SSR Journal of Economics, Business and Management (SSRJEBM)

Homepage: https://ssrpublisher.com/ssrjebm/

Volume 3, Issue 4, 2026 ISSN: 3049-0405

Inflation Dynamics and Monetary Policy Effectiveness in Nigeria: An ARDL Approach

David Brown

Department of Economics, Faculty of Social Sciences, University of Port Harcourt

Received: 25.02.2026 | **Accepted:** 25.03.2026 | **Published:** 04.04.2026

***Corresponding author:** David Brown

DOI: *10.5281/zenodo.19421354*

Abstract **Original Research Article**

This study investigated the effect of monetary policy on inflation rate in Nigeria from 1990 to 2024. This was achieved by collecting data from the World Bank and Central Bank of Nigeria Statistical Bulletin. Using the Autoregressive Distributed Lag approach, data was analyzed, and from the findings of data analysis, it was evident that monetary policy rate had a negative and insignificant effect on inflation rate in Nigeria in the short run. Money supply growth had a positive and significant effect on inflation rate in Nigeria in the short run. Prime lending had a positive and insignificant effect on inflation rate in Nigeria in the short run. Monetary policy rate, money supply growth, and prime lending had a positive and insignificant effect on inflation rate in Nigeria in the long run based on the time covered in this study. This means that the Central Bank of Nigeria can influence the rate of inflation in Nigeria in the short run through the supply of money. However, the influence of monetary policy may not be significant in the long run because the monetary policy may not be able to reduce the inflation rate, as the Nigerian economy is highly exposed to global economic shocks. The coefficient -0.193393 means that 19.33% errors are corrected in the short run to ensure convergence in the long run. The study recommends that the authorities should not rely solely on MPR to influence the inflation rate in the country. Instead, to strengthen the monetary policy, the authorities should increase sectoral participation and encourage financial inclusion. To reduce the inflation rate in Nigeria, the central bank should apply a strict contractionary monetary policy. In other words, to reduce the inflation rate and maintain it at reasonable levels, that is, at single digits, the monetary policy authorities should work hand-in-hand with the fiscal authorities.

Keywords: Inflation, monetary policy, money supply growth, prime lending rate, ARDL, Nigeria.

INTRODUCTION

Today, inflation continues to be one of the key macroeconomic challenges in Nigeria. This has been fueled by factors like depreciation of local currencies in the country due to global economic challenges like conflicts in different parts of the world and the increase in oil prices due to disruptions in the global oil supply chain, among many others (Joel et al., 2024; Oyebamiji et al. 2025). In this case, inflation has continued to be in the form of food inflation. In 2022, the inflation rate in Nigeria was 18.84%. In 2023, the

inflation rate increased to 24.65%. In 2024, inflation has risen to 33.84% (Central Bank of Nigeria, 2025).

Inflation refers to a general increase in prices of goods and services in an economy. There is a great cost associated with inefficient resource use since economic agents behave based on responses to nominal variables, which are mistaken to be responses to real variables. There is an increase in the opportunity cost of holding money during an inflationary period, resulting in inefficient use of real resources in economic transactions (Friedman, 1969). Inflation, therefore, results in a decline in standard of living and the purchasing power of money (Keynes, 1936). In order to curb inflation and sustain price stability, appropriate measures have been put in place. In summary, rate of inflation in an economic system is determined by two major factors: the supply of money and the supply of goods (Garru & Tartiyus, 2018). These two factors then become the main focus of policy when inflation persists. Excess or a lack of money could result in stagnation, which could impede economic growth and development, or excess demand, which could result in an increase in the rate of inflation (Clarida et al., 2021).

In this regard, in order to attain price stability, sustained growth, and employment, central banks utilize monetary policy as a significant tool in navigating the complex landscape of economic stability (Tehranian, 2023). The success of monetary policy instruments in combating inflation is critical in Nigeria's economy, as a wide range of both domestic and external factors influence its economic processes. Nigeria's inflation rate has been subject to fluctuations in recent years as a result of various factors, ranging from supply-side factors to global economic factors (Oyebamiji et al., 2025). Therefore, in this context, the Central Bank of Nigeria (CBN) assumes a critical role in formulating and executing various monetary policies geared towards combating inflation and steering the economy towards a growth trajectory (Ebipre & Amaegberi, 2020). In view of the foregoing, this study attempts to examine the effect of monetary policy on inflation in Nigeria from 1990 to 2024.

Statement of Problem

Bank liquidity is affected by the monetary policy rate, prime lending, as interest rates and borrowing are affected by the MPR. The way these instruments interact and the actual impact these instruments have on inflation is not fully understood, especially in relation to Nigeria's unique economic challenges. The effectiveness of these instruments in managing inflation in Nigeria is also made worse by systemic challenges such as food supply instability and insufficient infrastructure, which affect the expected results of monetary policy interventions (National Bureau of Statistics, 2020). These challenges show that there is a complex relationship between Nigerian inflation and monetary policy instruments.

Aim and Objectives

The aim of this study is to analyze the effect of monetary policy on inflation rate in Nigeria from 1990 to 2024.

The objectives of this study are as follows:

1. To evaluate the effectiveness of monetary policy rate on inflation rate.

2. To determine the effectiveness of money supply growth on inflation rate.

3. To analyze the effectiveness of prime lending rate on inflation rate in Nigeria.

LITERETURE REVIEW

Conceptual Review

Inflation Rate: This means the rate of change in the monetary value of goods and services over a specific period of time, usually annually. Consumer Price Index (CPI) and Producer Price Index (PPI) are the indices generally applied to measure inflation rate (Bordo & Filardo, 2022). Inflation has a negative impact as it remains unchecked in the economy. Inflation results in a decline in purchasing power, creates disincentives for saving, and may have a negative impact on economic growth (Forbes, 2023). By means of monetary policy measures like interest rate and liquidity control, central

banks aim to maintain a low inflation rate (Gali, 2022).

Monetary Policy: In order to achieve macroeconomic objectives like controlling inflation, maintaining employment levels, and promoting economic growth, this monetary policy tool is applied to control the money supply, liquidity, and money prices in the economy (Mishkin, 2022). By means of open market operations, cash reserve ratio, discount rate, and interest rate volatility, monetary policy works. However, monetary policy has become increasingly difficult to implement due to recent challenges posed by supply chain disruptions and global inflation. Furthermore, this study has taken a leap to move beyond the conventional variables by considering the prime lending rate (BIS, 2023). This has been done to reflect the activities of commercial banks.

EMPIRICAL REVIEW

Oyebamiji, Henry, and Adewale (2025) undertook an empirical analysis to evaluate the effect of monetary policy instruments on Nigerian inflation between 1993 and 2024. It employed a Vector Autoregression model to explicitly evaluate the impact of the Monetary Policy Rate, Cash Reserve Ratio, Liquidity Ratio, and Open Market Operations on the inflation rate. The results revealed that none of the monetary policy instruments had a significant impact on Nigerian inflation. This indicated an inefficient monetary transmission mechanism in Nigeria. However, the Johansen Co-integration results revealed a strong long-term relationship between the variables. This indicated that there was a strong link between the variables and that the variables tended to move in the same direction in the long term. The structural and institutional imperfections in the Nigerian economy, such as a highly informal economy and excessive liquidity in the system, were held accountable for the inefficient monetary transmission. The study concluded that while there was a long-term relationship between the variables, non-monetary factors were largely responsible for short- to medium-term inflation in Nigeria. It proposed that in order to secure a firm control over inflation and macroeconomic stability in the long term, a broader approach was needed, in which monetary policies and structural changes in public finance, infrastructure, and agriculture are integrated.

In their study, "Empirical Evidence of Monetary Policy Tools Impact on Inflation in Nigeria Using Annual Time Series Data from 1990 to 2022," Joel et al. (2024) utilized data analysis, both analytical and descriptive, in their research to examine the impact of monetary policy tools on inflation in Nigeria, using data from 1990 to 2022, mostly from the National Bureau of Statistics and CBN Statistical Bulletin. Money supply, monetary policy rate, and cash reserve ratio were found to be the primary factors affecting inflation in Nigeria, while liquidity ratio had a positive but statistically insignificant effect on inflation in Nigeria, based on the Auto-Regressive Distributed Lag (ARDL) model. To reduce the supply of money in circulation in Nigeria, a cashless economy was proposed by the researchers to be implemented by the government, through the Central Bank of Nigeria.

Enemo, Ologunla, and Aigbedion (2024) conducted a study to investigate the impact of the interest rate transmission channels on the inflation rate in Nigeria over the last 25 years. The study employed an ex-post facto research design. The researchers employed time-series data for 25 years, ranging from 1999 to 2024. The data were obtained from the databases of the World Development Indicator (WDI), National Bureau of Statistics (NBS), and Central Bank of Nigeria (CBN). The researchers employed the Augmented Dickey-Fuller model to investigate the impact of interest rates on the inflation rate in Nigeria. The findings from the analysis indicated that there was a significant long-run cointegrating relationship between the interest rates and the inflation rate in Nigeria. Thus, the researchers suggested that in addition to the interest rates through the operation of the MPR by the Central Bank of Nigeria, the Central Bank might also control the amount of money in circulation as an alternative measure for controlling the inflation in Nigeria. The monetary policies are not enough to reduce the inflation in Nigeria, as the Central Bank of Nigeria has limited control over the other factors.

The research also indicates that the monetary authorities should collaborate with the fiscal authorities as well as all ministries, divisions, and agencies (MDAs) to remove all barriers to reducing the inflation rate in Nigeria.

Idris and Shuyur (2024) conducted an empirical study on the impact of monetary policy on inflation in Nigeria, with a specific focus on the effectiveness of the Central Bank of Nigeria (CBN) in managing inflation in Nigeria in the wake of price increases. The study applied an error correction model (ECM) for the short-run analysis and an autoregressive distributed lag (ARDL) approach for the long-run analysis using secondary data. The study's theories included the Quantity Theory of Money, Demand-Pull and Cost-Push Inflation Theories, Structuralism, and Monetarism. The findings indicated that although the role of monetary policy in managing inflation in Nigeria has been significant, its effectiveness has been on a downward trend in recent times. As Nigeria relies on the importation of raw materials, refined crude oil, and agricultural industrial equipment, the study concluded that the government needs to take immediate action to manage imported inflation in Nigeria.

Onehi et al. (2023) undertook an ARDL bounds test and ECM to investigate the influence of monetary policy on price stability in Nigeria from 1986 to 2020. The researchers set out to determine the types of monetary policies that are effective in promoting price stability, considering the disconnect observed between the decisions made by the CBN and inflation rates. The results from the stationarity tests revealed that INF, EXR, and M are integrated at order 1(1), whereas MPR and RIR are stationary at level and 1(0), respectively. The ARDL test established the existence of long-run relationships, and the coefficient from the ECM (-0.0151) suggested that there is a slow adjustment towards equilibrium. Additionally, there is no autocorrelation in the model, as supported by the Durbin-Watson test (2.2381). The findings showed that RIR significantly and negatively affects price stability, whereas EXR, M, and MPR have negative and negligible effects. The findings suggested that monetary policies have minimal influence on the overall price stability in Nigeria, and more should be done to strengthen financial inclusion.

In a comprehensive study, Adebayo, Yusuf, and Abdulkareem (2023) investigated the impact of monetary policy on inflation in Nigeria, with a focus on the moderating effect of outside variables such as exchange rate and price of oil in the world market. Using a Vector Autoregression (VAR) model, the authors analyzed the dynamic relationship between inflation and a variety of monetary policy instruments, including the Monetary Policy Rate (MPR), with monthly data from 2000 to 2022. Based on their research, the efficacy of domestic monetary policy was compromised by a depreciation in the exchange rate, which had a tremendous impact on inflation. As Nigeria's foreign exchange earnings are based on exports of crude oil, fluctuations in the price of crude oil in the global market directly impact domestic inflation. Based on their Impulse Response Function (IRF) research, domestic monetary policy had a lesser impact on inflation in Nigeria compared to fluctuations in Nigeria's crude oil price and its exchange rate. To sustain economic stability, there is a need to better coordinate fiscal and monetary policies, and to diversify the economy and stabilize the naira to reduce external shocks.

Akinbode et al. (2021) investigated the relationship between Nigerian monetary policy and inflation rate from 1986 to 2020. The researchers employed a co-integration along with a Multi-Variate Vector Error Correction Model technique to examine the relationship between monetary policy, exchange rate, and inflation rate in long-term as well as short-term perspectives. By utilizing such an approach, the researchers revealed that there exists at least one co-integrating vector between variables. Moreover, the vector error correction estimate revealed a one-way causal relationship between the inflation rate and interest rate. Furthermore, the theoretical transmission nexus derived from the VECM estimate revealed that the cause of such a relationship lies in the change in monetary policy, but nothing else. This study revealed appropriate management and control of inflation and interest rates in light of such findings.

Nuhu and Odiba (2021) conducted a study to assess the effect of monetary policy on Nigeria's war against inflation. The main objective of this study was to assess the effect of monetary policy instruments on Nigeria's inflation rate. The Central Bank of Nigeria Statistical Bulletin was used as a source of annual time series data from 1986 to 2019. This study was based on the use of money supply, monetary policy rate, exchange rate, and government spending as independent variables, while inflation rate was used as a dependent variable. This study employed the Autoregressive Distributed Lag (ARDL) model. Based on the findings of the study, interest rate and exchange rate were found to have a positive impact on Nigeria's inflation rate in the long and short term. On the other hand, monetary policy rate was found to be significant in the short term but not in the long term. This implies that monetary policy rate was not very successful in controlling inflation. This study, therefore, recommended that the Central Bank of Nigeria should work hand-in-hand with commercial banks to control inflation by maintaining a sustainable rate of interest.

Abille and Mpuure (2020) utilized the data from 1983 to 2017 and the Autoregressive Distributed Lag (ARDL) approach for the analysis and examined the influence of monetary policy on the ability of Ghana to manage inflation. The study found that the money supply had a major negative effect on inflation in the short term but a positive and substantial effect in the long term. To effectively manage the risk of inflation in the economy, it is recommended that the authorities focus on designing long-term strategies for stabilizing the rate of growth of the money supply so that it increases with the increase in economic output. To effectively address the risk of inflationary pressures and stabilize the prices in the short term, the authorities need to adopt strategies such as changes in reserve requirement and open market operations. The risk of inflationary expectations can be managed by enhancing the effectiveness of the inflation targeting system in Ghana by making it more open and transparent. The authorities can also diversify the policy instruments such as credit restriction and changes in the interest rate to gain more flexibility in managing the risk of inflation. In order to reduce the impact of the negative results of external shocks, it is important to keep track of external factors like exchange rate variations, externalities, trade balances, and world commodity prices.

Okotori (2019) employed monthly data from 2009 to 2018 to investigate the link between monetary policies by the CBN and inflation in Nigeria. The study revealed stationarity at I(1) for the variables and long-run relationships between the variables by applying the ADF, Johansen, and VECM tests. The liquidity ratio, MPR, currency exchange rate, reserve requirement, and Treasury bill rates all had a major impact on inflation, as revealed by the VECM statistics. The study concluded that the monetary policies by the CBN had a significant impact on the dynamics of inflation.

Theoretical Framework

There are various theories that have been propounded and applied in explaining the relationship that exists between monetary policies and interest rates and inflation. Just like other preceding studies (Enemo et al., 2025), this study is based on the quantity theory of money, as propounded by Fisher (1911). As stated by Irving Fisher, as cited in Jhingan (2016), holding other factors constant, quantity of money supply and price level move in the same direction. As stated in Bakare-Aremu, Osobase, and Ohale (2018), the quantity theory of money asserts that there is a direct relationship between the supply of money and the price level, and that the price level is proportionate to the quantity of money in circulation. Thus, if the quantity of money is doubled, the price level will also double, and the worth of money will be cut in half. But, if the quantity of money is cut in half, then the worth of money will double, and the price level will be cut in half (Oyebamiji, Henry & Adewale, 2025). This positive relationship can be expressed by the following quantity equation:

$$MV=PY.$$

Where M = the quantity of money supplied, V = the velocity of the circulation of money, P = the aggregate price level, and Y = real national output.

METHODOLOGY

In a bid to study the influence of monetary policy factors on inflation in Nigeria; this study employed an ex post facto research design. The rationale for using this research design is that the study is based on past data and does not manipulate the independent variables. The appropriateness of this research design is further enhanced by the fact that there is reliable secondary data available for use in this study. It is noteworthy that similar studies on this subject matter have employed this research design in studying other aspects of the subject (Enemo et al., 2025).

Model Specification

The model that was utilized in establishing the impact of monetary policy on inflation rates was based on the "Quantity Theory of Money," which examines the indirect impact of money supply and interest and inflation with regards to the money supply in circulation. As such, the study was able to establish a functional relation, as depicted in equation (1) below, by using and amending existing models based on the preceding research of Enemo et al. (2025):

$$INFL = f(MPR, MSR, PLR) \quad 1$$

where INFL stands for inflation rate, MPR stands for monetary policy rate, MSR stands for money supply growth, and PLR stands for prime lending rate.

The form in which equation 1 has been estimated is as follows:

$$INFL = \beta_0 + \beta_1 MPR + \beta_2 MSR + \beta_3 PLR + \mu t \quad 2$$

where β stands for constant term and μ stands for error term. β_1, β_2, and β_3 are the coefficients of the variables included in the equation. The expectations are that prime lending rate, monetary policy rate, and money supply have a negative impact on inflation rate.

Method of Data Analysis

Descriptive analysis, Augmented Dickie Full test, and the ARDL approach were used for the analysis of the data collected in the study. The main reason for the selection of the ARDL approach for the study was that the variables selected for the study had different orders of integration such as I(0) and I(1). This approach supports the estimation of the short-run and long-run behavior of the variables in the model under given conditions (Pesaran et al., 2001).

RESULTS AND DISCUSSION

This section presents and discusses the results of the data analysis. The descriptive statistics of the variables are presented in Table 1.

Table 1: Descriptive Statistics

	INFL	MPR	MSR	PLR
Mean	18.70000	14.27857	25.25914	18.03514
Median	13.00000	13.50000	21.55000	17.59000
Maximum	72.83000	27.50000	57.78000	29.80000
Minimum	5.380000	6.000000	-2.010000	11.48000
Std. Dev.	15.86959	4.435722	16.28224	3.676901
Probability	0.000000	0.003858	0.007394	0.005171
Obs	35	35	35	35

Source: Researcher's Computation (2026) using EViews 13.0

The results in Table 1 revealed that the average inflation rate (INFL) in the country over the years, that is, from 1990 to 2024, was 18.7%. In addition, the results revealed that the average monetary policy rate (MPR) in the country over the years was 14.2%, the average broad money

supply growth rate (MSR) in the country over the years was 25.25%, and the average prime lending rate (PLR) in the country over the years was 18.03%. This revealed that inflation has been high in the country over the years. This is supported by the results in Table 1, where the money supply growth in the country over the years has been high. In addition, the results revealed that both the monetary policy rate and the prime lending rate have been high in the country over the years. In addition, the results revealed that the standard deviations of INFL, MPR, MSR, and PLR, that is, Std. Dev. INFL = 15.86, Std. Dev. MPR = 4.43, Std. Dev. MSR = 16.28, and Std. Dev. PLR = 3.67, revealed how the variables were dispersed from their means. The probability values indicated that INFL, MPR, MSR, and PLR are normally distributed since their probability is less than the 0.05% critical value.

Unit Root Test

Table 2: ADF Unit Root Stationarity Test Results

Variables	At Levels		At 1st Difference		Remarks
	ADF Statistics	5% Critical Value	ADF Statistics	5% Critical Value	
INFL	-2.128768	-2.951125	-4.657087	-2.954021	**I(1)**
MPR	-2.156176	-2.951125	-6.965844	-2.954021	**I(1)**
MSR	-3.045592	-2.951125	-6.543335	-2.954021	**I(0)**
PLR	-3.884100	-2.951125	-6.281221	-2.957110	**I(0)**

Source: Researcher's Computation (2026) using EViews 13.0

Table 2 indicated that inflation rate (INFL) and monetary policy rate (MPR) are stationary at first difference I(I) since the ADF statistics are higher than the critical values; on the other hand, MSR and PLR are stationary at level since the ADF statistics are higher than the critical values. This indicates that the order of integration of the variables has a mix of both I(1) and I(0), implying that the appropriate approach for this study is the use of the ARDL approach. The study now tests for long-run convergence of the variables, and the results are as shown in Table 3.

Table 3: ARDL Bounds Test Cointegration Result

Test Statistic	Value	K
F-Statistics	7.655077	3
Bounds Critical Values		
Significance	I(0)	I(1)
10%	2.370	3.200
5%	2.790	3.670
1%	3.650	4.660

Source: Researcher's Computation (2026) using EViews 13.0

The result from the ARDL bounds test, as shown in Table 3 above, indicated that there was a long-term relationship between the dependent and independent variables in the model. This is

because, at all levels of significance, the F-statistic, which was 7.65, was above the upper bound critical values I (1). This meant that there was long-term convergence in the model. It was in this regard that both the short-term and long-term tests were conducted, and the results are as shown in Table 4.

Table 4: ARDL Short Run Coefficient Estimates

Variable	Coefficients	Std. Error	t-statistics	Probability
D(INFL(-1))	0.296983	0.105912	2.804061	0.0103
D(MPR)	-0.381329	0.312505	-1.220232	0.2353
D(MPR(-1))	-0.795452	0.379023	-2.098690	0.0475
D(MPR(-2))	1.072161	0.293500	3.653017	0.0014
D(MSR)	0.159351	0.073470	2.168938	0.0437
D(PLR)	0.032390	0.493376	0.065651	0.9482
D(PLR(-1))	0.615733	0.412708	1.491934	0.1499
D(PLR(-2))	1.150215	0.420086	2.738049	0.0120
D(PLR(-3))	1.528519	0.322445	4.740396	0.0001
ECM (-1)	-0.193393	0.036259	-5.333638	0.0000
R-squared		0.833142	Mean dependent var	-0.771613
Adjusted R-squared		0.772467	S.D. dependent var	10.20364
S.E. of regression		4.867182	Akaike info criterion	6.240608
Sum squared resid		521.1681	Schwarz criterion	6.656926
Log likelihood		-87.72942	Hannan-Quinn criter.	6.376317
F-statistic		13.73110	Durbin-Watson stat	2.241173
Prob(F-statistic)		0.000001		

Source: Researcher's Computation (2026) using EViews 13.0

Table 4 shows the results from the ARDL model's short run estimates based on Akaike information criterion. Parameters were estimated based on AIC and a maximum dependent lag length of four. The dependent variable was set as inflation rate (INFL), whereas independent variables were set as monetary policy rate (MPR), money supply growth rate (MSR), and prime lending rate (PLR). From the short run estimates, previous values of inflation rate at lag 1 D(INFL(-1)) significantly increased INFL by 0.2969 unit in the following year. In addition, monetary policy rate was found to have a negative but insignificant effect on inflation rate in the short run. Money supply growth was found to have a positive effect on inflation rate in the short run. On the same note, prime lending was found to have a positive but insignificant effect on inflation rate during the study period.

The above result from data analysis further implies that the error correction mechanism, which measures the speed of adjustment towards equilibrium, is correctly signed, negative, and significant. This is because an error correction coefficient of -0.193393 implies that 19.33% of errors is corrected yearly to ensure convergence in the long run. Furthermore, the coefficient of determination (R-squared) of 0.833142 implies that 83.31% of change in inflation rate is jointly explained by changes in variables representing monetary policy, which is included in this model, while the remaining 16.69% is explained by other variables not included in this model, which is accounted for by the stochastic term included in this model. Moreover, this model is statistically significant since, given an F-statistic of 13.73110 and a probability of 0.000000, which is less than 0.05, it implies that this model

is statistically significant. Lastly, the absence of autocorrection in this model is depicted by a Durbin-Watson statistic of 2. The long run estimate of this model is presented in Table 5.

Table 5: ARDL Long Run Coefficient Estimates

Variable	Coefficients	Std. Error	t-statistics	Probability
INFL(-1)	0.838729	0.165366	5.071951	0.0000
INFL(-2)	-0.312420	0.164864	-1.895016	0.0697
MPR	0.404105	0.455682	0.886813	0.3836
MPR(-1)	-0.525711	0.579412	-0.907318	0.3729
MPR(-2)	1.567438	0.553623	2.831239	0.0090
MSR	0.127658	0.106949	1.193633	0.2438
PLR	0.176531	0.534252	0.330426	0.7438
C	-17.02299	9.721062	-1.751146	0.0922

Source: Researcher's Computation (2026) using EViews 13.0

The result in Table 5 shows that there is a long run relationship between inflation rate and monetary policy variables. This implies that monetary policy rate, money supply growth rate, and prime lending rate have a positive but insignificant impact on inflation rate in Nigeria in the long run based on the period covered in this study. This implies that Central Bank of Nigeria can control inflation rate in Nigeria in the long run. However, this control of inflation rate by monetary policy of Central Bank of Nigeria might not be significant, as this monetary policy alone cannot reduce inflation rate in Nigeria to a lower level. Considering the current level of living in Nigeria due to an increase in oil price, Central Bank of Nigeria can reduce monetary policy rate and prime lending rate, which in turn will enable businesses to access loan from commercial banks at a lower rate, boosting economic activities in Nigeria.

DISCUSSION OF THE RESULTS

The results obtained from the data analysis showed that the monetary policy rate has a negative and insignificant effect on inflation rate in the short run. Money supply growth has a positive and significant effect on inflation rate in the short run. Prime lending has made a positive and insignificant effect on inflation rate in the short run. In the long run, the monetary policy rate, money supply growth, and prime lending have positive and insignificant effects on inflation rate in Nigeria based on the period covered in the study. This shows that the Central Bank of Nigeria can control the rate of inflation in Nigeria in the short run through money supply. However, the effect of such monetary policy may not be significant in the long run because the monetary policy may not be able to push the inflation rate downwards, considering that the country is highly dependent on imported goods and is highly affected by global economic dynamics. The error correction coefficient is -0.193393, indicating that 19.33% of errors in the short run are corrected annually to ensure convergence in the long-run.

The findings of the study differ from those of Enemo et al. (2025) and Nuhu and Odiba (2021) since they found a negative and significant effect of monetary policy rates in the short run. However, the findings of the study corroborate Nuhu and Odiba (2021) view about the long-term relationship between monetary policy rates and inflation. This implies that, as earlier suggested by Idris and Shuyur (2024), monetary policy has been very instrumental in controlling inflation in Nigeria. However, its efficacy in controlling inflation in Nigeria has been on a downward trend. Since Nigeria depends on imports of raw materials, refined crude oil, and agricultural industrial equipment, Idris and Shuyur (2024) recommended that the

government should take immediate steps to control imported inflation. Similar to the findings of the current study, Akinbode, Olabisi, Adekunle, and Jimoh (2021) investigated the relationship between monetary policy in Nigeria and inflation from 1986 to 2020. A co-integration Multi-Variate Vector Error Correction Model technique was employed in finding out that there exists at least one co-integrating vector amongst the variables. In the long run, just like in the short run, monetary policy can be employed to control the movements of inflation rate in Nigeria.

Diagnostic Tests

The study used econometrics to guarantee the reliability of the model estimations for forecasting and policy planning as well as stability checks. Table 6 displays the test results.

Table 6: Normality and Heteroskedasticity test

Normality Test: Jarque-Bera statistic = 1.7510, Prob. = 0.4166			
Breusch-Godfrey Serial Correlation LM Test			
F-statistic	0.516723	Prob. F(2,15)	0.6067
Obs*R-squared	1.998125	Prob. Chi-Square(2)	0.3682
Heteroskedasticity test: Breusch-Pegan-Godfrey			
F-statistic	0.221885	Prob. F(13,17)	0.9957
Obs*R-squared	4.496945	Prob. Chi-Square(13)	0.9847
Scaled explained SS	2.017415	Prob. Chi-Square(13)	0.9998

Source: Researcher's Computation (2026) using Eviews 13.0

The residual diagnostic test was conducted by employing the Breusch Godfrey Serial Correlation LM Test and the Jarque-Bera Test. The major objective in this step is to ascertain the correctness and stability of the specified model, as well as the robustness of the results obtained from the data analysis. The decision rule in this step is to ascertain that if the probability value for all the null hypotheses in the data set is greater than the 5 percent significance level, which is equal to 0.05, then the null hypothesis is not rejected. The results obtained in table 6 show that the probability values for the residual diagnostic tests are greater than 0.05, which implies that the data are normally distributed and there is no serial correlation and no heteroscedasticity.

Stability Test

To confirm the stability of the short run and long run movements for the estimated ARDL error correction model, Cumulative Sum (CUSUM) and Cumulative Sum of Squares (CUSUM of squares) tests were employed. The tests for stability are as follows: if the plots of the CUSUM and CUSUM of squares tests lie within the critical bounds of 5 percent level of significance (0.05), then the model is said to be stable. From the plots in Figure 1 and Figure 2 above, we can confirm that the plots of the CUSUM and CUSUM of squares lie within the required bounds. This confirms that the parameters of the model are stable; hence the model is reliable for policy implications and forecasting.

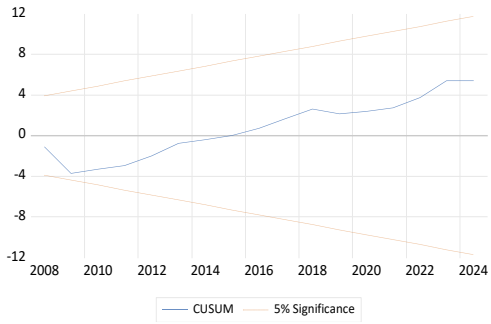

Figure 1: CUSUM Plot

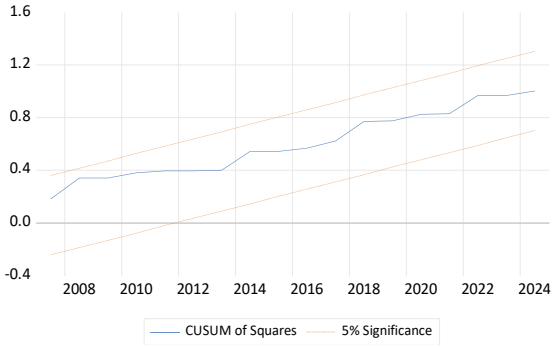

Figure 2: CUSUM of squares Plot

Source: Researcher's Computation (2026) using EViews 13.0

CONCLUSION

Based on the findings from the data collected from the year 1990 to 2024, it is evident that monetary policy rate has a negative and insignificant impact on inflation rate in the short run. Money supply growth has a positive and significant impact on inflation rate in the short run. Prime lending rate has a positive and insignificant impact on inflation rate in the short run. In the long run, the impact of monetary policy rate, money supply growth, and prime lending rate are positive and insignificant on inflation rate in Nigeria. This shows that the Central Bank of Nigeria can control the inflation rate in Nigeria in the short run through money supply. However, the impact of such monetary policy may not be significant in the long run because the monetary policy may not be able to reduce the inflation rate in Nigeria because the country is highly dependent on imports and is highly affected by global economic shocks. Therefore, it is evident from the findings of the study that in the long run, just as in the short run, monetary policy and fiscal policy can be employed to determine the movements of inflation rate in Nigeria.

RECOMMENDATIONS

Based on the findings of the study, the following recommendations are made:

The findings from the estimated ARDL model showed that the monetary policy rate (MPR) has a positive and statistically negligible effect on inflation in Nigeria in both the short and long run. Therefore, it is recommended that policymakers in Nigeria should not rely on the MPR as a sole instrument for controlling inflation in Nigeria. They should rather rely on enhancing formal sector participation in the economy.

In order to reduce the inflation rate in Nigeria, a strict contractionary monetary policy needs to be implemented by the central bank in Nigeria. In other words, in order to keep the inflation rate at a reasonable threshold of a single digit, the monetary policy authority in Nigeria needs to be in close collaboration with the fiscal authority in Nigeria.

The effectiveness and potency of the monetary policy rate as a means to curb inflation in Nigeria should be reassessed and re-evaluated by the monetary authority, especially now that the inflation rate is rising, as it has shown the world the need to be extremely cautious when formulating policies in Nigeria and worldwide. Before the implementation of the policies, the Central Bank should assess the policies, especially when it comes to the monetary policy rate.

References

Abille, A. B., & Mpuure, D. M. (2020). Effect of monetary policy on economic growth in Ghana," Asian Journal of Applied Economics/ Applied Economics Journal, Kasetsart University, Faculty of Economics, Center for Applied Economic Research, 27(2), 110-124.

Adebayo, A., Yusuf, T., & Abdulkareem, A. (2023). Effectiveness of open market operations and foreign exchange stability in inflation control in Nigeria. Journal of Monetary Policy and Practice, 14(2), 89-104.

Akinbode, S. O., Olabisi, J., Adekunle, C. P., & Jimoh, O. M. (2021). Macroeconomic variables and food price inflation in Nigeria (1980-2018). Journal of Rural Economics and University of Ibadan, Department of Agricultural Economics, 23(1), 1-12.

BIS (Bank for International Settlements) (2023). Global monetary policy in a high-inflation era. BIS Annual Economic Report 2023.

Bordo, M. D., & Filardo, A. J. (2022). Monetary policy and inflation control: Revisiting the role of the cash reserve ratio. Journal of Central Banking Studies, 18(4), 345-371.

Central Bank of Nigeria (2025). Statistical Bulletin and Annual Reports.

Clarida, R., Gali, J., & Gertler, M. (2021). Monetary policy rules and macroeconomic stability. Quarterly Journal of Economics, 136(1), 55-88.

Ebipre, R. G., & Amaegberi, M. A. (2020). Money supply and inflation in Nigeria. Journal of Innovative Social Sciences and Humanities Research, 8(3), 61-68.

Enemo, G. C., Ologunla, E. S., & Aigbedion, I. M. (2025). Impact of monetary policy transmission channel on inflation in Nigeria: 1999-2024. International Journal of Development Strategies in Humanities, Management and Social Sciences, 15(1), 173 – 190

Fisher, I. (1911). The purchasing power of money. New York, NY: Macmillan.

Forbes, K. J. (2023). Inflation and its implications for policy. Journal of Economic Perspectives, 37(2), 145-160.

Gali, J. (2022). Monetary policy, inflation, and the business cycle: An introduction to the new Keynesian framework. Princeton University Press.

Garru, J. A. K., & Tartiyus, E. H. (2018). Empirical analysis of the impact of monetary policy on inflation in Nigeria (1984-2014). Journal of Emerging Market Economies, 8(1), 34-52.

Idris, M., & Shuyur, I., (2024). Impact of exchange rate fluctuation on economic growth in Nigeria. Asian Journal, 5, 39-60.

Joel, A. E.; Masha, J. M., Balogun, A. E., & Ambrose, A. D. (2024). Effect of monetary policy instruments on inflation in Nigeria. KASU Journal of Economics and Development Studies, 10 (2), 95-113.

Mishkin, F. S. (2022). The economics of money, banking, and financial markets (13th ed.). Pearson Education.

National Bureau of Statistics (2020). Consumer price index report. Abuja: NBS.

Nuhu, M., & Odiba, S. (2021). Interest rate policy and inflation control in Nigeria: An empirical analysis. Nigerian Journal of Monetary Economics, 12(2), 101–120.

Okotori, T. W., (2019). The dynamics of monetary policy and inflation in Nigeria. Journal of Economics and Finance, 10 (2), 37-49.

Oyebamiji, E. O., Henry, A. E., & Adewale, R. S. (2025). Effect of monetary policy instruments on inflation in Nigeria. International Journal of Innovative Finance and Economics Research, 13(4), 397-407.

Pesaran, M., Shin, Y., & Smith, R. (2001). Bounds testing approaches to the analysis of level relationships. Journal of Applied Econometrics, 16(3), 289-326.

Tehranian, K. (2023). Monetary policy and stock market volatility: A Taylor Rule perspective. Journal of Financial Economics, 15(7), 89-110.