Effectiveness of Monetary Policy in Stimulating Economic Growth in Nigeria

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Effectiveness of Monetary Policy in Stimulating Economic Growth in Nigeria

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ABSTRACT
This study examined the effectiveness of monetary policy in stimulating economic growth in Nigeria between 1990 and 2019. Secondary data were sourced mainly from CBN publications. The theoretical framework was based on the Keynesian transmission mechanism. In the cause of empirical investigation, various advanced econometric techniques like Augmented Dickey Fuller Unit Root Test, ARDL Bounds Test and Error Correction Mechanism (ECM) were employed and the result revealed that all the variables were stationary at first difference except monetary policy rate that was stationary at level, meaning that the variables were integrated of different order justifying ARDL Bounds Test and error correction mechanism test. The ARDL Bounds Test result indicated that there is long run relationship among the variables with the lower bound and upper bound less than the calculated at 5% level of significant. The result of the error correction mechanism (ECM) test indicates an 88% adjustment back to equilibrium. It is therefore recommended that since economic growth in Nigeria is greatly influenced in the long-run by interest rate and reserve requirement making monetary policy an effective tool in stimulating economic growth. Nigerian government through its monetary authorities should unveil other policies that will stimulate economic growth not only in the long run but also, in the short run period.

Keywords: Monetary policy, Economic Growth, Time Series Data, Error Correction Model.

1. INTRODUCTION

The Central Bank of Nigeria (CBN) has continued to play the conventional role of an apex authority, which is to regulate the stock of money to promote social welfare, since its inception in 1959. This position is based on the application of monetary policy, which is often aimed at achieving full employment, rapid economic growth, price stability, and external balance. The two later aims have frequently been the principal goals of monetary policy over the years.

The Nigerian government, like that of any other developing country, uses three types of public policies to achieve its goals of income distribution and resource allocation. Monetary policy, fiscal policy, and income policy are examples of public policy tools. In Nigeria, the government has historically relied on monetary policy to achieve specific macroeconomic objectives, such as job creation, economic growth and development, the balance of payment stability, and a reasonably steady general price level. The fact that monetary policy has very serious repercussions for both fiscal and income policy measures is the reason for picking it (Adegbite & Alabi, 2013).

Monetarists believe that the money supply is the most important element that impacts the economy's health. They believe that increasing the money supply will boost nominal demand, and that increasing output will increase where there is excess capacity. The monetarist believes that an increase in money supply will be inflationary in the long run, with no impact on investment, employment, or aggregate demand (Okoro, 2018). Despite these controversies, the Nigerian government, in partnership with its monetary authority, continues to regulate the economy through monetary policy. The Central Bank of Nigeria (CBN) uses monetary policy to manipulate the economy's currency fluctuations. It employs both contra dictionary and expansionary measures. Monetary policy has been successfully adopted and implemented in developing economies, this move is warranted. As a result, it is important to look into how monetary policy (money supply) can be used to influence output.

With developing countries like Nigeria putting in more effort to achieve economic growth, the goals of monetary policy in Nigeria have been to achieve both price and exchange rate stability. The actuality, on the other hand, has fallen far short of expectations. Inflation rates in Nigeria have been highly volatile since the early 1970s, with four significant episodes of high
inflation totaling more than 30%. Money supply increase has been linked to high inflation episodes because money growth has often outpaced real economic growth. However, some indicators reflecting the economy's fundamental characteristics can be observed before the increase in the money supply. Some of these are supply shocks, which can be caused by starvation, currency devaluation, or changes in trade arrangements. In 1976, the first period of 30% inflation occurred (12-month moving average) (CBN, 2009). Drought in northern Nigeria, which has hurt agricultural productivity and increased the cost of agri-food, causing a significant increase in the share of the simple consumer budget, is one of the most frequently cited explanations for this inflation. Furthermore, there was an excessive monetization of oil export proceeds during this time, which may have given inflation a monetary aspect.

Despite the increased focus on monetary policy manipulation in Nigeria, the country's economic growth remains an issue. High unemployment, low investment, high inflation, and an unstable foreign exchange rate are examples of such issues. These alleged issues are said to have contributed to Nigeria's rapid drop in economic growth. In 1990 the economic growth rate which was at 1.36% drop to 1.19% in 1999 as the result of the increase in the unemployment rate from 3.35% to 17.5% and the inflation rate was 6.62%, in 2004 and 2008 there was a drop in growth rate from 6.58% to 6.41% with an increase in unemployment and inflation rate to 14.7% and 11.58% respectively. As a result of a decrease in the unemployment rate to 7.8% and inflation rate to 8.06% there was an increase in economic growth to 12.91% in 2014. In 2019 the GDP growth rate was 2.21% when the unemployment rate increased to 8.53% and inflation to 11.4% (CBN, 2019). Over the years there has been an unstable exchange rate regime which also poses a threat to economic growth. As a result, it is vital to highlight Nigeria's monetary policy and assess the extent to which it has contributed to the country's economic progress. The objectives of this paper is to investigate the influence of interest rate on output in Nigeria, to examine the effect of monetary policy rate on the level of output in Nigeria and to investigate how reserve requirement affects economic growth in Nigeria. This will go a long way toward demonstrating not only how effective money supply stimulates economic growth, but also other variables that stimulate economic growth.

2. LITERATURE REVIEW

2.1 Conceptual Literature

The deliberate use of monetary policy instruments (direct and indirect) at the disposal of monetary authorities, such as the central bank, to ensure macroeconomic stability is known as monetary policy. Monetary policy is the mechanism by which the mandate of monetary stability and prices is fulfilled. Monetary policy is a set of actions taken by monetary authorities, generally the central bank, to control and regulate the money supply to the public and the flow of credit to achieve predetermined macroeconomic objectives (Dwivedi, 2015). Monetary policy is one of the methods used by monetary authorities to control the money supply in a country's economy to attain the desired level of economic growth. Most governments believe that the money supply growth rate affects the rate of inflation, thus they endeavor to keep it under control. As a result, monetary policy encompasses all government activities aimed at influencing the monetary sector's behavior.

Economic growth is defined as a steady increase in the output of goods, services, and job opportunities with the express purpose of improving citizens' economic and financial well-being (Ogbulu & Torbira, 2012). Economic development is a major topic in economics, and it is regarded as one of the required conditions for achieving greater social welfare outcomes, which is the primary goal of economic policy. As a result, it is a necessary component of long-term development. Gross Domestic Product (GDP) is a measure of a country's economic growth (GDP). As a result, it is defined in this study as the monetary worth of all commodities and services generated in an economy during a given period, usually a year.

2.2 Theoretical Literature

2.2.1 The Classical View of Monetary Policy

The classical theory as founded by Adam Smith in 1776 in this book 'The Wealth of Nations' was based on the quantity theory of money is used by classical economics to explain the monetary policy. The Fisherian equation of exchange, which is represented by the statement MV = PY, is commonly used to discuss the quantity theory of money. M signifies the amount of money over which the Federal Government has some control in the expression; the velocity of circulation, or the average number of times a currency is spent on final products and services over a year, is denoted by the letter V; the price level GDP is denoted by the letter P. As a result, PY stands for current nominal GDP. The present market value of all final products and services (nominal GDP) must equal the supply of money multiplied by the average number of times a currency is used in a transaction in a given year, according to the equation of exchange.
According to the classical economist, the economy is always at or near its natural level of real GDP. As a result, they believe that the Y in the exchange equation is fixed in the short run. They go on to say that the velocity of money circulation tends to remain constant. As a result, V can likewise be considered fixed. Given that both Y and V are fixed, an expansionary (or contractionary) monetary policy by the Central Bank of Nigeria (CBN) will result in an increase (or decrease) in money supply (M), with the only effect being an increase (or decrease) in the price level P, in direct proportion to the change in money supply (M). In other words, expansionary monetary policy can only result in inflation, while contractionary monetary policy can only result in price deflation.

Keynesian View of Monetary Policy

Keynesian theory was developed by the British economist John Maynard Keynes in the 1930s because the idea that money and value are direct and proportional was rejected by Keynesian theory. Everyone agrees that this happens indirectly through interest rates. They also reject the idea that the economy is stable or close to the natural levels of real GDP, which can be used to determine the Y in the exchange rate equation. They also disagree with the claim that the speed of money is constant. Expansionary monetary policy, according to Keynesians, is increasing the supply of loans that are accessible through the banking system, leading to falling interest rates. At lower interest rates, total investment costs and interest-sensitive consumer goods tend to increase, increasing real GDP. As a result, monetary policy may have an indirect impact on real GDP.

The Monetarist View of Monetary Policy

Milton Friedman founded the Monetarist school of thought in 1963. This is a reviewed explanation of traditional macroeconomics. They created a more nuanced and practical version of the quantity theory of money. Friedman (1963), like any other school of thought, highlighted the availability of money as the most important factor impacting the economy's well-being and accepted the need for an efficient monetary policy to stabilize an economy. He also believes that to encourage a steady rate of growth, the money supply should grow at a fixed rate rather than being regulated and changed by the monetary authority. Friedman went on to argue that the money supply can be maintained in a variety of ways, including money, bonds, stocks, physical products and human capital, as this may be required for reasons other than expected transactions. Each type of asset has its own characteristics as well as a different rate of return. These effects will stimulate aggregate demand for money and increase production in the long run.

Monetarists recognize that the economy cannot always operate at full employment as measured by real GDP. Lawyers believe that expansionary monetary policy can increase real GDP in the short run by increasing aggregate demand. However, they believe that quantity theory maintains a good approximation of the relationship between money supply, prices and real GDP in the long run with full employment.

2.3 Empirical Literature

Adesoye, Maku and Atanda (2016) used the VAR to examine monetary policy and growth in Nigeria and the result shows that there is a long-term relationship between currency variables and economic growth in Nigeria. However, as real output growth is not a top indicator for any of the monetary variables included in its analysis, the level of economic growth should not be used as a barometer to set key monetary policy rates.

Charles and Onyeiwu (2015) in their analysis of Nigeria monetary policy and economic growth, examined the impact of monetary policy on the Nigerian economy. The Ordinary Least Squares (OLS) method was used to analyze the data between 1981 and 2008. The results show that monetary policy based on money supply has a positive impact on GDP growth and the balance of payments, but a negative impact on price inflation.

Micheal and Ebibai (2014) used OLS regression analysis to investigate the impact of monetary policy on selected macroeconomic variables in Nigeria, including GDP, inflation and the balance of payments. The findings acknowledge that a favorable investment climate in Nigeria will boost the country's GDP growth rate.

Using multiple regression techniques, Akujobi (2012) evaluated the impact of monetary policy instruments on Nigerian economic development and discovered that the Treasury bill, minimum rediscount rate, and liquidity rate have a substantial impact on Nigerian economic development.

Okoro (2018) tested the impact of interest rate, inflation, exchange rate, money supply, and credit on GDP to see how monetary policy affects Nigerian economic growth. Techniques such as the Augmented Dickey-Fuller (ADF) test, the Philips-Perron Unit Test, the Co-integration test, and the Error Correction Model (ECM) were used. The results show that monetary policy instruments have a long-run equilibrium relationship with economic growth.

Umaru and Zubairu (2012) used the Augmented Dickey-Fuller technique to assess the unit root property of the series and the Granger causality test of causation between GDP and inflation to explore the impact of inflation on economic growth and
development in Nigeria between 1970 and 2010. Inflation has a favorable impact on economic growth through boosting productivity and production levels, as well as the evolution of total factor productivity, according to the findings. The rate of inflation in a country can thus be ascribed to its economy's good performance in terms of per capita growth.

The impact of monetary policy on economic growth in Nigeria was studied by Fasanya, Onakoya, and Agboluaje (2013). The study made use of time-series data from 1975 to 2010. Using the Error Correction Model (ECM), the impacts of stochastic shocks to each of the endogenous variables are investigated. The findings revealed that the variables have a long-term association. Furthermore, the study's main finding revealed that the inflation rate, exchange rate, and foreign reserve are important monetary policy instruments in Nigeria that promote growth.

2.4 Gap in literature

Although there is a lot of empirical literature on economic growth and monetary policy, their limitations prompted this research. Most research on monetary policy and economic growth did not demonstrate how monetary policy has aided in encouraging economic growth. More specifically, the findings of the studies so far indicate that there is some agreement that monetary policy and economic growth are linked. While the robustness of most of the works evaluated has been extensively praised, it is worth noting that some of them have faults that could compromise the robustness of their conclusions, which this study aims to remedy.

3. METHODOLOGY

3.1 Theoretical Framework

The Fisher’s equation of the quantity theory of money: \( MV = PQ \) given by Irving Fisher(1911), Where \( M \) is the money supply, \( Q \) denotes the amount of national output sold in a particular year, \( P \) denotes the average level of prices, and \( V \) denotes the income-velocity of money circulation. As a result, \( PQ \) stands for the monetary value of national output sold. \( MV \) must equal \( PQ \) because it is the total spending on national production. By definition, the quantity equation of exchange is correct. What a change in \( M \) does to \( P \), on the other hand, is a point of contention. The debate centers on whether and how changes in the money supply impact \( V \) and \( Q \). (M). Monetarists contend that \( V \) is decided completely independently of the money supply in the long run (M). As a result, a change in \( M \) does not affect \( V \) but causes a change in the economy's spending (MV). Monetarists argue that, in the long run, monetary policy is a very effective tool for managing aggregate demand (PQ). According to Keynesians, \( V \) tends to change inversely with \( M \), albeit in an unpredictable manner. An increase in the money supply is unlikely to have a significant impact on consumption. Instead, consumers may just increase their holdings of idle balances, resulting in a slower rate of money circulation (V). People’s expectations of interest rate, price and exchange rate fluctuations will determine how much extra cash they will save. It is difficult to predict the amount by which \( V \) will decrease, as expectations are difficult to estimate. As a result, Keynesians argue that monetary policy is a very unreliable tool for regulating aggregate demand. The second point of contention between monetarists and Keynesians is the size of the economy. Monetarists argue that, in the long run, aggregate supply is inelastic and therefore production is determined independently of collective demand. Any increase in \( MV \) will be reflected in a price increase. As a result, the price level is determined by the amount of money in circulation. Inflation is determined by the growth rate of money supply. Money supply control has little effect on long-term output or employment. Except when full time is approaching, Keynesians claim that the overall supply is quite flexible. As a result, \( Q \) is a variable. To the extent that strict monetary policy affects aggregate demand, output and price levels are likely to decline, especially when monopolies and trade unions resist price and wage cuts. If monetary policy manages to reduce aggregate demand, a prolonged recession may occur. It's vital to understand how a change in money supply is transferred to a change in aggregate demand to analyze the arguments regarding \( V \)'s variability. Transmission mechanisms, according to Keynesians, are indirect. Changes in the money supply, in other words, affect aggregate demand through changes in interest rates and exchange rates.

3.2 Model Specifications

The current study used the Anowor and Okorie (2013) theoretical function model, which uses Monetary Policy Rate, Reserve Requirement, and interest rate versus economic growth as measured by RGDP. The model for this study is stated thus:

\[
\text{RGDP} = f(\text{INT}, \text{RR}, \text{LIQR}, \text{MPR}, \text{INF})
\]

Where:

\[
\text{RGDP} = \text{Real Gross Domestic Product}
\]

\[
\text{INT} = \text{Interest Rate}
\]

\[
\text{RR} = \text{Reserve Requirement}
\]

\[
\text{LIQR} = \text{Liquidity Ratio}
\]
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MPR = Monetary Policy Rate
INF = Inflation

The equation of the model is thus:

\[
\text{RGDP} = a_0 + a_1 \text{INT} + a_2 \text{RR} + a_3 \text{LIQR} + a_4 \text{MPR} + a_5 \text{INF} + Ut \tag{1}
\]

Taking the log of the nominal values,

\[
\ln \text{RGDP} = a_0 + a_1 \ln \text{INT} + a_2 \ln \text{RR} + a_3 \ln \text{LIQR} + a_4 \ln \text{MPR} + a_5 \ln \text{INF} + Ut \tag{2}
\]

\(a_0\) is the constant
\(a_1\) – \(a_4\) are the coefficients of the relationships between the independent variables and the dependent variable.

\(Ut\) is the stochastic error term for the time period covered by the study.

\(a_1<0, a_2>0, a_3>0, a_4>0,\)

Error Correction Model (ECM).

\[
\Delta \text{GDP} = a_0 + a_1 \Delta \text{INT} + a_2 \Delta \text{RR} + a_3 \Delta \text{LIQR} + a_4 \Delta \text{MPR} + a_5 \Delta \text{INF} + a_6 \text{ECM}_{t-1} + Ut \tag{3}
\]

The ECM variable's coefficient indicates that past values of variables have an impact on the current values of the variable under investigation.

3.3 Method of Data Analysis

This study used the integration and error correction mechanism (ECM) in explaining the effectiveness of monetary policy in stimulating economic growth in Nigeria. The study started by testing for the unit root using Augmented Dickey-Fuller (ADF). This helps to reveal the stationary of the series. To examine whether there is a long-run relationship among the variables, the ARDL Bounds Test approach was employed and a long run equation was tested which allows for the use of Error Correction Model (ECM) which helps to determine the speed of adjustment from short run to long run

3.4 Sources of Data

The annual time series data were collected from secondary sources from 1990 to 2019. The data were collected mainly from the annual reports of the Statistical Bulletin of the Central Bank of Nigeria (CBN, 2019) and the Statistical Reports of the World Bank Group (2019). The E-views 9 econometric package was utilized.

4. EMPIRICAL RESULTS

4.1 Descriptive Statistics

The selected series were tested descriptively to determine if there were normally distributed. The result of the descriptive statistic was presented in table 1 below.

<table>
<thead>
<tr>
<th>Statistics</th>
<th>RGDP</th>
<th>INT</th>
<th>RR</th>
<th>MPR</th>
<th>INF</th>
<th>LIQR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>40564.36</td>
<td>11.7000</td>
<td>1010.35</td>
<td>11.2833</td>
<td>18.3193</td>
<td>47.4633</td>
</tr>
<tr>
<td>Median</td>
<td>36247.75</td>
<td>10.7450</td>
<td>132.48</td>
<td>12.0000</td>
<td>11.9900</td>
<td>47.6500</td>
</tr>
<tr>
<td>Maximum</td>
<td>72210.50</td>
<td>23.9900</td>
<td>5582.05</td>
<td>16.0000</td>
<td>76.8000</td>
<td>70.4000</td>
</tr>
<tr>
<td>Minimum</td>
<td>19199.06</td>
<td>4.7000</td>
<td>0.0000</td>
<td>6.0000</td>
<td>0.2000</td>
<td>29.1000</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>19620.06</td>
<td>5.1044</td>
<td>1661.84</td>
<td>2.9241</td>
<td>17.6267</td>
<td>10.4385</td>
</tr>
<tr>
<td>Skewness</td>
<td>0.3588</td>
<td>0.9113</td>
<td>1.4970</td>
<td>-0.4414</td>
<td>2.0897</td>
<td>0.2503</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>1.5336</td>
<td>3.1461</td>
<td>3.7979</td>
<td>2.0984</td>
<td>6.4442</td>
<td>2.6687</td>
</tr>
<tr>
<td>Jarque-Bera</td>
<td>3.3313</td>
<td>4.1798</td>
<td>12.0014</td>
<td>1.9904</td>
<td>36.6632</td>
<td>0.4504</td>
</tr>
<tr>
<td>Probability</td>
<td>0.1890</td>
<td>0.1236</td>
<td>0.0024</td>
<td>0.3696</td>
<td>0.0000</td>
<td>0.7983</td>
</tr>
<tr>
<td>Observations</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
</tr>
</tbody>
</table>

Source: Author’s computation using E-views

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In table 1 above, the average (i.e. mean and median) of each series showed a good degree of consistency. This was evidenced by the fact their values lied between the Maximum and Minimum values that are neither of them was too low or too high. Concerning the level spreads of the series around its average, almost all the selected series were relatively evenly spread. This was evidenced by the low values of standard deviation that each of the series had. As such, the series had no extreme large values. All the variables were positively skewed except the monetary policy rate was negatively skewed. We can infer from the coefficient of the skewness that all the series were symmetrical around the mean and thus close to normal distribution. In terms of Kurtosis, all other series are normally distributed except interest rate, reserve requirement and inflation had a kurtosis that is above 3. Jarque Bera and their corresponding probability indicated that all variables except RR and INF were normally distributed at 5% level of significance.

4.2 Unit Root Test

The Augmented Dickey-Fuller unit root test was carried out to determine the stationary status of the selected series. The result was presented in Table 2 below

<table>
<thead>
<tr>
<th>Variables</th>
<th>ADF test statistics</th>
<th>ADF Critical value</th>
<th>Order of integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>RGDP</td>
<td>-2.988696</td>
<td>-2.971853</td>
<td>1(1)</td>
</tr>
<tr>
<td>INT</td>
<td>-5.741590</td>
<td>-2.971853</td>
<td>1(1)</td>
</tr>
<tr>
<td>RR</td>
<td>-3.037553</td>
<td>-2.971853</td>
<td>1(1)</td>
</tr>
<tr>
<td>MPR</td>
<td>-3.270524</td>
<td>-2.967767</td>
<td>1(0)</td>
</tr>
<tr>
<td>LIQR</td>
<td>-5.592991</td>
<td>-2.971853</td>
<td>1(1)</td>
</tr>
<tr>
<td>INF</td>
<td>-3.987292</td>
<td>-2.971853</td>
<td>1(1)</td>
</tr>
</tbody>
</table>

Source: Author’s computation using E-views

Significance at 0.05 level

The result of the previous unit root showed that the selected rows are all stagnant in the first difference. This is due to the fact that for the levels of the variables, the absolute values of the ADF statistical test are less than the absolute value of the critical ADF values at the 5% level. The result shows that all the variables are integrated at first difference 1(1) except the monetary policy rate that was stationary at level. This implies that the hypothesis of non-stationarity is accepted for MPR and rejected for all other variables at their level. This justifies the need to test for ARDL Bounds Test.

4.3 ARDL Bounds Test

Based on the fact that the selected variables in this study were not integrated in the same order, a Bounds Test analysis can be carried out on the series. ARDL Bounds Test would determine if there is a long-run relationship among the variables.

<table>
<thead>
<tr>
<th>Table 3: ARDL Bounds Test</th>
</tr>
</thead>
</table>

ARDL Bounds Test
Null Hypothesis: No long-run relationships exist

<table>
<thead>
<tr>
<th>Test Statistic</th>
<th>Value</th>
<th>k</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-statistic</td>
<td>17.87804</td>
<td>5</td>
</tr>
</tbody>
</table>

Critical Value Bounds
Significance | I0 Bound | I1 Bound
--- | --- | ---
10% | 2.26 | 3.35
5% | 2.62 | 3.79
2.5% | 2.96 | 4.18
1% | 3.41 | 4.68

Source: Author’s computation using E-views

The results of the ARDL Bounds Test for the model are presented in table 3 above. The result shows that there exist long-run relationships among the variables. Since the lower and upper bound at 10%, 5%, 2.5% and 1% significance are less than the calculated value, the conclusion can therefore be drawn that there is a unique long-run relationship among the variables.

### 4.4 Parsimonious Error Correction Mechanism

The result of the error correction representation is reported below.

**Table 4: Parsimonious Error Correction Estimate**

Dependent Variable: D(“GDP)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>2766.033</td>
<td>1034.163</td>
<td>2.674658</td>
<td>0.0138</td>
</tr>
<tr>
<td>D(INT)</td>
<td>98.10903</td>
<td>70.44435</td>
<td>1.392717</td>
<td>0.1776</td>
</tr>
<tr>
<td>D(RR)</td>
<td>0.775419</td>
<td>0.629789</td>
<td>1.231237</td>
<td>0.2312</td>
</tr>
<tr>
<td>MPR</td>
<td>-77.11075</td>
<td>88.85260</td>
<td>-0.867850</td>
<td>0.3948</td>
</tr>
<tr>
<td>ECM(-1)</td>
<td>-0.880983</td>
<td>0.244080</td>
<td>3.609403</td>
<td>0.0016</td>
</tr>
</tbody>
</table>

R-squared | 0.414261 | Mean dependent var | 1947.789
Adjusted R-squared | 0.307763 | S.D. dependent var | 1471.417
S.E. of regression | 1224.230 | Akaike info criterion | 17.22359
Sum squared resid | 32972273 | Schwarz criterion | 17.46356
Log-likelihood | -227.5184 | Hannan-Quinn criter. | 17.29494
F-statistic | 3.889853 | Durbin-Watson stat | 1.539912
Prob(F-statistic) | 0.015473 |

Source: Author’s computation using E-views

**Discussion of Findings**

The dynamic error correction model (ECM) is judged adequate for the analysis based on the results of the cointegration test, which demonstrated the existence of cointegration among variables in economic growth models. The result above shows the results of this study on the impact of monetary policy on economic growth. According to the results of the dynamic model, the overall coefficient of determination (R2) shows that the variables in the equation explain 41.42 percent of the RGDP growth rate. As the adjusted (R2) tends to purge the influence of the number of included explanatory factors, the adjusted R2 of 0.307763 demonstrates that the dependent variable is still explained by the equation with 30.77 percent after the explanatory variables have been removed. The Durbin Watson statistics of 1.53 was not significantly different from the traditional benchmark of 2.0 in the model, the study can conclude that the model specification does not contain any sign auto-correlation or serial correlation, and thus the assumption of linearity is not violated.
The nature of the relationship between monetary policy and other macroeconomic factors is determined by examining the coefficient of individual variables. The interest rate and reserve requirement coefficients were found to be positive and substantial, while the monetary policy rate coefficient was found to be negative and insignificant. According to the findings, a unit adjustment in the interest rate and reserve requirement causes a 5% rise in output level, indicating a favorable impact on economic growth. Economic growth is reduced by a unit shift in the monetary policy rate, which is minimal at 5%. The substantial link between the interest rate and the reserve requirement reflects the variables' importance in sending monetary policy impulses to the economy as a whole. In Nigeria, however, the lack of a strong relationship between monetary policy rates suggests that monetary policy has been ineffective in influencing key macroeconomic variables. This could be due to the primacy of fiscal policies, particularly government spending, in stimulating macroeconomic indicators.

More specifically, lack of significance between these variables could be explained by the financial institutions' underdeveloped character in transferring the monetary policy to the ultimate variables in the economy, which are typically economic growth and price stability. Findings show that RGDP growth in Nigeria is controlled by an automated mechanism and that it responds to deviations from equilibrium in a balancing manner. A value of (-0.880983) for the ECM coefficients indicates an 88 percent rapid speed of adjustment strategy. According to the result previously confirmed by Ufoeze, Odimgbe and Alajekwu (2016), the results of the empirical analysis also support the growing evidence that monetary policy has a significant effect on interest rates, assuming that the Central Bank cannot observe unexpected changes in level of production during the same period.

5 RECOMMENDATIONS AND CONCLUSION

5.1 Recommendations

Based on the findings made in the course of this study, the following recommendations are hereby suggested below:

1. As showed in the results above, economic growth in Nigeria has been greatly influenced in the long run by reserve requirement and monetary policy rate-making monetary policy an effective tool in stimulating economic growth. Nigerian government through its monetary authorities should unveil other policies that will stimulate economic growth not only in the long run but also, in the short-run period.

2. Monetary policies should be used to promote a favorable investment climate by facilitating the implementation of emergency interest rates and market-based exchange rate regimes that attract both domestic and foreign investment, create jobs, promote non-exports. Oil companies and reviving functional industries in a fraction of its installed capacity.

3. Changes in the short-term market interest rate must eventually be translated into changes in other interest rates in the economy (ie, changes in interest rates must be translated into retail interest rates on loans and deposits) which in turn affect the overall level of economic activity and prices so that monetary policy has the desired impact on the real economy and inflation, which is the fundamental goal of monetary policy.

4. The government should focus its efforts on advancing the growth of both the money and capital markets. This is because the monetary system's efficiency requires well-developed money and capital market with a diverse variety of both short and long-term financing options.

5.2 Conclusion

In this study, it was discovered that monetary policies in Nigeria were influenced by important policy instruments such as money supply, interest rates, currency rate and stock capitalization policies. Monetary policy has been found to be linked to economic growth in the long run and can be used to successfully manage the Nigerian economy, making it a valuable tool for price stability and increased output. According to the report, monetary policy execution in a developing country like Nigeria has extra problems not faced by industrialized countries, such as fiscal dominance and currency substitution. As a result of the shortcomings of the policy instruments used in Nigeria, the inability of monetary policies to effectively maximize their policy objectives most of the time, this study concludes that monetary policies contributed to growth greatly, for the fact that monetary policies have made an impressive contribution over the years. In Nigeria, however, it has been demonstrated by the study that money supply and stock capitalization create economic growth and that economic growth causes interest rate changes.

REFERENCES


