

EFFECT OF INFLATION ON ECONOMIC GROWTH: NIGERIA PERSPECTIVE

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Abstract

This paper examined the effect of inflation and related monetary variables on the economic growth of Nigeria. The method of data collection used in this study were collected through secondary sources, specifically from reputable and authoritative institutions responsible for publishing macroeconomic statistics in Nigeria. The work employed both descriptive and inferential statistical techniques method of data analysis to examine the effect of inflation on Nigerian economic growth from 2000 to 2024. Correlation analysis was employed to assess the strength and direction of the linear relationships between the independent variables then the study made of use the Ordinary Least Squares (OLS) regression technique to determine the individual and combined effects of the independent variables on economic growth while the overall goodness-of-fit was evaluated using R-squared and F-statistics. The entire analysis was carried out using econometric software-EViews 12. In conclusion the study found that inflation has a negative and statistically significant effect on Nigeria's GDP, with a coefficient of -2.734 and a p-value of 0.0055. Interest rate adjustments were found to have a negative and significant effect on GDP, with a coefficient of -2.889 and a p-value of 0.0145. The monetary policy rate (MPR) also demonstrated a negative and statistically significant impact on GDP, with a coefficient of -0.089 and a p-value of 0.0060. The paper recommends that higher interest rates increase the cost of borrowing, discouraging investment and consumption, thereby slowing down economic growth. The Central Bank of Nigeria and relevant policymakers should implement effective measures to control inflation, such as stabilizing prices of essential goods and services and monitoring money supply and should carefully calibrate the MPR to maintain liquidity in the economy while controlling inflation. Policymakers should adopt a balanced approach to interest rate adjustments, ensuring that rates are not excessively high to avoid discouraging investment and consumption, which are critical for sustaining economic growth.

Keywords: Inflation rate volatility, Interest Rate adjustment, Monetary Policy Rate (MPR) and Nigeria's Gross Domestic Product (GDP).

1. INTRODUCTION

The relationship between inflation and economic growth has remained one of the most debated issues in both academic and policy-making circles. Inflation, particularly in developing economies like Nigeria, has significant implications for macroeconomic stability, resource allocation, and long-term growth. According to Olayemi and Adebayo (2021), a moderate level of inflation can stimulate economic activity by encouraging investment and consumption, but excessive or unstable inflation often distorts economic signals, reduces consumer purchasing power, and hampers long-term planning. In Nigeria, inflation has been persistently high and volatile, influenced by structural weaknesses, exchange rate fluctuations, and monetary policy inconsistencies. The extent to which inflation volatility affects Nigeria's Gross Domestic Product (GDP) is a critical concern, particularly given the economy's reliance on oil exports and its vulnerability to external shocks (Akanbi & Ajayi, 2020).

Inflation rate volatility refers to the unpredictability and instability in the rate of price increases over time, which can erode investor confidence and disrupt economic growth trajectories. High inflation volatility increases uncertainty, making it difficult for businesses to make long-term investment plans and for consumers to maintain stable consumption patterns. In Nigeria, inflation volatility has been attributed to frequent fiscal deficits, supply-side constraints, and monetary policy lags (Nwankwo & Ogbonna, 2021). The Nigerian case presents an interesting context for examining how fluctuating inflation levels have influenced GDP growth over time. Although inflationary pressure is not new in the Nigerian economic history, the recent rates of inflation have been a cause of great concern to many. The rising upsurge in the inflationary rate has consequences for the economy of

Nigeria. Data from the Central Bank of Nigeria (2023) show that inflation is around 18% to 20% and this high level of inflation is a major issue confronting monetary authorities. High inflation will decrease the real value of money used for effective demand of consumption and production of goods and services for households and firms. Inflation effectively reduces the basket of goods and services that the private sector can demand as well as increases the operating cost of firms (Ohurogu, Akinwuni & Olorunfemi 2024). Inflation causes serious economic discomfort to households, businesses, government, and foreign investments all over the world (Adebiyi, 2020). Inflation rate has social and economic dimensions as it is a shock, eroding real purchasing power, savings and investments (Moodley, 2020).

Interest rate adjustment is another vital transmission channel through which inflation affects economic growth. When inflation rises, central banks typically respond by adjusting interest rates to control money supply and anchor inflation expectations. However, frequent or poorly timed interest rate changes can distort the cost of credit, reduce private sector investment, and ultimately slow down GDP growth. In Nigeria, the Central Bank often adjusts the Monetary Policy Rate (MPR) as a tool to manage inflationary pressures, but its effectiveness remains contested due to structural inefficiencies and financial market rigidities (Okonjo-Iweala & Ekeruche, 2022). Interest rate decisions that do not align with real sector needs may stifle productivity and impede growth, especially in an economy where access to affordable credit remains limited.

The Monetary Policy Rate (MPR) serves as the benchmark interest rate through which the Central Bank of Nigeria influences overall monetary conditions. However, in the Nigerian context, the transmission mechanism of monetary policy has been weak due to poor financial intermediation and limited responsiveness of commercial banks (Adeleke & Balogun, 2021). The study of how MPR affects economic growth, especially in periods of inflationary pressure, becomes essential to understanding the effectiveness of monetary policy in Nigeria's economic management.

According to Elumelu (2020), CBN's monetary policy pronouncements tend to be more reactionary to developments in the Nigerian economy. With a fairly constant monetary policy rate at 13.5%, banks have adjusted interest rate to below 10% while inflation rate has continued to increase reaching nearly 20% as at the end of the year 2023. The demand for funds depends on the opportunities available for using borrowed funds efficiently and profitably.

Despite numerous empirical investigations into the drivers of economic growth in Nigeria, there remains a gap in understanding how the interaction of inflation rate volatility, interest rate adjustments, and monetary policy rate collectively influence GDP growth. Previous studies have often considered these variables in isolation or without adequately capturing the dynamic interrelationships and long-term effects. Nigeria has continued to grapple with macroeconomic instability driven largely by persistent inflation and weak monetary policy responses. While inflation is not inherently harmful when moderate and predictable, the volatility of inflation rates in Nigeria has introduced significant uncertainty into the economic system, thereby undermining growth prospects. According to Nwankwo and Ogbonna (2021), volatile inflation distorts price signals, disrupts investment flows, and weakens consumer purchasing power, all of which directly constrain Gross Domestic Product (GDP) growth. The Nigerian economy has experienced episodes of stagflation—simultaneous high inflation and low growth—which points to a deeper structural problem in the inflation-growth nexus that remains unresolved. One of the major concerns is the inconsistent adjustment of interest rates in response to inflationary trends. Given Nigeria's recent economic challenges, including stagflation and currency depreciation, it becomes critical to evaluate how these macroeconomic variables affect the overall economy, as measured by GDP.

1.1 Objectives of the Study

The main objective of this study is to examine the effect of inflation and related monetary variables on the economic growth of Nigeria. The specific objectives are to:

1. Assess the effect of Inflation Rate Volatility on Nigeria's Gross Domestic Product (GDP).
2. Examine the effect of Interest Rate Adjustment on Nigeria's Gross Domestic Product (GDP).
3. Evaluate the effect of the Monetary Policy Rate (MPR) on Nigeria's Gross Domestic Product (GDP).

1.2 Hypotheses

The following null hypotheses are formulated to guide the study:

1. **H₀₁**: Inflation rate volatility has no significant effect on Nigeria's Gross Domestic Product (GDP).
2. **H₀**: Interest rate adjustment has no significant effect on Nigeria's Gross Domestic Product (GDP).
3. **H₀**: Monetary Policy Rate (MPR) has no significant effect on Nigeria's Gross Domestic Product (GDP).

2. LITERATURE REVIEW

2.1 Conceptual Review

2.1.1 Inflation

Inflation refers to a sustained increase in the general price level of goods and services in an economy over a period of time, which erodes the purchasing power of money and distorts economic decision-making. It is commonly measured using price indices such as the Consumer Price Index (CPI) and the Producer Price Index (PPI). In macroeconomic theory, inflation reflects imbalances between aggregate demand and aggregate supply, but it can also be driven by structural rigidities, monetary expansion, exchange rate volatility, and external shocks (Akinbobola & Saibu, 2020). In developing economies like Nigeria, inflation is often driven by cost-push factors such as rising import costs, energy prices, and inefficiencies in agricultural supply chains (Ogundipe & Ojeaga, 2019).

In the Nigerian context, inflation has remained a structural problem exacerbated by exchange rate depreciation, import dependency, and periodic fiscal deficits. High inflation rates have also been linked to food supply disruptions, insecurity, and the devaluation of the naira, which have all compounded economic hardship for households and firms (Chuku, Onye, & Uche, 2020). Empirical evidence from Nigeria indicates that inflation exerts a nonlinear impact on growth, with moderate inflation sometimes supporting output expansion, while excessive inflation suppresses real growth and investment (Umar & Abdulhakeem, 2023). Thus, understanding the dynamics and drivers of inflation is essential for effective macroeconomic management and the pursuit of sustainable economic development.

2.1.1.1 Inflation Rate Volatility

Inflation rate volatility refers to the unpredictable fluctuations in the rate of inflation over a specific period. Unlike a steady increase in prices, volatility captures the irregular and often abrupt changes in inflation, which introduce uncertainty into the macroeconomic environment. This volatility can stem from a variety of sources including monetary policy shocks, exchange rate instability, global commodity price swings, and domestic supply chain disruptions (Adeniran, Sidiq & Adeyemi 2018).

2.1.1.2 Interest Rate Adjustment

Interest rate adjustment refers to deliberate changes in the nominal interest rate by a country's central bank in response to macroeconomic conditions such as inflation, output gaps, and exchange rate fluctuations. In Nigeria, the Central Bank employs interest rate adjustments as a tool to manage inflation and stabilize the naira, often in alignment with its inflation-targeting framework (CBN, 2022). In the context of inflation, interest rate adjustments play a critical role in either tightening or easing the availability of credit. A higher interest rate is expected to curb inflation by discouraging borrowing and reducing money supply, while a lower rate is designed to stimulate investment and consumption (Olayemi & Osho, 2020). However, in Nigeria's case, the transmission mechanism of interest rate changes is often weak due to underdeveloped financial markets, fiscal dominance, and high informal sector activity, which limits the effectiveness of interest rate policies in achieving price stability (Uchenna, Eze, & Ogunmuyiwa, 2021).

2.1.1.3 Monetary Policy Rate (MPR)

The Monetary Policy Rate (MPR) is the benchmark interest rate set by the Central Bank of Nigeria (CBN) to guide the direction of short-term interest rates and anchor inflation expectations within the economy. It serves as the nominal policy instrument through which the CBN implements monetary policy, influencing liquidity, inflation, and credit conditions. The MPR directly impacts the

interbank rate, which in turn affects lending and deposit rates across the banking sector (CBN, 2023). In Nigeria's inflationary environment, the MPR plays a crucial role in signaling the CBN's stance on monetary tightening or easing. An increase in the MPR is aimed at reducing excess liquidity, thereby curbing demand-pull inflation, while a decrease seeks to encourage borrowing and investment, stimulating aggregate demand (Okonkwo, Uchenna, & Ibrahim, 2021). Moreover, frequent and reactive changes to the MPR may introduce uncertainty, complicating decision-making for investors and economic agents. The credibility of the central bank is vital; where the public trusts that MPR decisions are based on sound economic rationale, expectations become better anchored, improving the transmission effect of monetary policy (Afolabi & Mordi, 2020). The policy rate must also be harmonized with fiscal policy to avoid conflicts that may render it ineffective.

2.1.2 Gross Domestic Product (GDP)

Monetary policy plays a vital role in stabilizing inflation and promoting economic growth. When inflation is accompanied by poor monetary control, such as excessive money supply or high interest rates, it can create macroeconomic instability and reduce Nigeria's GDP growth prospects (Okonkwo et al., 2021). Furthermore, empirical studies have shown that Nigeria's economic growth is sensitive to fluctuations in exchange rates and monetary tightening or loosening policies by the Central Bank (Adeleke & Ezeaku, 2019). Hence, the interaction between inflation and related monetary variables is critical to understanding the trends and drivers of GDP in Nigeria. To ensure sustainable growth, policymakers must strike a balance between controlling inflation and maintaining monetary conditions that are conducive to investment and production.

2.2 Theoretical Framework

2.2.1 Monetarist Theory of Inflation

This study was anchored on the Monetarist Theory of Inflation, developed by Milton Friedman in 1970. The monetarist theory posits that inflation is primarily a result of an excessive growth in the money supply relative to the growth in real output. In his famous assertion, Friedman stated that "inflation is always and everywhere a monetary phenomenon," emphasizing that sustained inflation can only occur through persistent expansion in the money supply by monetary authorities (Friedman, 1970).

The key assumption of the theory is that while short-term changes in money supply may influence output and employment, in the long run, money is neutral and only affects the price level. Thus, controlling the money supply is the most effective way of managing inflation and stabilizing the economy. The theory also assumes rational expectations among economic agents and that the economy tends toward a natural rate of output and employment in the long term. This theory is particularly relevant and suitable for the present study, which investigates the effect of inflation on Nigeria's economic growth. Nigeria's macroeconomic challenges—especially high and persistent inflation—are often linked to monetary expansion, deficit financing, and exchange rate instability. The Monetarist Theory offers a direct explanatory framework for analyzing how inflation, driven by monetary policies and fiscal imbalances, influences GDP and broader economic performance in Nigeria.

2.3 Empirical Review

Ezinne, Idowu and Folake (2021) examined the impact of inflation on Nigeria's economic growth for the past four decades, beginning from 1980 to 2019. Inflation rate, interest rate, exchange rate and government expenditure were the independent variables, while the Gross Domestic Product was the dependent variable. Annual time series secondary data covering the period 1980 to 2019 were obtained from the World Development Indicators (WDI) published by the World Bank. *Data collected* were analysed using the Autoregressive Distribution Lag (ARDL) model and the Error Correction Model (ECM). Results indicated that inflation has negatively affected economic growth over the years as it reduces competitiveness as well as lowering the purchasing power of money. The study concludes that while inflation and exchange rate negatively impact the Nigerian economy's growth, interest rate maintains a positive relationship. Government consumption proved to be an insignificant factor in the growth of the economy. The study suggested that measures be put in place by the CBN through the Monetary Policy Committee to ensure that the rate of inflation is reduced to the barest minimum.

El-Yaqub, Macchiarelli, and Blinder (2023) explored the *Nexus between GDP Growth, Inflation, and Monetary Policy in Nigeria*, focusing on the period from 2006 to 2023. The study, centered on Nigeria, adopted a quantitative research design, utilizing secondary data collected from the Central Bank of Nigeria. An ex-post facto research design was employed, and the analysis involved the Autoregressive Distributed Lag (ARDL) model, including an error correction mechanism and cointegration test. The findings indicated that the Monetary Policy Rate (MPR) is a significant tool in managing core and food inflation, which in turn affects GDP growth. The study recommended that policymakers should continuously adjust strategies to balance growth and inflation, emphasizing the importance of effective monetary policy in achieving economic stability and development.

3 METHODOLOGY

3.1 Research Design

This study adopted the ex-post facto research design. The choice of this design is justified by the fact that the variables under investigation—Inflation Rate, Interest Rate, Monetary Policy Rate (MPR), and Gross Domestic Product (GDP)—are macroeconomic indicators that cannot be manipulated by the researcher, as they have already occurred. The area of this study is the entire Nigerian economy. Specifically, the study focuses on the population of economic indicators published annually by recognized institutions such as the Central Bank of Nigeria (CBN), the National Bureau of Statistics (NBS), and the World Bank Development Indicators (WDI).

These data represent the macroeconomic environment of Nigeria over time and form the foundation for analyzing the impact of inflation and associated monetary variables on economic growth. The sample size for this study consists of 24 annual observations of macroeconomic data spanning the period from 2000 to 2024. The study employed a purposive sampling technique, a non-probability sampling method, to deliberately select the data period based on its relevance, completeness, and availability.

The data for this study were collected through secondary sources, specifically from reputable and authoritative institutions responsible for publishing macroeconomic statistics in Nigeria. These include the Central Bank of Nigeria (CBN) Statistical Bulletin, the National Bureau of Statistics (NBS), and the World Bank Development Indicators (WDI) database. The chosen years reflect critical phases in Nigeria's economic history, including the pre- and post-democracy periods, oil price shocks, financial reforms, and the COVID-19 pandemic, all of which provide valuable insights into the dynamics of inflation and economic growth.

Descriptive statistics such as mean, median, standard deviation, minimum, and maximum was to summarize the characteristics and distribution of the dataset. To ensure that the time series data used in the study are reliable and do not produce spurious results, a unit root test was conducted using the Augmented Dickey-Fuller (ADF) method. Correlation analysis was employed to assess the strength and direction of the linear relationships between the independent variables (inflation rate, interest rate, and monetary policy rate) and the dependent variable (GDP). This step also helps in detecting multicollinearity, which could affect the validity of the regression estimates. Subsequently, the study used the Ordinary Least Squares (OLS) regression technique to determine the individual and combined effects of the independent variables on economic growth. The OLS model estimates the coefficients and establishes the statistical significance of each predictor using t-tests, while the overall goodness-of-fit will be evaluated using R-squared and F-statistics. The entire analysis was carried out using econometric software-EViews 12.

3.2 Description of the Variables

Table 3.2.1: Operationalization of Variables

Concept	Proxy	Measurement	Source
Economic Growth (Dependent Variable)	Gross Domestic Product (GDP)	Annual real GDP growth rate (%)	Olugbenga and Oluwabunmi (2020))
Inflation (Independent Variable)	Inflation Rate	Annual percentage change in Consumer Price Index (CPI)	NBS (2024); Danladi (2022)



	Interest Rate	Annual average commercial bank lending rate (%)	Okonkwo et al. (2021); World Bank (2024)
	Monetary Policy Rate	Official Central Bank of Nigeria Monetary Policy Rate (annual %)	Ibe & Chukwu (2021); NBS (2024)

Source: Researcher's compilation, 2026

3.3 Model Specification

This study adapted the model of Olugbenga and Oluwabunmi (2020) stated as follows:

$$GDP = f(INFR, INTR, MS, GCE) \dots \dots \dots 1$$

$$LGDP_t = \alpha_0 + \beta_1 LGDP_{t-1} + \beta_2 INFR_{t-1} + \beta_3 INTR_{t-1} + \beta_4 LMSt_{t-1} + \beta_5 LGCE_t + \mu_t \dots 2$$

Where:

$LGDP_t$: Log of Gross Domestic Product at time t (Dependent variable representing economic growth)

$LGDP_{t-1}$: Log of Gross Domestic Product lagged by one period

$INFR_{t-1}$: Inflation Rate lagged by one period

$INTR_{t-1}$: Interest Rate lagged by one period

$LMSt_{t-1}$: Log of Money Supply lagged by one period

$LGCE$: Log of Government Capital Expenditure at time t

μ : Error term or disturbance term at time t

The model of this study on the effect of inflation on Nigerian economic growth, with Gross Domestic Product (GDP) serving as the dependent variable and Inflation Rate, interest rate, and Monetary Policy Rate (MPR) as the independent variables. The model was presented as below.

The functional form of the model is expressed as:

$$GDP_t = f(INFR_t, INTR_t, MPR_t)$$

Where:

GDP_t = Gross Domestic Product at time t

$INFR_t$ = Inflation Rate at time t

$INTR_t$ = Interest Rate at time t

MPR_t = Monetary Policy Rate at time t

Where:

β_0 = Intercept term

$\beta_1 - \beta_4$ = Coefficients of the independent variables

μ_t = Error term assumed to be normally distributed with zero mean and constant variance

3.4 Decision Rule

The decision rule in this study is anchored on hypothesis testing at the 5% level of significance ($\alpha = 0.05$). The rule is that if the probability value (p-value) obtained from the regression output, supported by the relevant t - or F -statistic, is less than or equal to 0.05, the null hypothesis will be rejected in favour of the alternative. On the other hand, if the p-value is greater than 0.05, the null hypothesis will not be rejected.

4 RESULTS AND FINDINGS

4.1 Analysis of Data

Table 4.1.1 Descriptive Statistics

	GDP	INFR	INT	MPR
Mean	3.35E+11	13.80208	13.46875	12.88542
Median	3.71E+11	12.08500	12.08500	13.00000
Maximum	5.74E+11	28.92000	23.81000	20.50000
Minimum	6.92E+10	6.560000	6.560000	6.000000
Std. Dev.	1.54E+11	5.289879	4.486945	3.385534
Skewness	-0.482513	1.166461	0.618038	0.041221

Kurtosis	2.984198	3.212241	2.731050	3.259251
Jarque-Bera Probability	1.963132	6.912054	1.600220	0.074008
	0.374724	0.731555	0.449279	0.963672
Sum	8.03E+12	331.2500	323.2500	309.2500
Sum Sq. Dev.	5.45E+23	643.6048	463.0515	263.6224
Observations	25	25	25	25

Table 4.2.1 presents the descriptive statistics of Nigeria's GDP and key monetary variables over the study period. The average GDP stood at 3.35×10^{11} Naira, with a median of 3.71×10^{11} , indicating a fairly symmetric distribution with slight negative skewness. Inflation averaged 13.80% and was positively skewed, reflecting occasional periods of high inflation, while the interest rate averaged 13.47% and the monetary policy rate (MPR) 12.89%, both showing moderate variability. GDP exhibited substantial fluctuations, whereas inflation, interest rate, and MPR were comparatively stable. Kurtosis values near 3 for all variables suggest roughly normal distributions, which is further supported by the Jarque-Bera test results, indicating that the data is suitable for regression analysis. Overall, the descriptive statistics highlight that while Nigeria's economy experienced significant GDP variations, monetary variables remained moderately consistent, providing a basis to examine their impact on economic growth.

4.2 Test for Hypotheses

Table 4.3.1: Ordinary Least Square Regression analysis testing the effect of INFR, INT, MPR on GDP

Dependent Variable: GDP

Method: Least Squares

Date: 09/08/25 Time: 11:41

Sample (adjusted): 2000-2024

Included observations: 25 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	27.90225	1.048673	26.60720	0.0000
INFR	-2.726686	2.131555	1.279200	0.0055
INT	-2.889348	2.253617	-1.282094	0.0145
MPR	-0.089100	0.043909	-2.029210	0.0060
R-squared	0.421756	Mean dependent var	26.37653	
Adjusted R-squared	0.305019	S.D. dependent var	0.652485	
S.E. of regression	0.617273	Akaike info criterion	2.024001	
Sum squared resid	7.620515	Schwarz criterion	2.220343	
Log likelihood	-20.28801	Hannan-Quinn criter.	2.076090	
F-statistic	1.899623	Durbin-Watson stat	2.364754	
Prob(F-statistic)	0.002210			

Table 4.2.1 presents the OLS regression results testing the effect of inflation (INFR), interest rate (INT), and monetary policy rate (MPR) on Nigeria's economic growth (GDP). The results indicate that the constant term is 27.90 and highly significant ($p = 0.000$), representing the baseline GDP when all independent variables are zero. Inflation has a positive coefficient of -2.73 with a p-value of 0.0055, showing a statistically significant positive effect on GDP, suggesting that rising inflation during the study period led to reduction in economic growth. Interest rate exhibits a negative coefficient of -2.89 with a p-value of 0.0145, indicating a statistically significant negative impact on GDP, meaning that

higher interest rates reduced economic growth. Similarly, the monetary policy rate has a negative coefficient of -0.089 with a p-value of 0.0060, reflecting a significant but slight negative effect on GDP. The model explains about 42% of the variation in GDP ($R^2 = 0.422$), with an adjusted R^2 of 0.305, and the F-statistic (1.90, $p = 0.0022$) confirms that the model is statistically significant overall. The Durbin-Watson statistic of 2.36 suggests no serious autocorrelation in the residuals. Overall, the findings show that inflation positively influences economic growth, while both interest rate and MPR negatively affect Nigeria's GDP.

Research Hypothesis One H_{01} : Inflation rate volatility has no significant effect on Nigeria's Gross Domestic Product (GDP). **Decision:** Based on the regression result, the coefficient of INFR is -2.734 with a p-value of 0.0055. Since this p-value is less than the 0.05 significance level, the null hypothesis (H_{01}) is **rejected**. This indicates that inflation rate volatility has a statistically significant negative effect on Nigeria's GDP during the study period, implying that higher inflation reduces economic growth.

Research Hypothesis Two H_{02} : Interest rate adjustment has no significant effect on Nigeria's Gross Domestic Product (GDP). **Decision:** From the regression result, the coefficient of INT is -2.889 with a p-value of 0.0145. Since the p-value is less than 0.05, the null hypothesis (H_{02}) is **rejected**. This suggests that interest rate adjustments have a statistically significant negative effect on Nigeria's GDP, meaning that higher interest rates reduce economic growth.

Research Hypothesis Three H_{03} : Monetary policy rate (MPR) has no significant effect on Nigeria's Gross Domestic Product (GDP). **Decision:** From the regression result, the coefficient of MPR is -0.089 with a p-value of 0.0060. Since the p-value is less than 0.05, the null hypothesis (H_{03}) is **rejected**. This shows that MPR has a statistically significant negative effect on GDP, indicating that increases in MPR slightly reduce economic growth during the study period.

5.0 CONCLUSION AND RECOMMENDATIONS

The study concludes that inflation and related monetary variables significantly influence Nigeria's economic growth. Specifically, rising **inflation** negatively affects GDP by reducing purchasing power and discouraging investment. **Interest rate adjustments** also exert a negative impact, as higher borrowing costs limit consumption and investment, slowing economic activity. Similarly, increases in the **Monetary Policy Rate (MPR)** slightly reduce economic growth by restricting liquidity and credit availability. Overall, the findings indicate that careful management of inflation, Interest rates, and MPR is crucial for sustaining and promoting economic growth in Nigeria. The study based on results of the analysis recommends that Central Bank of Nigeria and relevant policymakers should implement effective measures to control inflation, such as stabilizing prices of essential goods and services and monitoring money supply. This will help reduce the negative impact of inflation on economic growth. The Central Bank of Nigeria and relevant policymakers should implement effective measures to control inflation, such as stabilizing prices of essential goods and services and monitoring money supply. This will help reduce the negative impact of inflation on economic growth. Policymakers should adopt a balanced approach to interest rate adjustments, ensuring that rates are not excessively high to avoid discouraging investment and consumption, which are critical for sustaining economic growth.

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APPENDIX I

Year	GDP	INFR	INT	MPR
2000	69171451627	14.53	14.53	14
2001	73557840064	16.49	16.49	20.5
2002	95054059303	12.17	12.17	16.5
2003	1.04739E+11	23.81	23.81	15
2004	1.35765E+11	10.01	10.01	15
2005	1.75671E+11	11.57	11.57	13
2006	2.38455E+11	8.55	8.55	10
2007	2.78261E+11	6.56	6.56	9.5
2008	3.39476E+11	15.06	15.06	9.75
2009	2.95009E+11	13.93	13.93	6
2010	3.6699E+11	11.8	11.8	6.25
2011	4.14467E+11	10.3	10.3	12
2012	4.63971E+11	12	12	12
2013	5.20117E+11	7.96	7.96	12
2014	5.74184E+11	7.98	7.98	13
2015	4.93027E+11	9.55	9.55	11
2016	4.04649E+11	18.55	18.55	14
2017	3.75746E+11	15.37	15.37	14
2018	4.21739E+11	11.44	11.44	14
2019	4.74517E+11	11.98	11.98	13.5
2020	4.32199E+11	15.75	15.75	11.5
2021	4.40834E+11	15.63	15.63	11.5
2022	4.77403E+11	21.34	21.34	16.5
2023	3.63846E+11	28.92	20.92	18.75
2024	3,7,8200E+11	28.92	28.5	27.5

Correlation Analysis

Correlation Analysis

Covariance Analysis: Ordinary

Date: 09/08/25 Time: 11:31

Sample: 2000 -2024

Included observations: 25

Balanced sample

Correlation t-Statistic	GDP	INFR	INT	MPR
GDP	1.000000 -----			
INFR	-0.412749 -0.676482	1.000000 -----		
INT	-0.813061 -0.873393	0.957406 15.55226	1.000000 -----	

MPR	-0.289790	0.503949	0.459847	1.000000
	-1.420175	2.736641	2.428914	-----

The correlation analysis shows the relationships between Nigeria's GDP and key monetary variables. GDP is negatively correlated with inflation (-0.41), interest rate (-0.81), and the monetary policy rate (MPR) (-0.29), indicating that higher monetary variables are generally associated with lower economic growth. Inflation and interest rate are strongly positively correlated (0.96), suggesting that periods of high inflation are closely linked with high interest rates. MPR shows moderate positive correlations with inflation (0.50) and interest rate (0.46), reflecting its role in influencing other monetary variables. Overall, the results indicate that monetary variables, particularly interest rate and inflation, are inversely related to GDP, highlighting their potential dampening effect on economic growth.

Unit Root (Stationarity Test)

The unit root test was conducted to determine whether the variables in the study are stationary, which is essential in time series analysis to avoid spurious results. Establishing stationarity at the level, $I(0)$, or at the first difference, $I(1)$, ensures reliable econometric modeling. It is particularly important for the ARDL approach, as none of the variables should be integrated at the second difference, $I(2)$, since this would invalidate the results. The Augmented Dickey-Fuller (ADF) test was used to assess stationarity under the null hypothesis that each variable contains a unit root (non-stationary) against the alternative hypothesis that the variable is stationary.

H_0 : Variable contains unit root hence non-stationary.

H_a : Variable contains unit root hence stationary.

Summary of ADF Unit Root Tests

Variables	At Level		At First Difference		Order of Integration
	ADF Test Statistic	Test Critical Values	ADF Test Statistic	Test Critical Values	
INFL	-1.919386	-2.943427	-5.289963	-2.941145	1(1)
INTR	-2.797430	-2.945842	-6.387139	-2.936942	1(1)
MPR	0.594112	-1.948886	-6.147847	-1.949097	1(0)
GDP	-3.639702	-3.520787	-3.639702	-3.520787	1(0)

Source: Researchers' Computation using E-Views 10.0

The ADF unit root test results above indicate that **INFL (inflation)** and **INTR (interest rate)** are non-stationary at levels but become stationary after first differencing, making them integrated of order $I(1)$. **MPR (monetary policy rate)** and **GDP** are stationary at level, indicating they are integrated of order $I(0)$. This means GDP and MPR can be used directly in the ARDL model, while INFL and INTR need to be differenced once to ensure stationarity. Overall, none of the variables is integrated at the second difference $I(2)$, confirming suitability for ARDL analysis.

Post Diagnostic Test

Test for Heteroskedasticity

Null Hypothesis (H_0): The variance of the error terms is constant (homoskedasticity exists).

Alternative Hypothesis (H_1): The variance of the error terms is not constant (heteroskedasticity exists).

Table 4.2.3 Test for Heteroskedasticity

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	2.149548	Prob. F(3,20)	0.1259
Obs*R-squared	5.851622	Prob. Chi-Square(3)	0.1191
Scaled explained SS	1.242017	Prob. Chi-Square(3)	0.7429

Test Equation:

Dependent Variable: RESID^2

Method: Least Squares

Date: 09/08/25 Time: 11:34

Sample: 2000-2024

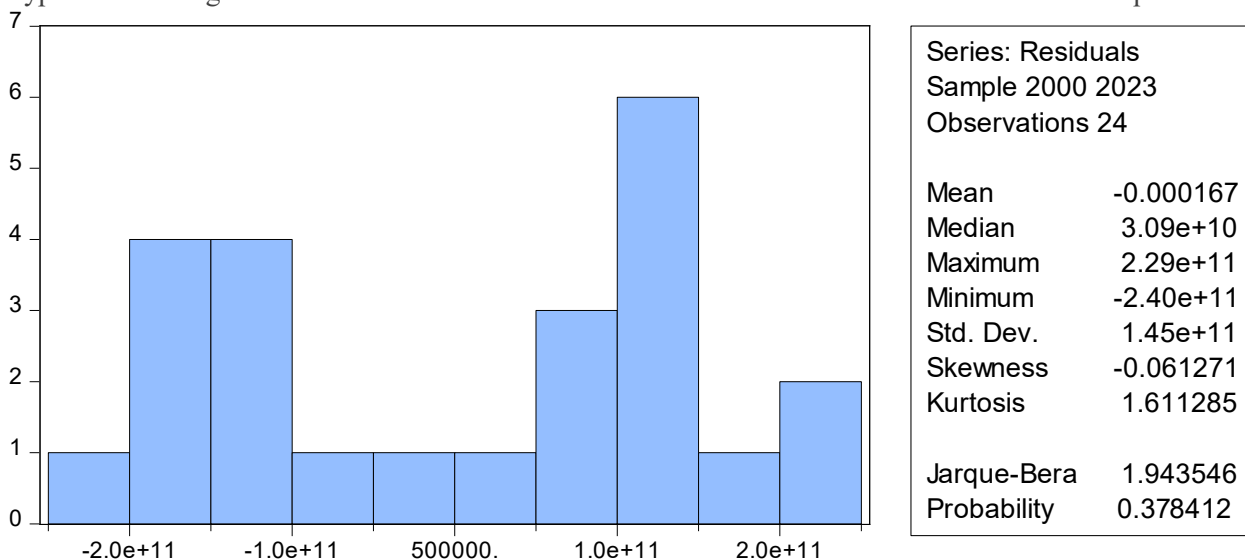
Included observations: 25

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.55E+21	1.39E+22	-0.110919	0.9128
INFR	-3.89E+21	2.10E+21	-1.849866	0.0792
INT	3.41E+21	2.41E+21	1.417101	0.1718
MPR	2.27E+21	1.07E+21	2.124541	0.0463
R-squared	0.243818	Mean dependent var	2.00E+22	
Adjusted R-squared	0.130390	S.D. dependent var	1.60E+22	
S.E. of regression	1.49E+22	Akaike info criterion	105.1008	
Sum squared resid	4.44E+45	Schwarz criterion	105.2971	
Log likelihood	-1257.210	Hannan-Quinn criter.	105.1529	
F-statistic	2.149548	Durbin-Watson stat	1.902600	
Prob(F-statistic)	0.125887			

The Breusch-Pagan-Godfrey test results indicate no evidence of heteroskedasticity. Both the F-statistic (2.15, $p = 0.126$) and Obs*R-squared (5.85, $p = 0.119$) are not statistically significant at the 5% level, so the null hypothesis of constant variance cannot be rejected. This implies that the regression errors are homoskedastic, and the model's estimates are reliable

Test for Normality

The test for normality examines whether the residuals of the regression model are normally distributed, which is a key assumption in classical linear regression. Ensuring normality of errors is important for valid hypothesis testing and reliable confidence intervals in the model. Common tests include the Jarque-Bera test.



The residuals of the regression model appear approximately normally distributed, as indicated by the histogram. The mean is close to zero (-0.000167), and the skewness (-0.061) is near zero, showing minimal asymmetry. The kurtosis (1.611) is slightly below 3, indicating slightly flatter tails than a normal distribution. The Jarque-Bera statistic is 1.94 with a p-value of 0.378, which is greater than 0.05, so the null hypothesis of normality cannot be rejected. This confirms that the residuals are normally distributed, satisfying a key regression assumption.