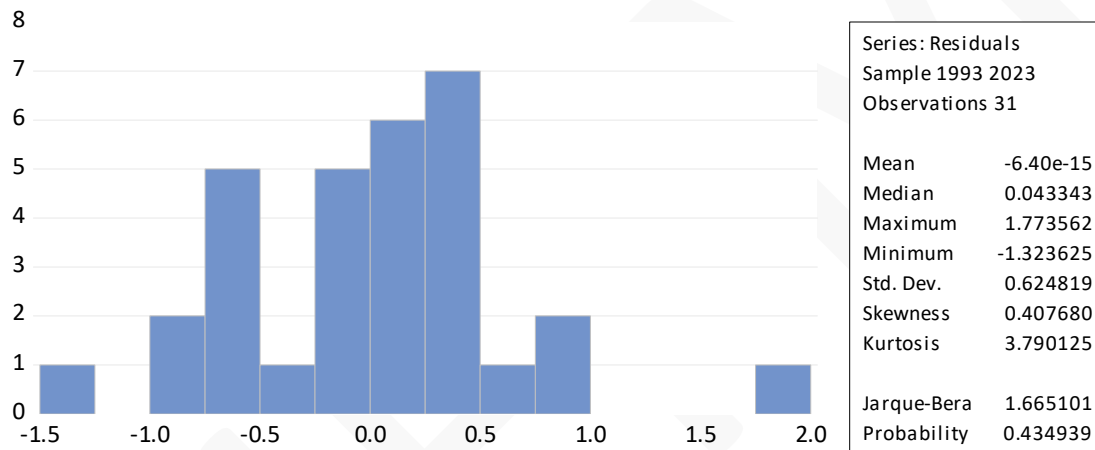


Figure 1: Normality Test

The result of the normality test in Figure 46. showed that the regression residual is normally distributed since the P-value (0.434939) is greater than 5 percent level of significance. In other words, under the Jarque-Bera normality test, a probability value of 0.434939 was greater than the proposed level of significance and this suggests that the errors were normally distributed due to the upholding of the null hypothesis of normal distribution.

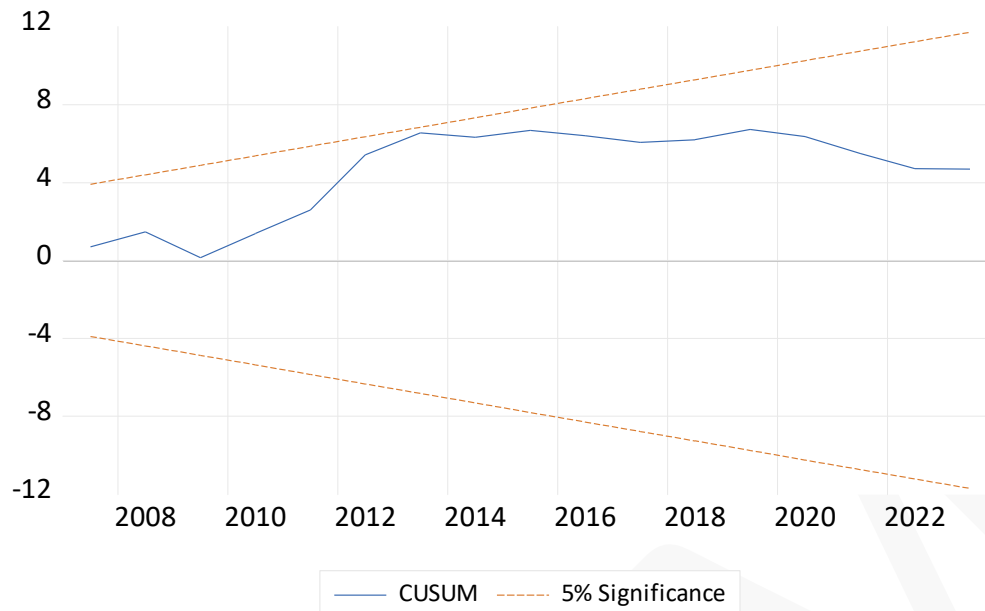


Figure 2: Stability Cusum Tests

The results of the stability test using cumulative sum (CUSUM) as shown in Figure 4.7 indicate that CUSUM line stayed within the 5 percent critical bound. Thus, CUSUM plot did not cross the 5 percent critical lines, hence, these statistics prove the stability of the long-run coefficients of the regressors that have an effect on economic growth in Nigeria. Therefore, the results of the model of the effect of monetary policy on Real Gross Domestic Product in Nigeria show the existence of parameter stability. In conclusion, the post-estimation test results provided evidence that all the variables (Real Gross Domestic Product, monetary policy rate, broad money supply, cash reserve ratio and exchange rate) in our RGDP model conform to the basic assumptions of ordinary least squares estimation.

Discussion of Findings

The main objective of this study is to examine the effect of monetary policy on economic growth in Nigeria between 1990 and 2024. The data used in the study were generated from Central Bank of Nigeria (CBN) Statistical Bulletin, National Bureau of Statistics (NBS) report and World Bank Development Indicators. The individual and joint effect of the proxies of monetary policy (i.e. monetary policy rate, broad money supply, cash reserve ratio and exchange rate) on the measure of economic growth in Nigeria (Real Gross Domestic Product) was evaluated through Autoregressive Distributed Lag (ARDL). The data analysis was facilitated by econometric views (E-views) statistical software 12. The finding of this study showed that monetary policy rate has a negative and significant effect on Real Gross Domestic Product in Nigeria both in the short and long run. This indicates that increase in monetary policy rate will lead to decrease in Real Gross Domestic Product in the short and long run. This finding is supported by the finding of Mishra, Dash and Agarwal (2023) who found that there was a significant negative relationship between monetary policy rate and gross domestic product in Nigeria. Additionally, the result of this study revealed that broad money supply has a positive and non-significant effect on Real Gross Domestic Product in Nigeria both in the short and long run. This indicates that increase in broad money supply will lead to increase in Real Gross Domestic Product in Nigeria in the short and long run. This finding is also related to the finding of Lawrence (2023) who established that

broad money supply positively impacted economic growth in the short run while having no impact on economic growth in the long run. Furthermore, the finding of this study indicated that cash reserve ratio has a negative and significant effect on Real Gross Domestic Product in Nigeria both in the short and long run. This indicates that increase in cash reserve ratio will lead to decrease in Real Gross Domestic Product in Nigeria in the long run. This finding is in agreement with the result of Ugwu and Njeze (2023) who found that cash reserve ratio has significant impact on economic growth in Nigeria. Lastly, the finding of this study indicated that exchange rate has a positive and significant effect on Real Gross Domestic Product in Nigeria both in the short and long run. This indicates that increase in exchange rate will lead to increase in Real Gross Domestic Product in Nigeria in the long run. This finding is in agreement with the result of Olise (2023) who found that the impact of exchange rate on the indicators of the economic growth of sub-Saharan African countries in terms of Gross Domestic Product is significantly positive.

5.0 Conclusion and Recommendations

Conclusion

This study examined the effect of monetary policy on economic growth in Nigeria from 1990 to 2024. The study found that monetary policy rate and cash reserve ratio exert a negative and statistically significant effect on Real Gross Domestic Product in both the short run and long run, broad money supply exerts a positive and statistically insignificant effect in both time horizons, while exchange rate exerts a positive and statistically significant effect in both the short run and long run. The study concluded that monetary policy significantly affects economic growth in Nigeria, although the effects of individual policy instruments differ in magnitude and direction.

Recommendations

1. The Central Bank of Nigeria should pursue a more growth-supportive interest rate policy by avoiding excessively high policy rates that increase borrowing costs for businesses and households.
2. The Central Bank of Nigeria should exercise caution in setting the cash reserve ratio, given its significant negative effect on Real Gross Domestic Product, ensuring that liquidity management objectives do not unduly restrict the funds available for productive bank lending.
3. Given the statistically insignificant effect of broad money supply on Real Gross Domestic Product, the Central Bank of Nigeria should focus on the quality and productive channelling of monetary expansion, rather than its volume alone, to ensure that money supply growth translates into genuine output growth.
4. Given the significant positive effect of exchange rate depreciation on Real Gross Domestic Product, exchange rate management should be approached with care to balance the competitiveness benefits for tradable sectors against the imported-inflation and macroeconomic stability risks that sustained depreciation can pose.

References

- Abdulkareem, O., & Yusuf, A. (2021). Monetary policy instruments and price stability in Nigeria: An empirical analysis (1986–2018). *International Journal of Management Sciences and Social Policy Studies*.
- Afolabi, B., & Wapji, H. N. (2025). Monetary policy and economic growth in Nigeria: Matters arising. *FUOYE Journal of Accounting and Management Sciences*.
- Ajisafe, R. A. (2021). Monetary policy and financial stability in Nigeria: Exchange rate and bank stability channels. *Nigerian Journal of Economics and Policy Studies*.
- Akande, E. O., & Joshua, J. D. (2020). *Monetary policy rate: An effective instrument in controlling inflation in Nigeria*.
- AlaviRad, A., Hatami, H., & Totonchi, J. (2022). The effect of monetary policy on food inflation in Iran: Quantile regression framework. *Agricultural Economics Research*, 14(3), 111–122.
- Ali, C. I., Ullah, S., Ahmed, U. I., Baig, I. A., Iqbal, M. A., & Masood, A. (2022). Can food inflation be stabilized by monetary policy? A quantile regression approach. *Journal of Economic Impact*, 4(3), 205–212.
- Ali, C. I., Ullah, S., Ahmed, U. I., Rehman, A. U., Mehmood, H. Z., Yasin, M., & Raza, M. (2023). Short and long run effects of monetary policy on food inflation: A study of Pakistan. *Journal of Economic Impact*, 5(2), 146–154.
- Asiagwu, H., Utalor, C., & Anaele, S. C. (2021). Monetary policy and industrial growth in Nigeria. *Journal of Economics, Technology, Management and Social Sciences and Education (JETMASE)*, 3(1), 154–166.
- Balogun, A. A. (2021). Does monetary policy affect economic growth in Nigeria? *FUOYE Journal of Finance and Contemporary Issue*, 1(1), 92–102.
- Bhattacharya, R., & Jain, R. (2020). Can monetary policy stabilise food inflation? Evidence from advanced and emerging economies. *Economic Modelling*, 89, 122–141.
- Central Bank of Nigeria. (2020). *Monetary Policy Committee communiqué: November 2020*. Central Bank of Nigeria.
- Central Bank of Nigeria. (2021). *Monetary policy review: February 2021*. Central Bank of Nigeria.
- Etale, I., & Oweibi, O. (2021). An empirical analysis of the effect of monetary policy on economic growth in Nigeria. *International Journal of Humanities and Social Science*, 11(9).
- Eyitayo, A., et al. (2023). Monetary policy shocks and economic growth in Nigeria. *Global Scientific Journal*.
- Fisher, I. (1911). *The purchasing power of money: Its determination and relation to credit, interest and crises*. Macmillan.
- Idisi, P. O., Dirisu, I. H., Adewale, F., Bandele, M. A., & Olufemitan, M. O. (2023). Empirical analysis of the impact of monetary policy on inflation in Nigeria. *Journal of Global Economics and Business*, 4(15).
- Keynes, J. M. (1936). *The general theory of employment, interest and money*. Macmillan.
- Lawrence, A. O. (2023). *Impact of monetary policy on disaggregate inflation in Nigeria: A structural VAR approach*.
- Mbanefo, P. A., & Nnebedum, E. E. (2024). Monetary policy and economic growth in Nigeria: A relationship analysis (2007–2022). *African Banking and Finance Review Journal*, 14(14).

- Mishra, A., Dash, A. K., & Agarwal, A. (2023). Quest of dynamic linkages between monetary factors and food inflation in India. *Theoretical and Applied Economics*, 30(2).
- Nwobia, C. C., Ogbonnaya-Udo, H., & Ezu, G. (2020). Effects of monetary policy on selected macroeconomic variables in Nigeria. *Journal of Economics and Sustainable Development*.
- Nzotta, S. M. (2020). Monetary policy and macroeconomic stability in Nigeria. [Publication details not independently verified].
- Ogwuche, D. D., & Obiaje, E. (2023). Impact of monetary policy on economic growth in Nigeria: 1985–2022. *Asian Journal of Economics, Business and Accounting*, 23(24), 27–38.
- Olise, C. (2023). Exchange rate and economic growth in Sub-Saharan African countries. [Publication details not independently verified].
- Ovat, O. O., Ishaku, R. N., Ugbaka, M. A., & Ifere, E. O. (2022). Monetary policy rate and economic growth in Nigeria. *International Journal of Economics and Financial Issues*, 12(3).
- Ozili, P. K. (2024). *Inflation-targeting monetary policy framework in Nigeria: The success factors* (MPRA Paper No. 120775). Munich Personal RePEc Archive.
- Pesaran, M. H., Shin, Y., & Smith, R. J. (2001). Bounds testing approaches to the analysis of level relationships. *Journal of Applied Econometrics*, 16(3), 289–326.
- Samal, A., & Goyari, P. (2022). Does monetary policy stabilise food inflation in India? Evidence from quantile regression analysis. *Australian Economic Review*, 55(3), 361–372.
- Udochukwu, N. E., Chinedu, O. A., Ogah, E. B., & Desmond, U. C. (2024). Monetary policy rate and food inflation in Nigeria. *International Journal of Research and Innovation in Social Science*, 8(8), 4494–4506.
- Ufoeze, L. O., Odimgbe, S. O., Ezeabalisi, V. N., & Alajekwu, U. B. (2018). Effect of monetary policy on economic growth in Nigeria: An empirical investigation. *Annals of Spiru Haret University Economic Series*, 18(1), 123–140.
- Ugwu, F. I., & Njeze, V. A. (2023). Monetary policy transmission mechanisms and economic growth in Nigeria (1999–2021). *Global Journal of Finance and Business Review*.
- Uju, E. A., & Ugochukwu, P. O. (2021). Effect of monetary policy on industrial growth in Nigeria. *International Journal of Entrepreneurship and Business Innovation*, 4(1), 47–60.