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**STIMULATING ECONOMIC GROWTH AND WEALTH IN NIGERIA:  
ROLE OF MONETARY POLICY INSTRUMENTS****Nimvyap Nanfa**Department of Economics  
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Plateau State, Nigeria**ABSTRACT**

*Monetary policy instruments play an important role of stabilizing the economies of both developed and developing nations of the world. These monetary policy instruments especially the quantitative (indirect instruments) have been used extensively by developed economies to achieved economic growth over the years, while much is left to be desired through the quantitative instruments in Nigeria. It is against this backdrop that this paper examined the role of monetary policy instruments in stimulating economic growth and wealth in Nigeria for the period 1990 to 2022. Secondary data were sourced from National Bureau of Statistics (NBS) and Central Bank of Nigeria (CBN) for its analysis. The study employed the Autoregressive Distributive Lag (ARDL) Model as instrument of analysis to analyse the data. The long run result of the ARDL revealed that money supply (MS) was inversely related to economic growth in Nigeria. However, the negative impact of MS on economic growth was statistically insignificant at 5% level. The short run result also showed that MS had a positive and statistically significant impact on economic growth in Nigeria within the study period. The result also revealed that while the interest rate had a negative relationship with economic growth in Nigeria, exchange rate indicated direct relationship with economic growth in the long run. The Error Correction Mechanism ( $ECM_{t-1}$ ) showed that a short-run disequilibrium adjusts back to equilibrium in the long-run with an average speed of 86% annually within the study period. The study, therefore, recommended that government should make efforts to lower the existing exchange rate which is so high to support both short and long-term economic growth. The CBN Monetary Policy Committee (MPC) should also mandate commercial banks to make loans available to investors at low (single digit) interest rate to ameliorate the adverse financial challenges bedevilling the sector because most entrepreneurs relied on personal savings and family for funds. This will make loans more accessible for business to be able to raise the level of investment which will increase output and hence, economic growth in Nigeria.*

**Keywords:** Monetary policy, Economic Growth, ARDL, Money and RGDP

## 1. Introduction

Monetary policy is the deliberate use of monetary instruments (direct and indirect) at the disposal of monetary authorities such as central bank in order to achieve macroeconomic stability of a country. Monetary policy is essentially a programme of action undertaken by the monetary authorities to control and regulate the supply of money with the public and the flow of credit with a view to achieving macroeconomic stability of a country (Temitope & Magaji, 2023). Most developed economies have used this instrument over the years to attain their economic growth and stability. Adeniyi et al (2020) noted that Monetary policy has been recognized as major instrument used in stabilizing the macroeconomic conditions of a country. Monetary policy is primarily implemented by the highest financial authorities of a country. It plays a fundamental role in pursuing economic growth and prosperity in any economy using various regulatory measures. Though monetary policy has the primary objective of controlling high inflation which if allowed would erode the purchasing power of the currency and consequently, decreasing the wealth of individuals leading to economic instability that void of promoting high, stable, and sustainable economic growth. They use different instruments to achieve this goal. According to Adigwe et al (2015), monetary policy alone cannot stabilize the economy except its combination with fiscal policy to achieve their objectives. Both policies can complement each other in achieving macroeconomic stability. In developed and developing countries, monetary policy has historically played a supporting role to fiscal policy, and central banks have often been required to finance public sector deficits. This is often due to the fact that fiscal policy is typically more responsive and flexible than monetary policy, making it more effective in addressing short-term economic challenges (Alabi & Olarinde, 2020). However, in recent years there has been a trend towards increasing central bank independence, which has created more opportunities for monetary policy and fiscal policy to complement each other. This has involved giving central banks more autonomy to set their own policy goals and instruments, as well as reducing the extent to which central banks are required to finance public sector deficits (Ayodeji & Oluwole, 2018).

The relative importance of fiscal and monetary policies is a matter of debate, with some economists arguing that monetary policy has a greater impact on economic activity, while others argue that fiscal policy is more effective in addressing macroeconomic stability. Keynesians believe that fiscal policy is more effective in stimulating aggregate demand and reducing unemployment, while monetarists argue that monetary policy is more effective in promoting economic growth (Chugunov *et al*, 2021). This can be done through influencing the availability of credit in economy by monetary authority. By setting reserve requirements and other regulatory measures, the central bank ensures that banks

have enough liquidity to lend to investors which in turn trigger investment, entrepreneurship and consumption, leading to wealth creation and consequently economic growth. The real wealth effect describes how changes in the price level affect consumer spending, as assets gain or lose purchasing power. Arthur Cecil Pigou argued that Keynes' General Theory did not sufficiently account for the role of the "wealth effect" on consumption, which would make the economy more "self-correcting" to drops in aggregate demand (Magaji & Musa, 2023).

Developing economies faced challenges of growth, stability, and structural transformation, which have not been adequately addressed by fiscal and monetary policies. These economies are often vulnerable to external shocks and internal destabilizations, resulting in high levels of unemployment, inflation, exchange rate and low income, savings with wide gap of inequality and poverty. According to Magaji et al (2019) the Nigerian economy is particularly volatile due to its dependence on oil revenue, and experiences instability through rising inflation, massive unemployment, low output as a result of low savings and investment, and dwindling foreign reserves, leading to unstable exchange rates.

Nigeria has implemented various monetary strategies and tools to stimulate economic growth and to achieve some macroeconomic stability. Some of the main monetary measures used in the past years to stimulate economic performance are Cash Reserve Ratio (CRR), interest Rate policy particularly the Monetary Policy Rate (MPR), Open Market Operations (OMO) to encourage or discourage economic activities and control inflation. Others includes Foreign Exchange interventions to stabilize exchange rate of naira against major currencies; Multiple Foreign Exchange rate System to manage foreign exchange demand and supply, including parallel market rates, official exchange rate and special concessionary rates for specific sectors; Development Finance Initiatives, this is to assist critical sector to drive economic development such as intervention to manufacturing, Agricultural sector, small and medium enterprises (SMEs) amongst others. The country faced a severe economic crisis due to declining oil prices, which led to high inflation, currency devaluation, and a balance of payments crisis and a significant decline in standards of living for many Nigerians (Mehtar, 2022). To address these challenges, the government continued with monetary aspect of the Structural Adjustment Program (SAP) policies which started in 1986, the government also implemented fiscal policies to support economic growth, such as increased public spending on infrastructure and social services (Musa et al, 2022). The country has also faced various economic challenges during this period, such as the global financial crisis of 2008 and 2009, which led to a decline in oil prices and reduced government revenues. In response, the government implemented various reforms aimed at improving the effectiveness of monetary and fiscal policies (Ezeaku et al, 2020). The CBN has

introduced several measures to enhance financial stability, such as the introduction of a cashless policy, the development of a credit reporting system, and the establishment of a regulatory framework for mobile money services. The government has also implemented fiscal reforms, such as the introduction of a Treasury Single Account (TSA) to improve transparency and accountability in public financial management (Ozuzu & Isukul, 2021).

However, Nigeria continues to face various economic growth challenges, such as high inflation, low productivity, and high unemployment in view of efforts the government and the CBN have plays through implemented various policies to address these challenges, such as the adoption of a bendable exchange rate regime, the introduction of a loan-to-deposit ratio (LDR) policy to boost lending to the real sector, and the establishment of an infrastructure development fund to finance critical infrastructure projects (Takou & Ita, 2020).

Nigeria's economy has gone through periods of successes and poor performance, from 1971 to 1975, Nigeria's economy recorded an average growth rate of 5.8%. Within the same period, monetary policy spurs international trade to contribute 31.9% to GDP. The country's average growth rate then fell to 4.1% over the period 1976 to 1980. Afterwards, the economy recorded negative growth rates in the first half of the 1980s with an average of -2.6%. The economy began to recover in the second half of the 1980s with an average growth rate of 1.5%. In the 1990s, the growth rate only averaged 60%, from 2000 to 2015, Nigeria's average growth rate and performance reached 7.5% and 54.4%, respectively. However, by 2016 the economic growth rate declined to -1.6% as the contribution of international trade in the GDP also fell to 11.2% as a result of volatile exchange rate (World Development Indicators, 2017) in the midst of effort to stabilize the monetary policy to stimulate economic growth.

This paper, therefore, evaluates the role of monetary policy instruments in stimulating economic growth and wealth in Nigeria. To achieve this objective, the paper has been organized in five parts with the introduction as part one. Part two is the review of relevant literature to the subject matter. Part three focuses on methodology of the study. Part four focuses on the results and discussion of findings, and finally, part five deals with the conclusion and recommendations of the study.

## **2. Literature Review**

### **2.1 Theoretical Underpinning**

The theoretical framework that underpins this study hinges on the monetarist theory. The monetarist theory of economic growth was led by monetarists such as Milton Friedman, who emphasized that money supply is the critical factor affecting the economic well-being of a nation (Friedman, 1974). This implies that

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in order to promote a steady rate of growth in an economy, the money supply has to grow at a fixed rate rather than being regulated and controlled by the monetary authorities (the apex banks). Friedman argued that money supply is a substitute, not just for bonds, but also for goods and services. Therefore, changes in money supply would have both direct and indirect impacts on spending and investments in a manner that the demand for money would depend on the rates of return on different competing assets. This theory therefore contends that changes in money supply are the most important determinants of economic growth (Friedman, 1974).

## 2.2 Empirical Literature

Bodunrin (2016) examined the influence of fiscal and monetary policy on the economic growth of Nigeria between 1981 and 2015. The objective was to determine which of the policies between fiscal and monetary had a more significant impact on the economic growth of Nigeria and to investigate how GDP growth reacted to the shocks caused by monetary and fiscal policies. Using the VAR model, the study revealed that fiscal policy had a short-term impact on real GDP growth, which, however, faded away after one year. On the other hand, the study found that monetary policy had no significant impact on the growth of real GDP in Nigeria. It was recommended that the apex authority should do more to stabilize monetary policy that will stimulate economic growth.

Idris and Bakar (2017) conducted a study to evaluate the effects of fiscal operations on macroeconomic growth in Nigeria from 1980-2015. Monetary policy instrument tools were used, and Error Correction Mechanism were employed, and it was discovered that fiscal operations were ineffective in providing the necessary macroeconomic environment for sustainable growth in Nigeria. The authors argued that the government's fiscal policy had failed to stimulate economic growth due to a lack of fiscal discipline and a failure to properly manage government revenues. The study recommended that there was a need for more effective fiscal policy measures to promote sustainable economic growth in Nigeria.

Ayodeji and Oluwole (2018) conducted a study on the impact of monetary policy on economic growth in Nigeria. The study examined two variables, namely money supply and exchange rate, and their impact on economic growth. Annual time-series data were sourced from World Development Indicators (2017) for the period between 1991 and 2016. The result of the Dynamic Ordinary Least Square (DOLS), Fully Modified Ordinary Least Square (FMOLS) and Canonical Cointegrating Regression (CCR), it was revealed that both variables had a positive impact on economic growth, but the impact was fair and insignificant. This implies that the effectiveness of monetary policy in Nigeria may be limited in

promoting economic growth and suggested that additional policies may be necessary to support sustained economic growth in the country.

Adeniyi *et al* (2020) examined the relationship between monetary policy and economic growth in Nigeria. The methodology employed for this study was the narrative–textual case study (NTCS) method. Secondary data for the study were obtained with the use of text content analysis. The study indicates that monetary policy had a positive impact on economic growth in Nigeria in both the short and long run. Specifically, the study found that an increase in money supply had a positive impact on economic growth, while an increase in interest rates had a negative impact on economic growth. The study concludes that bank interest rate should be regulated so that borrowing from the bank should be at single digit interest rate of 4% to achieve economic growth in Nigeria.

Mogaji *et al* (2020) examined the impact of fiscal policy on economic growth in Nigeria. The study used a Vector Auto regression (VAR) model to investigate the relationship between government spending, taxation, and economic growth. The results of the study showed that there was a positive relationship between government spending and economic growth, but this relationship was not statistically significant. On the other hand, the study found that there was a Negative relationship between taxation and economic growth, and this relationship was statistically significant. The study concludes that fiscal policy can have an impact on economic growth in Nigeria, but policy makers need to carefully consider the appropriate balance between government spending and taxation in order to achieve this goal.

Ogundipe and Akinbobola (2020) employed an Autoregressive Distributed Lag (ARDL) Bounds Testing approach to investigate the relationship between monetary policy variables (money supply, interest rate, and exchange rate) and economic growth. The empirical results suggest that there is a significant positive relationship between money supply and economic growth in the short run, while in the long run, both money supply and exchange rate have significant positive impacts on economic growth. On the other hand, the study found that interest rate has a negative impact on economic growth both in the short and long run. The study concludes that the monetary policy variables considered in the analysis can be used to promote economic growth in Nigeria if appropriately implemented by policymakers.

Umar and Murtala (2020) investigated the impact of fiscal policy on economic growth in Nigeria using the Autoregressive Distributed Lag (ARDL) approach over the period 1981-2017. The findings indicate that government spending and taxation have significant impacts on economic growth in Nigeria in the short run and the long run. The study further reveals that government spending has a stronger positive impact on economic growth than taxation. The study

concludes that the Nigerian government should focus on using fiscal policy to stimulate economic growth, especially through increased government spending on sectors that have a higher multiplier effect on economic growth. There is none of the existing literature that is disaggregated monetary policy tool into Money supply at time  $t$ , interest rate at time  $t$ , inflation rate at time  $t$ , and Exchange rate at time  $t$ .

### 3. Methodology

The study utilized econometric techniques. The technique of analysis adopted was linear Autoregressive Distributive Lag (ARDL) model. The ARDL allows for asymmetric long-run and short-run effects of estimation, and irrespective of level of integration can be applied except I(2) (Sakanko, Obilikwu & David, 2020; Timnan, Azi, Ikande & Puepet, 2023). Data integrated at this level must be discarded and the variable removed from the model, this is because a hidden co-integration easily detected by the ARDL, for example, a direct relationship between money supply and *RGDP* in a short-run can have a negative effect in the long-run and the impact may be larger in the long run. The selected independent variables for this study encompass the broad money supply, exchange rate, inflation rate, and interest rate. The chosen dependent variable is real gross domestic product (*RGDP*), a proxy for quantifying economic growth and wealth in Nigeria economy. This investigation employs secondary source of time series data from 1990 to 2022. The relevant data about the broad money supply *M2* (*MS*), interest rate (*INTR*), inflation rate (*INF*), and exchange rate (*EXR*) were obtained from the Statistical Bulletin of the Central Bank of Nigeria. The primary aim of this study is to evaluate the correlation between Nigeria's monetary policy and the rate of economic growth and prosperity. Thus,

$$RGDP = (MS, INTR, INF, EXR) \quad (1)$$

Equation 1 can be transformed into logarithm thus;

$$LRGDP_{it} = \alpha_0 + \alpha_1 LMS_{it} + \alpha_2 INTR_{it} + \alpha_3 LINF_{it} + \alpha_4 LEXR_{it} + \varepsilon_{it} \quad (2)$$

Within the provided context, the coefficient  $\alpha$  signifies the estimated variables that are associated with it.  $L$  represents the natural logarithm of the monetary policy rate. The acronym *LRGDP* issued to signify the natural logarithm of real GDP. While other logarithms are necessary to transform the data set for ease of estimation since they appear in different measures.  $LMS_{it}$  refers to the natural logarithm of the broad money supply (*MS*). Similarly,  $LINF_{it}$  is an abbreviation for the inflation rate approximated by the consumer price index.  $LEXR_{it}$  is the exchange rate. The error term is represented as  $\varepsilon_{it}$  and  $\alpha_0$  is the intercept or constant term.  $\alpha_0, \alpha_1, \alpha_2, \alpha_3, \alpha_4$ , are the estimating parameters of the model and

are non-negative.

In the course of this study, quantitative relationships between the variables are established through available data on money supply. Interest rate, inflation rate, exchange rate and gross domestic product that was collected and used for analysis to gives a basis for evaluation of the effects of monetary policy instruments on economic growth and wealth in Nigeria. It was also necessary to conduct investigation into any long run relationship between the variables to ascertain if any such relationship exists.

The *a priori* expectations are the signs and magnitudes of the parameters to be estimated. The *a priori* expectation of the coefficient of the equation (2) is as follows;  $\alpha_0 > 0$ ,  $\alpha_1 > 0$ ,  $\alpha_2 < 0$ ,  $\alpha_3 < 0$ , and  $\alpha_4 < 0$ . Koutsoyiannis (1977), states that *a priori* definition is the theoretical criterion on basis of which the results of the estimation of the model are gauged.

#### 4. Results and Discussion

This study employed the ADF unit root test was utilized to check the level of integration properties of the series that will be entering the model. The ADF unit root test compares the null hypothesis that the series “has a unit root” alongside the alternative hypothesis that the series “does not have a unit root”.

**Table 1: Descriptive Statistic**

	RGDP	MS	INTR	INF	EXR
Mean	4.891797	10708.61	31.16909	18.0861	136.6058
Std.Dev.	4.420105	12901.14	29.30810	16.14999	110.8017
Skewness	0.846841	1.350862	5.456381	2.17999	1.012931
Jarque-Bera	10.16665	8.599889	6.513950	3.874680	19.45783
Probability	0.006199	0.013569	0.038505	0.144087	0.000060
Observations	32	32	32	32	32

Source: Computed by the author using EViews Version 10 (2024)

The descriptive statistic results in Table 1 indicated that the mean values (and deviations from the mean scores) for *RGDP*, *MS*, *INTR*, *INF* and *EXR* within the sample period are 4.891797 (4.420105), 10708.61 (12901.14), 31.16909 (29.30810), 18.0861 (16.14999) and 136.6058 (110.8017), respectively. An exchange rate reported the highest deviation from the mean, while economic growth is proxied by *RGDP* recorded the lowest deviation from the mean. Likewise, the Skewness of 0.846841, 1.350862, 5.456381, 2.17999, and 1.012931 respectively, signify that best part of the data points lay on the right-hand side of the normal distribution curve none spread from the left-hand side of the normal curve. The Jarque-Bera test for normality shows that *RGDP*, *MS*, *INTR* and *EXR*

are normally distributed leaving out only *INF* within the period of the study given the value of their probabilities which is greater than 0.05 per cent level of significant. The implication of this is that all the independent variable has a great potential to stimulate economic growth in Nigeria.

**Table 2: ADF Unit Root Test Results**

<b>LEVEL</b>					
Test/Variables	RGDP <sub>t</sub>	MSt	EXR <sub>t</sub>	INF <sub>t</sub>	INTR <sub>t</sub>
ADF	-3.042307 (0.0416)	3.777297 (1.0000)	0.041438 (0.9555)	-2.154161 (0.2261)	2.956017 (1.0000)
<b>FIRST DIFFERENCE</b>					
Test/Variables	D(LOGMS) <sub>t</sub>	D(EXR) <sub>t</sub>	D(INF) <sub>t</sub>	D(INTR) <sub>t</sub>	
ADF	-3.361275 (0.0205)	- 8.116857 (0.0000)	-4.571329 (0.0010)	-2.455312 (0.0160)	

Source: Computed by the author using EViews Version 10 (2024)

The unit root test results shown in Table 2 indicate that, except for *RGDP*, all other variables were determined to be non-stationary at a level indicated by higher probability values and ADF statistics. This means that variables became integrated after taking their first partial derivatives, as they were found to be non-stationary at their original levels. After differencing on the series, the results indicate that the null hypothesis of non-stationarity in each series is rejected at a significance level of 5%. The integration of series into I(1) and I(0) called for the adoption of ARDL bound test model. The application of the autoregressive distributed lag (ARDL) model is suitable for its ability to select lag lengths automatically.

**Table 3: ARDL Bounds Test Results**

Test Statistic	Value	K
-statistic	6.679943	4
Significance	I0 Bound	I1 Bound
10%	2.2	3.09
5%	2.56	3.49
1%	3.29	4.37

Source: Computed by the author using EViews Version 10 (2024)

The ARDL bounds testing approach reveals that the F-statistic value of 6.679943 exceeded the upper critical and the lower bounds at 1%, 5% and 10% respectively when the predicted variable is *RGDP*. The result of the bound test reveals the presence of long-run co-integration among the variables for the entire period

under consideration.

**ARDL Results**

The subsequent procedure entails the estimation of regression coefficients for both the long-run and short-run while considering error correction variables. The estimates derived from the autoregressive distributed lag (ARDL) regression are displayed in Table 4.

**Table 4: ARDL Estimates**

Dependent Variable: RGDP

ARDL Long-Run Estimates

Variables	Coefficients	SE	t-Values	p-Values
LOGMS	-10.68183	5.68893	-1.8776	0.097
INF	-0.430712	0.13421	-3.2092	0.012
EXR	0.050794	0.02596	1.9558	0.086
INTR	-1.325064	1.322752	-1.0017	0.345
C	68.14443	43.9345	1.55101	0.159

ARDL Short-Run Estimates

Variables	Coefficients	SE	t-Values	p-Values
$\Delta(\text{LOGMS})$	-4.637765	7.001002	-0.662443	0.526
$\Delta(\text{LOGMS}(-1))$	0.203737	8.000112	0.025467	0.980
$\Delta(\text{LOGMS}(-2))$	0.971150	7.805904	2.942792	0.018
$\Delta(\text{INF})$	-0.371846	0.051754	-7.184899	0.000
$\Delta(\text{EXR})$	-0.013296	0.012015	-1.106631	0.306
$\Delta(\text{EXR}(-1))$	-0.076944	0.020335	3.783820	0.004
$\Delta(\text{INTR})$	0.014430	0.019235	0.750190	0.476
$\Delta(\text{INTR}(-1))$	0.883345	0.195900	4.509160	0.000
ECT <sub>t-1</sub>	-0.866789	0.107405	8.070282	0.000

Diagnostic Tests	Statistic	p-Values
R-squared	0.935950	
Adjusted R-squared	0.862045	
F-statistic	6.826081	
Prob(F-statistic)	0.004480	
<i>J-B</i> -Normal	0.395163	0.820713
<i>F</i> -Serial	0.581037	0.5879
<i>F</i> -B-P-G	2.270478	0.1175
<i>F</i> -RESET	0.010677	0.9206

Source: Computed by the author using EViews Version 10 (2024)

The model was estimated based on the Akaike Information Criterion (AIC) recommended the optimal Lag-Lengths for money supply, interest rate, inflation rate and exchange rate respectively. The short-run and long-run result indicated that the constant (short run, 68.14443) parameter shows that monetary policy instrument is not the only factor that stimulates economic growth. This means that even if monetary policy instruments are held constant, there other sector that drive economic growth in Nigeria aside monetary policy. The long run result of the ARDL indicates that *MS* is inversely related to economic growth in Nigeria, the coefficient reveals -10.68183, means that a 1% increase in money supply will lead to -10.68183 fall in economic growth in Nigeria. The negative impact is statistically insignificant at 5% level of significance. The short run result uncovered a positive and statistically significant impact on influencing economic growth in Nigeria within the study period. This is evidenced by the coefficient of 0.971150 and p-Value of 0.018 level of significant.

The coefficient of inflation rate uncovered a negative relationship stimulating economic performance in Nigeria which is proxied by *RGDP*, this means that a 1% decrease in the value of inflation rate in Nigeria, economic growth will be stimulated by the -0.43% in the long run and the impact is statistically significant given the value of the probability. The short run coefficient also confirms an inverse relationship with economic growth; a 1% decrease in the value inflation rate in the short run, growth performance rise by -0.37% in Nigeria. The impact was significant given the probability value which is less than 0.05% level. The implication of this is that a rise in the general price of goods and services reduces the value of money and this will lead to low savings and investment and subsequently, poor economic performance.

Also, coefficient of interest rate discovered a negative relationship in influencing economic growth in Nigeria, this means that a 1% fall in the value of rate banks charge on loans, -1.3% improving the economic growth in Nigeria, but the effect is not statistically significant given the value of the probability. Although, the long run effect is negative and not significant, short run coefficient confirms a direct relationship with *RDGP*, and the effect is statistically significant in reducing economic growth in Nigeria. This implies that a 1% increase in the interest at which banks charge on loans in the long run, stimulating economic growth will decline by 0.88% in Nigeria. The implication of this is that high interest rate discourages investors from borrowing to argument investment within the period under consideration.

The exchange rate indicate direct relationship with economic growth in the long run as reveals by the coefficient of 0.05, signifying that an increase in the exchange rate, economic growth also increased, but the increase in stimulating economic growth is not statistically significant since the P-value of the variable

is greater than 0.05% level of significance. A 1% increase in the rate at which naira is exchange with other currencies resulted in an increase of 0.05% growth performance in the long run. This may not last longer as the short run does not agree with long run and reveals negative relationship in inspiring economic growth, the implication of this is that, the short run effect of exchange rate implies that, a 1% decline in exchange rate in Nigeria, economic growth rising by -0.07% and the impact is statistically significant given the value of the probability which is less than 0.05%.

The cointeq (-1) which is also known as Error Correction Mechanism (ECM), tells the speed at which the model returns to equilibrium after an exogenous shock. The speed of adjustment (ECMt-1) has the required sign of negative, less than one and is statistically significant as well. Meaning a short-run shock will be adjusted back to equilibrium in the long-run with an average speed of 86% annually within the study period.

Based on the statistical analysis results, the null hypothesis of normality is accepted at a significance level of 5%. This result is substantiated by the statistical evidence that the probability value of 0.820713 is above the predetermined threshold of 0.05, suggesting a greater probability that the error terms conform to a normal distribution. Furthermore, the JB-statistic (X2) of 0.395163 is determined to lack statistical significance at the 5% level, providing additional support for accepting the null hypothesis. The results of the Breusch-Godfrey (BG) general autocorrelation test support the null hypothesis that there is no serial correlation. The F-statistic, which has a value of 0.581037 and a corresponding probability value of 0.5879, does not exhibit statistical significance at 5% level. Therefore, it may be deduced that the model does not indicate serial correlation.

Furthermore, the Breusch-Pagan-Godfrey (B-P-G) test, utilized to assess the presence of homoscedasticity in the error terms, yielded an F-statistic of 2.270478. However, this result is deemed statistically unimportant at the 5% significance level due to the probability value of 0.1175; it exceeded the threshold of 0.05. Consequently, it can be inferred that heteroscedasticity was not detected in the model, there by not posing a threat to  $H_0$  of constant variance of the error term.

Ramsey RESET tests were employed to assess the correctness of model specification and misspecification tests. Based on the findings, it can be inferred that the probability value of 0.010677 is above the significance level of 0.05, indicating that the observed results were not statistically significant. Similarly, the F-statistics of 0.9206 were determined to be statistically unimportant at a 5% significance level; there was no evidence of a specification error. This observation indicates that the model has a clear and precise definition.

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## 5. Conclusion and Recommendations

### 5.1 Conclusion

Economic growth remains a major macroeconomic objective for most economies against the background of extreme poverty that spirals members of communities into penury, disease and hunger. Aside from the resources that are needed to provide for the material wellbeing of the people, a major focus of those in authority is the design and implementation of appropriate policies which are very cardinal in determining the rate and depth of growth of the economy. The study examines the effect of monetary policy instruments in Stimulating economic growth in Nigeria. Secondary data spanning from 1990-2022 were used and ADF test of stationarity was adopted and it was found out that only *RGDP* was integrated at level, while *MS*, *INF*, *INTR* and *EXR* became stationary after first differencing. ARDL model was adopted a deviation from primary survey or content analysis employed by the previous studies in the literature the choice of this was based on result of ADF result. The bounds test obtains revealed that long run relationship exists between dependent and independents variable in Nigeria. The ARDL result shows that money supply, inflation rate and exchange rate had a negative effect on exciting economic growth Nigeria in the long-run, but the impact was statistically significant for inflation while Money supply and Interest rate were statistically insignificant given their P-values, by and large, the short run effect inflation and interest were inversely related while money supply and exchange rate in stimulating economic growth and their effect were also statistically significant for all the variables. The speed of adjustment (ECMt-1) has the required sign of negative, less than one and is statistically significant as well. Meaning a short-run shock will be adjusted back to equilibrium in the long-run with an average speed of 86% annually within the study period. Finally, all the post diagnostic results reveal that the data used in the study under consideration are reliable, stable and can be used for policy recommendations.

### 5.2 Recommendations

The study recommended that government should lower the existing exchange rate because, as shown by the outcome, ongoing exchange rate reductions by the monetary authorities will support both short- and long-term economic growth. Monetary Policy Committee (MPC) should also mandate commercial banks to make loans available to investors as low as single digit interest rate to ameliorate the adverse financial challenges bedevilling the sector because most entrepreneurs relied on personal savings and family for funds. This will make loans more accessible for business to be able to raise the level of investment which will increase output and hence, economic growth in Nigeria.

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