Assessment of the Effect of Monetary Policy on Economic Development in Nigeria

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Abstract

The study assessed the influence of monetary policy instruments on economic development in Nigeria covering the period, 1986-2023. The monetary instruments were decomposed into Treasury bill rate, monetary policy rate, cash reserve ratio, liquidity ratio and money supply. The contemporaneous relationship between the variables were assessed using the restricted error correction model. Accordingly, the study found a long run equilibrium relationship between the dependent and the explanatory variables. Specifically, it was observed that Treasury bill rate, cash reserve ratio and monetary policy rate had significant positive impact on economic development in Nigeria. On the other hand, the study found that economic development is significant and negatively responsive to changes in money supply. On the bases of the findings therefore, the study recommended efficient manipulation of the aggregate money supply in order to achieve the desired policy targets. Finally, the study suggested that MPR should be used to adjust interest rate policy through minimum rediscount rate thereby preventing interest rate from being an obstacle to growth of both private and public investment in Nigeria.

Key Words: Monetary policy Instrument, Monetary Authority, Economic Development, Nigeria.

1. Introduction

The importance of monetary policy management is predicated on the fact that government uses it in fine-tuning the economy through the numerous channels of monetary policy such as treasury bill rate, monetary policy rate also known as the minimum rediscount rate, liquidity ratio, cash reserve ratio as well as money supply(Adama, *et al*., 2022; Ohwofasa, & Ekaruwe, 2023). Evidently, assessing monetary policy and the transmission through which it affects economic growth of any nation constitutes a raging debate among economists. The different theoretical channels of transmission discussed in the literature, perhaps monetary policy is relatively more pronounced. However, the particular channel through which the policy is transmitted and affects economic growth is an empirical issue (Mehar, 2023).The activeness of monetary policy depends on how policy instruments successfully affect target variables such as output and inflation through the pass-through channel that the central bank intends to follow (Hossain & Maitra, 2020).In Nigerian like any other economy, the distribution of income and allocation of resources have been anchored on three types of public policy objectives, namely monetary policy, fiscal policy and income policy tools. Notably, policy makers in Nigeria rely heavily on monetary policy to achieve some of the macroeconomic objectives which include full employment, economic growth, balance of payment equilibrium and relatively stable price level (Nwoko, *et al*., 2016).

In the last few decades or so, the Nigerian economy faced daunting challenges of structural and institutional changes that had resulted in macroeconomic fundamentals (Oluwasogo, *et al*.,2019). Although, the economy has undergone series of reforms and other development activities aimed at strengthening the ability of the different sectors most especially the financial sector for efficient services, the economy still faces certain issues such as inefficiency in funds allocation to the real sector, declining domestic credit from banking sector to the private sector and considerable liquidity mismatch in the Nigerian economy (Mathew, 2021).The end result is that the performance of the economy has been less than satisfactory as some key indicators of growth could not perform very well. For instance, the unemployment growth rate which was low, standing at 10.3% in 2006 rose to over 17% in 2016 and by 2023 it has further risen to 26.4%. Similarly, incidence of poverty which hovered around 65% in 2006 increased to 75%in 2023. Thus, the GDP growth rate which is a key indicator of growth is severely affected as the growth rate which stood at 5.6% in 1986, rose to 7.1% in 2006. In 2016 the country's growth rate plummeted anchoring at-1.6% and consequent upon the outbreak of covid-19 pandemic in 2020 the extent of deterioration had become embarrassing asgrowth slowed and then plunged deeper into negative region recording -4.3% in second quarter of 2020 according to World Bank and IMF data. However, economic growth recorded marginal increase by oscillating to 3.3% in 2023.

From the monetary policy corridor, broad money supply (M2) which averaged 43.1% in 2006 declined to 31.9% in 2016 and further to 2.9% in 2020 before rising to 15.4% in 2023. In the same vein, interest rate averaged 8% in 2006, rose to 12% in 2016 and in 2020 stood at 14.5%and later declined to 12.5% in 2023. Hence, from all intents and purposes there is sharp rise in monetary policy variables which had concomitant effect on the growth of the economy. Anecdotal evidence averred that the country has unemployment rate of over 30%, epileptic

economic growth, overburdened and overwhelmed security agencies, coupled with weak institutional capacity within the security agencies (Aderemi, *et al*., 2020).Effort to address these myriads of problems through relevant monetary policy channel has resulted in several studies in the extant literature where mixed findings have been reported. Thus, Aderemi, *et al*., (2020),Shafiu, *et al*., (2021),Ishola, *et al*., (2021), Islam and Hossain (2022) andMusa, *et al*., (2022) had established positive effect of monetary policy instruments on economic growth. On the contrary, the studies that have found negative relationship between the variables include Shaibu and Enofe (2021),Sule (2021),Olufemi, *et al*., (2021) and Mehar (2023). The implication of the conflicting findings is that issue on monetary policy instruments and economic development is inconclusive thereby making further studies a welcome development. The rest of the paper is organized as followed. Section two concentrates on the literature review and section three dwells on the models. In section four, the results are presented while section five concludes the study with policy recommendations.

Statement of the Problem
Over the years, policy makers in Nigeria have advocated on the use of monetary policy in achieving targets particularly to address a number of macroeconomic fundamentals in which resources of government have been deployed in this regards. These, notwithstanding, there is extreme inequality-cum-poverty, and citizens' alienation from the government. These further led to considerable imbalances in the Nigerian economy such as high inflation rates, large current account deficits, persistent fiscal deficits, mass poverty and fluctuating foreign reserves. Even though Nigeria is endowed with abundant material and human resources, the economy has been characterized by slow pace of economic growth and development. The living standard is generally low because the country's growth performance has not been inclusive. Accordingly, development policies in Nigeria have failed to achieve the desired objectives of sustainable growth occasioned by policy somersault. The elimination of these disturbances has continued to elude policy makers in Nigeria. The study is germane as it attempts to assess the impact of monetary policy instruments on economic development in Nigeria.

Objective of the Study
The specific objectives of the study are:
  i. To examine the impact of Treasury bill rate on economic development in Nigeria.
  ii. To assess the impact of monetary policy rate on economic development in Nigeria.
  iii. To determine the nature of relationship between liquidity ratio and economic development in Nigeria.
  iv. To scrutinize the relationship between cash reserve ratio and economic development in Nigeria.
  v. To investigate the nature of relationship between money supply and economic development in Nigeria.

2. Literature Review
Conceptual Review
A number definitions of economic growth and development abounds in the literature. According

to Mehar (2023), economic development refers to relative improvement in the economic well-being and quality of life of the citizen of a country, region and the local community in line with targeted goals and objectives. Also, the term refers to modernization and industrialization. Since the 1960s, economic development policies encompass the concept of industrialization and infrastructure with emphasis on poverty reduction. It is therefore a complex web of policy intervention by policy makers to improve the well-being of people thereby resulting in relatively higher standard of living. All western economies such as United States, United Kingdom, Canada, Germany, Italy, France, and the Netherlands etc are experiencing economic development. In the case of economic growth, one or few sectors may be relatively developed like petroleum and ICT sectors at the expense of other sectors of the economy. All sub-Sahara African (SSA) countries including Nigeria belong to this category. This means a country may be experiencing economic growth without experiencing economic development but impossible to experience economic development without economic growth (Kimberly, 2017).

Meanwhile, monetary policy concept has been defined as any policy measure designed by the government through the apex bank to control cost availability and supply of credit (CBN, 2022). It is referred to as the regulation of money supply and interest rate by the CBN in order to control inflation and to stabilize the currency flow in an economy. Also, the CBN defined monetary policy as combination of measures designed to regulate the value, supply and cost of money on an economy in consonance with the expected levels of economic activities. Monetary policy is the process by which the central bank or monetary authority of a country controls the supply of money, availability of money and cost of money or rate of interest to attain a set of objectives oriented towards the growth and stability of the economy (Mugableh, 2019).

Theoretical Issue
The Classical View of Monetary Policy
This group of economists anchored their submission on the quantity theory of money which is based on Fisher equation of exchange with the expression $MV = PY$ where M denotes the supply of money, V stands for the velocity of circulation which implies average number of times a currency is spent on final goods and services, P is expressed as the price level. In this context, PY represents current nominal GDP. Theoretically, the equation of exchange is an identity matrix which states that the current market value of all final goods and services (nominal GDP) must equal the supply of money multiplied by the average number of times a currency is used in transaction in a given year. Classical economists believe that the economy is always at or near the natural level of real GDP which made them to further believe that in the short run, the Y in the equation of exchange is fixed. Also, they argued that since the velocity of circulation of money tends to remain constant V should be assumed as fixed and expressed fear that expansionary monetary policy can only lead to inflation just as contractionary monetary policy will result in deflation (Nwoko, *et al*., 2016).

Keynesian View of Monetary Policy
As an attack on the classical writers**,** Keynesian economists did not support the idea that the relationship between money and price is direct and proportional but rather indirect through the

interest rate channel. Likewise, the belief that the economy will always tend towards natural level of real GDP so that Y in the equation of exchange could be regarded as fixed was rejected by Keynes and his followers. Also, the proposition that the velocity of circulation of money was constant was similarly rejected. Keynesians believed that expansionary monetary policy increases the supply of loanable funds available through banking system thereby causing interest rates to fall. With lower interest rate, aggregate expenditures on investment and interest-sensitive consumption goods would usually increase and real GDP is then likely to rise. It was the conclusion of the Keynesian economics that monetary policy could indirectly affect real GDP(Nwoko *et al.*, 2016).

Solow Neoclassical Growth Theory

The theory as developed by Solow (1956) is based on the following production function, namely$Y_t = f(K_t, L_t, A_t)$ where Y is output, Kis physical capital, Lis the labour force and Ais an index of overall productivity. The model recognizes that there are constant returns to scale and decreasing returns to capital. With these assumptions, income growth can come from the increased efficiency of productive inputs, i.e. an increase in A, or the augmentation of such inputs, i.e. an increase in Kand/or L. Positive growth rates can be sustained if and only if the decreasing returns to the accumulation of capital are offset by population growth, or if the marginal productivity of capital is constantly shifted upwards by technical progress. In a balanced growth equilibrium, there will be no depreciation of the capital stock and, assuming A_t is constant, output and capital will grow at the rate of population growth. Accordingly, differences in the time path of the scale factor A explain countries' different growth experiences.

Empirical Review

Evidence from empirical literatures in low and middle-income economies indicate that monetary policy shocks had little or no effects on indicators of economic performance. Thus, Bank-Ola, *et al.*, (2020) investigated the impact of monetary policy on price stability in Nigeria from 1986 to 2018. The explanatory variables consist of cash reserve ratio, liquidity ratio, exchange rate, money supply and import of goods and services while inflation rate was used as a measure of price stability. The study employed the ARDL model and results showed that cash reserve ratio had a positive and significant effect on price stability while liquidity ratio, exchange rate and money supply had insignificant negative impact on price stability. Meanwhile, import of goods and services was positive but statistically insignificant in affecting price stability. Hossain and Maitra (2020) assessed the attempt made in India in using monetary policy and trade openness to increase the level of income in period of monetary-targeting regime and multiple-indicator approach regime of monetary policy. Making income as a function of monetary policy instruments which include money supply, interest rate, exchange rate and trade openness, the data generating process covers the period, 1985-2016. The study found among other things that income is significantly and positively responsive to changes in broad money supply and real effective exchange rate contrary to its negative response to changes in interest rate. The study uses the ARDL model to explore the contemporaneous dynamics. Bashir and Sam-Siso (2020) employed the ARDL technique to assess the relationship between monetary policy and macroeconomic performance in Nigeria. The study found that in the short run, increase in

exchange rate reduces inflation rate while changes in MPR tend to stimulate inflation rate. Also, the study found that money supply had significant negative effect on GDP growth in Nigeria but stimulated inflation and unemployment rate.

In their study, Dakasku, *et al.*, (2020) made attempt to x-ray the extent at which monetary policy instruments affect economic growth in Nigeria using data from 1986-2018. The monetary policy variables used for the study included money supply, exchange rate and interest rate. The ARDL model was employed for the contemporaneous dynamics in analyzing the variables. The study found evidence of long run relationship between the variables. Specifically, the study further found that in the long run money supply and interest rate had significant positive impact on economic growth while exchange rate exerted inverse relationship with the latter. Likewise in the short run, a one year lag of exchange rate was found to exert positive impact on growth while its level estimation had negative relationship with economic growth in Nigeria. The study advocated the proper use of monetary policy instruments in order to achieve the objectives associated with the use of monetary policy. Aderemi, *et al.*, (2020) examined the impact of monetary policy on economic growth in Nigeria. Utilizing the ARDL model, the study found the presence of significant negative effect of monetary policy rate and exchange rate on economic growth in the short run. Also, the study found evidence of significant negative relationship between economic growth and credit reserve ratio as against significant positive relationship between economic growth and inflation rate both in the short run and long run.

On their part, Shafiu, *et al.*, (2021) assessed the effect of monetary variables on economics growth in Nigeria using Generalized Method of Moment (GMM) and ARDL technique for the analysis on data for the period, 1989 to 2019. The result revealed a positive significant effect of money supply on economic growth in Nigeria contrary to significant impact exerted by foreign external policy. Mathew (2021) utilized the OLS technique in his assessment of the relationship between monetary policy and economic growth in Nigeria. He found that long run relationship exists among key explanatory variables of monetary policy rate while influence of interest rate on growth in Nigeria is significantly positive as against the negative significant effect of real exchange rate. The study recommends that government and relevant monetary authorities should make financial sector less volatile and ensure the effective monitoring of money supply levels among others. Shaibu and Enofe (2021) assessed the impact of monetary policy instruments on economic growth in Nigeria covering the period, 1986-2018. The independent variables included broad money supply, crude oil price, exchange rate, inflation rate as well as interest rate. The model utilized for the study was the ARDL technique of estimation. Accordingly, the presence of long run equilibrium relationship was established by the study. Specifically, a significant positive impact of interest rate on economic growth was observed in the short run. However, in the long run, broad money supply had significant negative impact on growth in Nigeria. The paper recommended the use of an expansionary monetary policy in order to stir up the economy in real time.

Meanwhile, Ishola, *et al.*, (2021) stressed the importance of money market instruments in a nation's quest for economic development. Their paper appraised the extent at which money

market instruments such as treasury bill, certificate of deposits, treasury certificates, development stock, banker's acceptance as well commercial papers affect economic growth in Nigeria using data covering the period, 1990-2020. The OLS methodology and granger causality test were employed for the study. Accordingly, the study found evidence of bidirectional causality running from bank acceptance and commercial paper to economic growth. Also, the study further found among other things that Treasury bill and Treasury certificate had significant positive impact on economic growth in Nigeria. Sule (2021) appraised the pass-through effect of monetary policy tools on economic growth in Nigeria using quarterly time series data from 2008Q1 to 2018Q4. The study employed VAR methodology through the impulse response function and findings revealed that the pass-through effect of monetary policy tools has tended to dampen down availability of credit to core private sectors thus hampering growth and development. Chinedu, *et al*., (2021) examined the adjustment of retail and money market interest rates to changes in discount corridor of monetary policy in Nigeria. A vector error correction model was adopted for the study on monthly data covering 2007:06-2019:12. The study which tested for structural breaks found evidence of significant slow speed of adjustment thereby suggesting weakness of the discount corridor in monetary policy transmission in Nigeria. Also, the study found absence of asymmetric adjustment of retail rates to long run equilibrium while deposit rate responded inversely to changes in lending rate. Olufemi, *et al*., (2021) employed the ARDL model and their findings revealed that the variables were co-integrated suggesting presence of long run relationship between monetary policy instruments and economic growth in Nigeria. Specifically, it was observed by the study that interest rate influences growth of the economy while money supply deters growth in the period of review. Sequel to the findings, the study recommended that policy makers should make use of interest rate as it stimulates growth of the economy in the short run.

In Bangladesh and UK, Islam and Hossain (2022) scrutinized the relationship between monetary policy and economic growth covering the period of 1980-2019. The study employed the ARDL model for the long run and the ECM for the short run in both economies. The outcomes of the study suggested that monetary policy had long-run relationship with economic growth in Bangladesh. Likewise, the study found that in the long run money supply had positive impact on growth in both countries. However, exchange rate exhibited positive impact on growth in UK and negative effect on economic growth of Bangladesh. Also, findings indicated that increase in lending rate had adverse impact on economic growth for both countries. Musa, *et al*., (2022) documented a study on the effect of monetary policy namely inflation targeting on economic growth in Nigeria using data for the period, 1986Q1 to 2017Q4. The SVAR methodology was employed for the contemporaneous analysis of the data. The study found that monetary policy rate and broad money supply had significant positive effect on growth in the period of consideration. In a more recent study, Mehar (2023) examined the effects of credit to private sector on the business and trade activities. The effectiveness of rapid expansion in public and private borrowing through state's intervention following the COVID-19 pandemic was assessed in the study. Using panel least square technique on 186 countries, results shown that credit to private sector and external debt were found to be significant determinant of gross domestic product growth.

A careful review of the economic literature shows that most studies focused on the impact of monetary policy instruments on economic growth. The study of the impact of monetary policy instruments on economic development is rather scanty. The paucity of studies on the impact of monetary policy on economic development create a gap in available literature.

3. The Model

There is no disagreement on the theoretical justification that monetary policy is one of the channels through which economic growth occurs. This study adopts the Solow Neoclassical growth theory which is stated as follows:

$$Y = AL^{\beta}K^{\alpha}$$

Where: Y = total production, K = capital input, L = labour input, A = total factor productivity(TFP) while α and β are the output elasticities of capital and labour respectively. However, to suit the objective of our study K and L in the model were dropped and A takes the form:

$$Yt = f(\varpi)$$

Where ϖ is the vector of the explanatory variables expanded to accommodate the variables chosen for the study. Accordingly, a linear model of parsimonious error correction technique that show the impact of monetary policy on economic development in Nigeria using annual time series data from 1986-2023may be presented as follows:

$$HDI_t = \alpha_0 + \alpha_1 InTBR_t + \alpha_2 InMPR_t + \alpha_3 InLQR_t + \alpha_4 InCRR_t + \alpha_5 InM2_t + \mu_t$$

Where: HDI = human development index, TBR = Treasury bill rate, MPR = monetary policy rate, LQR = liquidity ratio, CRR = cash reserve ratio, M2 = broad money supply. Similarly, $\alpha0$, $\alpha1 - \alpha5$ are constant and parameters to be estimated respectively. Finally, μ is white noise error term and t is time trend. Human development index is expected to positively responsive to changes in all the explanatory variables. In what follows, the error correction model (ECM) is estimated as follows:

$$\Delta InHDI_t = \sigma_0 + \sum_{i=1}^{K} \sigma 1i \Delta InHDI_{t-1} + \sum_{i-1}^{K} \sigma 2i \Delta InTBR_{t-1} + \sum_{i=1}^{K} \sigma 3i \Delta InMPR_{t-1} + \sum_{i=1}^{k} \sigma 4i \Delta InLQR_{t-1} +$$

$$\sum_{i=1}^{K} \sigma 5i \Delta InCRR_{t-1} + \sum_{i=1}^{K} \sigma 6i \Delta InM2_{t-1} + \lambda ECT_t$$

The ECT_{t-1} is the error correction term and λ signifies the speed of convergence to the equilibrium process. It is used to ascertain the stability of the parameters using the cumulative sum of recursive residuals (CUSUM) and cumulative sum of square of recursive residuals (CUSUMSQ) whose equation is detail in Brown, *et al.*, (1975).

Unit Root Test and co-integration

A test of stationarity to ensure that only variables that have integration of order 1 is include in the model was performed as a crucial condition for the Johasen and Juselius (1990) co-ntegration test.

4. Presentation of Results

Table 1: Stationarity Test Results

Augmented Dickey Fuller Test				Phillips-Peron Test		
Variable	Level	First Diff	Order	Level	First Diff	Order
LHDI	-3.44	-8.29	1	-3.51	-8.60	1
LTBR	-2.75	-6.05	1	-2.77	-6.19	1
LMPR	-3.01	-5.75	1	-3.01	-7.34	1
LQR	-3.08	-6.33	1	-3.15	-11.51	1
LCRR	-3.02	-8.00	1	-3.00	-8.56	1
LM2	-0.42	-4.42	1	-0.68	-4.27	
C.V = 5%	-3.54	-3.55		-3.54	-3.55	

Source: Author's computation using E view 12.0

Table 1 shows the results of stationarity using the ADF and PP test levels. The results indicate that at level differencing none of the variable was stationary at 5% level of significant. However, at first differencing all six variables become stationary in that both the ADF and PP values exceed the significant level thereby satisfying the key condition for Johasen co-integration test. Accordingly, Table 2 is the Johasen co-integration test aimed at establishing the long run relationship between the dependent and the explanatory variables namely human development index, treasury bills, monetary policy rate, liquidity ratio, cash reserve ratio and money supply. The test reveals that both the trace statistic and max-eigen value indicate at least one co-integrating relationship when compared to the 5% critical value.

Table 2: Co-integration results

Null Hypothesis	Alternative Hypothesis	Statistical Value	5 percent critical value	Eigen Value
Trace Statistics				
r = 0	r ≥ 0	111.50	95.75	0.69
r ≥ 1	r ≥ 1	26.65	69.82	0.61
Max-Eigen Statistics				
r = 0	r = 1	40.37	40.08	0.69
r ≤ 1	r = 2	32.18	33.88	0.61

Source: Author's computation using Eview 12.0

This implies that a long run relationship exists between the dependent and all five explanatory variables at least during the period of the study. In what follows therefore is the presentation of the short run model. Table 3 presents the regression estimates through the technique of parsimonious error correction model. In estimating the model, the over-parameterized error model was first estimated with lag order of 2. Accordingly, the number of lags in this model is an empirical issue while lag length of 2 was chosen bearing in mind problems associated with degree of freedom if higher order lags are adopted. The parsimony model is achieved by eliminating variables with insignificant t-ratios.

Table 3: Results of Estimation
Method: Least Square
Dependent variable: DLHDI

| Variable	Coefficient	Std error	t-stat	Prob
Constant	0.03	0.01	4.03	0.00
DLHDI(-1)	-0.16	0.14	-1.11	0.28
DLTBR(-2)	0.03	0.01	2.19	0.04
DLMPR	0.17	0.03	6.09	0.00
DLLQR(-2)	0.01	0.02	0.79	0.43
DLCRR(-2)	0.01	0.01	2.26	0.03
DLM2(-1)	-0.10	0.03	-3.56	0.00
ECT(-1)	-1.30	0.25	-5.14	0.00
Diagnostic tests				
R^2			0.80	
DW			2.43	
F-stat			12.36	
Serial correlation LM test F-Stat (Prob)			2.08(0.15)	
ARCH LM test F-Stat (Prob)			0.09(0.77)	
Jarque-Bera Normality Test (Prob)			1.79(0.41)	

Source: Author's computation using Eview 12.0

A number of diagnostic tests were performed on the variables to ensure reliable results. It can be seen from the results that serial correlation was not a problem as indicated by the DW statistic. This assertion is supported by the outcomes of the diagnostic tests where serial correlation LM test and ARCH LM test reject the alternative hypothesis suggesting that serial correlation does not indeed exist in the model. Also, the R^2 shows that the independent variables explained 80% variation in human development index. In the same vein, the Jarque-Bera reveals that the model has a normal distribution even as Fig 1a and 1b indicate that the CUSUM and the CUSUMSQ plots lie within the 5% critical value, an indication that the model is stable.

Fig 1a: Stability Test (CUSUM)
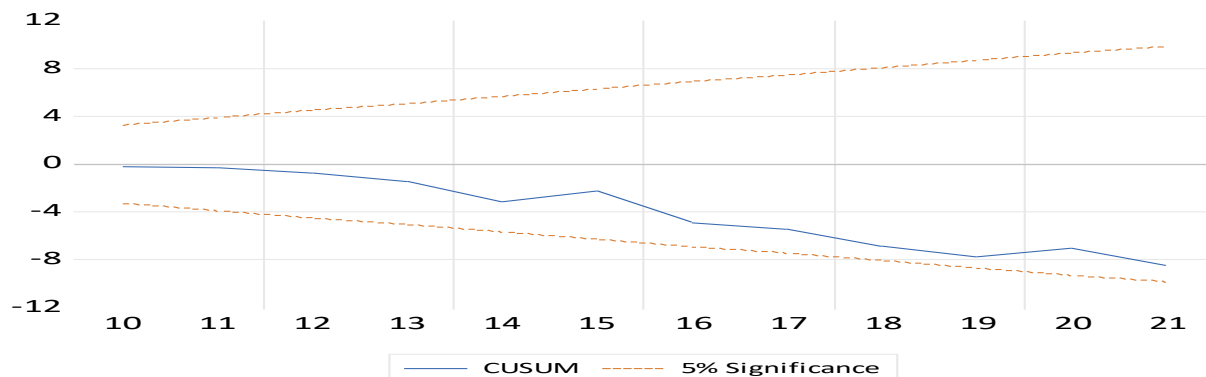
Fig 1b: Stability Test (CUSUMSQ)
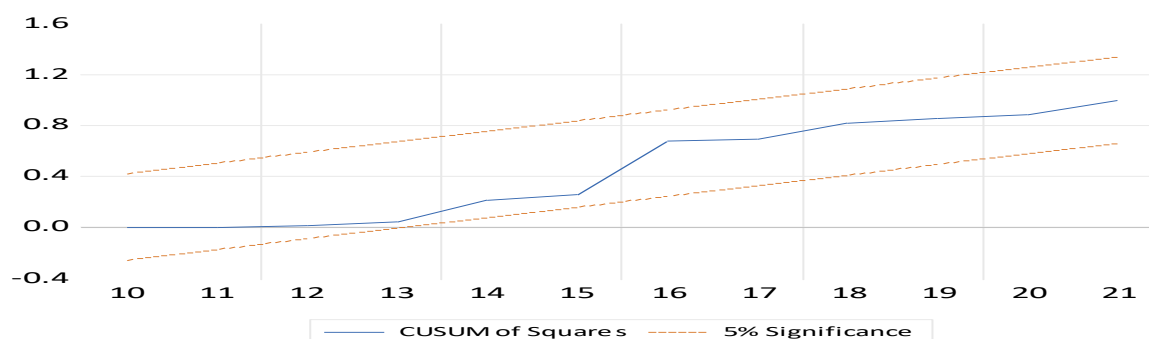
Therefore, the model passes all diagnostic tests and is satisfactory as it is serially uncorrelated, has no heteroscedasticity and is considered stable. Therefore, the results indicated that the effect of treasury bill rate, monetary policy rate and cash reserve ratio on economic development is positive and statistically significant. Chris-Ejiogu, *et al*., (2019),Hossain and Maitra (2020), Dakasku, *et al*., (2020),and Aderemi, *et al*., (2020) had earlier reached similar findings. However, broad money supply exerted significant negative impact on economic development in the period under review. This is similar to the findings of Bank-Ola, *et al*., (2020),Bashir and Sam-Siso (2020), Shaibu and Enofe (2021),Sule (2021),Olufemi, *et al*., (2021) and Mehar (2023). Meanwhile, the effect of liquidity ratio on economic development, though positive, is statistically insignificant. The coefficient of the ECT carries the usual negative sign and is highly significant. This is what is expected if co-integration exists between economic development index and its determinants. Accordingly, any disequilibrium between the short run and long run is corrected with a speed of about 13% within a year.

5. Conclusion and Recommendation

The study assessed the relationship between monetary policy instruments and economic development in Nigeria using data covering the period, 1986-2022.The study observed that the Central Bank of Nigeria in its attempt to regulate the movement of prices for goods and services uses a number of monetary instruments to fine turn the economy. The study employed econometric technique and findings revealed that selected monetary policy instruments had long run equilibrium relationship with economic development. Specifically, the study found that cash reserve ratio, monetary policy rate and Treasury bill rate seemed to have performed very well during the period of consideration as they appeared to exert strong positive influence on economic development. On the contrary, impact of money supply on economic development appeared deleterious which simply suggests that policy makers should take caution in using money supply as an instrument of monetary policy. The conclusion that can be reached in this study is that the negative induced relationship exhibited by money supply may be attributed to the activities of corrupt public officials and politicians who stopped at nothing in siphoning and diverting public funds into personal pockets thereby preventing it from achieving the good purpose for which the money is meant.

It must be recalled that over the last three decades the monetary authority has continued to rely on the volume of money supply as a means of fine turning the economy. Theoretically, increase

in money supply should spur investment in the economy leading to increase in employment and productivity. However, such a rise in money supply could also lead to inflation which has been a common phenomenon in Nigeria. Perhaps, it is for this reason our findings establish negative relationship between money supply and economic development in the period under consideration. The CBN in its quest to have a stable economy, resorted to the use of Treasury bill rate, cash reserve ratio, monetary policy rate and liquidity ratio. Our finding reveals that liquidity ratio was insignificant in affecting economic development while the other instruments of monetary policy are seen to have a stimulating effect on economic development. The results therefore suggest that the monetary authority should ensure that the positive effect of these variables are felt on the economy. For instance, the recent hike in the cash reserve ratio of deposit money banks from 27.5% to 32.5% by the apex bank in Nigeria is meant to take the portion of customers' deposits to over ₦10 trillion not available for lending (Business Day, 2022). Thus, the importance attached to these monetary instruments is underscored in our findings where the MPR had significant positive impact on economic development in Nigeria. Surprisingly, the study could not establish significant relationship between liquidity ratio and economic development.

On the bases of the above findings, it is recommended that to achieve a robust economic development through manipulation of aggregate money supply more attention should be focused on the use of treasury bills for desired policy targets. Also, policy makers may consider the use of MPR as effective instrument of adjusting interest rate policy through minimum rediscount rate. Likewise, the current 30% level of liquidity ratio by the apex bank needs to be re-evaluated and adjusted to a level that will positively and significantly affect the economy. Furthermore, the current cash reserve ratio policy of the monetary authority should be maintained in order to continue to ease the credit policy through cash reserve requirement thereby reducing credit constraint leading to expansion of domestic credit supply. Finally, policy on expansionary mechanism capable of boosting money supply to the real sector, reduce interest rate and increase investment, productivity and employment should be pursued in order to boost economic development in Nigeria.

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