



## MONETARY POLICY AND ECONOMIC GROWTH IN NIGERIA (1980-2011)

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### Abstract

*The Study empirically examined the impact of monetary policy on selected macroeconomics variables such as gross domestic product, inflation, and balance of payment in Nigeria from (1980-2011). Data were extracted from the Central Bank Statistical Bulletin. Monetary policies played an indispensable role in Nigeria's economy by regulating and stabilizing the volume of money in circulation in order to create an enabling environment for investment, which will foster economic development. Today, the impact of monetary policy has wider implication and this arises partly because of proactive measures put in place by CBN to ensure macroeconomic stability in the country. The study is designed in such a way that it is an econometric investigation of the impact of monetary policy on economic growth in Nigeria using such econometric tools like the ordinary least square (OLS) regression analysis. The error correction method is used to ascertain if there is a static long run equilibrium relationship among the explanatory variables and subsequently derive an adequate dynamic model of the short run relationship. The study shows that the provision of investment friendly environment in the Nigerian economy will increase the growth rate of GDP.*

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**Keywords:** Monetary policy, Economic growth, Nigeria

### 1. INTRODUCTION

The Central Bank of Nigeria (CBN) since its establishment in 1959 has continued to improve the social welfare of Nigerians through the regulation of the stock of money. This role is achieved through the use of monetary policy that targeted towards the achievement of macroeconomic stability such as the achievement of full-employment equilibrium, rapid economic growth, price stability, and external balance.

In the past, inflation targeting and exchange rate policy dominated CBN's monetary policy focus because it was assumed to be the most essential instrument for achieving macroeconomic stability. The dominance of the oil sector, the expanding role of the public sector in the economy

and over-dependence on the external sector were the main determinants of monetary policy before the era of structural adjustment programmes in 1986.

In order to maintain price stability and a healthy balance of payments position, monetary management depended on the use of direct monetary policy instruments such as credit ceilings, selective credit controls, administered interest and exchange rates, cash reserve requirements and special deposits. The underdeveloped nature of our financial market and the use of regulatory control on interest rates make it difficult to achieve macroeconomic stability in the country.

Credit rationing guidelines, which set the rates of change for the components and aggregate commercial bank loans and advances to the private sector were the main policy thrust of monetary policy before the era of deregulation. The emphasis on private sector allocation of bank credit in CBN guidelines through relatively low interest rates was to control inflation and stimulate investment in the productive sectors.

Central Bank periodically impose special deposits to reduce the amount of free reserves and credit-creating capacity of the banks with a specified minimum cash ratios for the banks in the mid-1970s in respect of their total deposit liabilities. The cash ratios were usually lower than those voluntarily maintained by the banks, This act as a restraint on their credit operation

Monetary policy is the action taken by the apex monetary authority (CBN) to effect monetary and other financial conditions through influence over the availability and cost of credit in pursuit of the broad objectives of sustainable growth of output, price stability and a healthy balance of payments position. The discretionary control of the money stock involves the expansion or contraction of money and influencing interest rate to make money cheaper or more expensive depending on the prevailing economic conditions and thrust of policy. Monetary policy as instruments of monetary control is classified into two broad categories – direct and indirect instruments. Under a system of direct monetary control, the Central Bank uses some criteria to determine money, credit and interest rate targets that would achieve the goals of economic policy. In a regime of indirect monetary control, the monetary base (specifically bank reserves) is managed while the market is left to determine interest rates and credit allocations.

Monetary policy is the amalgam of measures designed to regulate the value, supply and cost of money in an economy, to stimulate productive economic activity in the country. The objectives of monetary policy in most economies include price stability, maintenance of external balance, reduction of unemployment, growth in output, and sustainable development (Folawewo and Osinubi, 2006). These are long run economic growth measures that are necessary for the attainment of internal and external balance.

Price and exchange rate volatility, undermine the ability of policy makers to achieve other laudable macroeconomic objectives which makes it difficult for monetary authorities to achieve the role of money as a store of value, and thus discourage investments and growth. This long run inverse relationship between inflation and economic growth is replete in the literature.

The achievement of price stability will create a high degree of confidence among investors and the increasing desire on investors the government ability to manage and control her economy

effectively. The transmission mechanism of monetary policy is less effective in an unstable and crisis ridden financial thereby making it difficult for the achievement and maintenance of strong macroeconomic fundamentals. This is because forecasting of market signals can be achieved with a fair degree of accuracy in an era characterized by price stability.

During periods of high inflation, investors concentrate on short and medium term investment at the expense of long term investment which is a prerequisite for economic growth and development.

Price stability is one of the major macroeconomic objectives in Nigeria. Despite the various monetary policy regimes which have been adopted by the central bank of Nigeria over the years, inflation still remain as a major threat to Nigeria economic growth. High inflation volatility in Nigeria Since the early 1980's is a major challenge to policy makers, hence studies on inflation volatility and measure to reduce has become inevitable among scholars.

There is a positive relationship between growth rate of Money supply and high inflation rate. However, preceding the growth in money supply, some factors reflecting the structural characteristics of the economy were observable. Some of these factors are supply shocks in the form of changes in terms of trade, devaluation of currency, famine etc.

Other factors considered to be structural in nature such as reduction in oil revenue which have negative impact on real income with serious distributional implications play important role in the inflation spiral. An increase in nominal wage rate for workers calls for an increase in the general price level of goods and services.

The growth rate of GDP in Nigeria for the past three decades has been poor. This could be as a result of failure of the monetary policy in maintaining price stability. When compared with other developing countries, its GDP was not significantly higher in the year 2000 as it was 35 years before. The GDP growth rate recorded negative growth rate of -0.3 percent in 1983, -5.4 percent in 1984 and -5.1 percent in 1985 which was inadequate to sustain a population growth rate of 2.8 percent, also in 1991 a negative growth rate of -0.8% was recorded. The 1990s witnessed an unstable growth rate of GDP. However, the growth rate has been relatively high since 2001.

Significant scholarly effort have been concentrated on the impact of monetary policy on economic growth in Nigeria, but the result has been inconsistent and controversial, some recorded positive growth on GDP while other recorded negative impact. The inflation volatility in growth process is a major concern. This has created the avenue for further studies to contribute to knowledge building. The rest of the paper is organized as follows: Section two is literature Review, theoretical framework is taken up in section three. Methodology is treated in section four Data sources is taken up in section five. Model estimation is contained in section six. Analysis of data and interpretation of results is contained in section seven. Recommendations for policy formulation and implementation are in section eight, while section nine concludes the study.

## **2. REVIEW LITERATURE**

The deliberate manipulation of monetary, fiscal, exchange rate policies to achieve price stability, external balance, full employment equilibrium etc are fundamental in achieving positive

growth rate of GDP. This calls for the design of comprehensive policies, such as reforms in the financial sector, and other sectors to stimulate the growth of productive investment in the private sector necessary for the implementation of a market oriented monetary policy.

Different schools of thought have identified various transmission channels and mechanisms through which monetary policy has affected economic activities. This includes the views of Keynesian and monetarist.

The monetarist transmission mechanism states that changes in the money supply results to a change in the real magnitude of money. [Friedman and Schwartz \(1963\)](#) described this transmission, as an increase in open market operations by the Central Bank (increases stock of money), which also leads to an increase in Commercial Bank reserves and ability to create credit and hence increase money supply through the multiplier effect. In order to reduce the quantity of money in their portfolios, the bank and non-bank financial institutions would in the initial stance purchase securities with characteristics equivalent to the ones sold to the Central Bank .The increase in demand bid up price of such securities. Thus through this mechanism, the initial increase in money supply, involving the open market operations stimulates activities in the sector.

[Borio \(1995\)](#) investigated the credit channel of monetary policy by examining the structure of credit to the non-government sector in fourteen industrialised countries and factors influencing it. He found out that the structure of credit was largely determined by interest rate and factors affecting the availability of credit such as collateral value and rationing, defined as refusal to grant as much credit as is demanded on the observed interest and non-interest terms.

[Gertler and Gilchrist \(1993\)](#) established the existence of the lending channel by studying the response of small manufacturing firms to changes in monetary policy. Their results shows that, in periods of monetary policy aimed at deflating the economy, lending to small firms declines, and small firms react to changes in bank-related aggregate (e.g. broad money) than large firms.

Monetary policy instruments take the form of direct or indirect. Examples of direct instruments include aggregate credit ceilings, deposit ceiling, exchange control, restriction on the placement of public deposit, special deposits and stabilisation securities while indirect instruments are Open Market Operation (OMO), discount rate, cash reserve requirement, liquidity ratio, and selective credit policies. Monetary policy has vital roles in the short-run i.e. it is used for counter-cyclical output stabilisation, while in the long run it is used to achieve the macro-economic goals of full employment, price stability, rapid economic growth and balance of payments equilibrium.

Under SAP, monetary and financial policies were programmed to play a dual role. For economic growth and stabilisation purposes, there was to be tight monetary policy to complement a more disciplined fiscal policy in order to reduce domestic demand and reduce inflationary pressures.

[Kogar \(1995\)](#) asserts that monetary policy is an effective instrument in relation to influencing demand. He opined that low inflation rate is a *sin-qua- non* to sustainable development. Kogar examined the relationship between financial innovations and monetary control and concluded that in a changing financial structure Central Banks cannot realize efficient monetary policy without setting new procedures and instruments in the long-run, because profit seeking financial institutions change

or create new instruments in order to evade regulations or respond to the economic conditions in the economy.

Nnanna (2001) examined that the evolution of monetary policy in Nigeria in the past four decades and observed that though, the Monetary management in Nigeria has been relatively more successful during the period of financial sector reform, the socio-economic and political milieu, including the legal framework under which the Central Bank of Nigeria has operated, was the critical factor that influenced the outcome of monetary policy. He further noted that the granting of instrument autonomy to the CBN has enhanced its operational efficiency, in terms of its ability to achieve its key objective of monetary policy, namely price stability.

Busari *et al.* (1992) opined that monetary policy stabilizes the economy better under a flexible exchange rate regime than a fixed exchange rate regime. He observed that monetary policy stimulates growth better under a flexible rate regime but is accompanied by severe depreciation, which could destabilize the economy. In other words, monetary policy would better stabilize the economy if it is used to target inflation directly than be used to directly stimulate growth. He therefore advised that other policy measures and instruments are required to complement monetary policy in macroeconomic stabilization.

According to (Batini, 2004) fiscal largesse, lack of operational autonomy of Central Bank, lack of statistical data, and weak transmission mechanism are responsible for the poor implementation of monetary policy in Nigeria. His analysis revealed that neither the floating nor the fixed exchange rate solutions are particularly appealing for Nigeria in the long run. He argued that inflation targeting with a free float still seems to be a superior option on various grounds.

Folawewo and Osinubi (2006) investigated how monetary policy objective of controlling inflation rate and intervention in the financing of fiscal deficits affect the variability of inflation and real exchange rate. Rational expectation framework that incorporates fiscal role of exchange rate form the bases of his analysis. It was shown that the effort of monetary policy at influencing the finance of government fiscal deficit through the determination of the inflation-tax rate affects both the rate of inflation and the real exchange rate, thereby causing volatility in their rates. The study revealed that inflation affects volatility of its own rate as well as the rate of real exchange. The policy implication of the study is that monetary policy should be set in such a way that the objective it is to achieve is well defined.

Sanusi (2002) opined that the ability of the CBN to pursue an effective monetary policy in a globalized and rapidly integrated financial market environment depends on several factors. These include: instituting appropriate legal framework, institutional structure and conducive political environment, which allows the Bank to operate with reference to exercising its instrument and operational autonomy in decision- making; the degree of coordination between monetary and fiscal policies to ensure consistency and complimentarily; the overall macroeconomic environment, including the stage of development, depth and stability of the financial markets as well as the efficiency of the payments and settlement systems; the level and adequacy of information and communication facilities; and the availability of consistent, adequate, reliable, high quality and

timely information to the Bank. He opined that the Central Bank of Nigeria is faced with the challenge of formulating monetary policy aimed at promoting a strong and sustainable growth in a stable macroeconomic environment in Nigeria.

### 3. THEORETICAL FRAMEWORK

Monetary policy presupposes a form of relationship between the supply and demand for money on one hand, and other aggregate economic variables like general price level, output, income, savings and investment on the other hand Anyanwu (1996). This relationship influences the effectiveness of the mix of policy instrument. The monetarist view has Milton Friedman as the most profound advocates, another is the Keynesian school and lastly the one represented by Raddiffe.

Friedman is of the view that changes in the stock of money are closely related to changes in the price level and through it, on other general economic aggregates. The amount of money the public desires to hold relative to its income distorts the rigidity of the relationship. Lags that exist between the formulation and implementation of monetary policy is a constraint on its effectiveness.

The determination of real output, general price level and other Macro-economic variables is the Keynesian postulation in the monetary transmission mechanism.. According to Keynesians, national income depends on the interplay between expected rate of profit and interest rate. The rate of interest is determined by supply of and the demand for money. Equilibrium income depends on two conditions in this model, that is:

- (1) Planned saving must be equal to planned investment, and,
- (2) At any point in time, supply of money must equal demand for money. Rate of interest influences Savings, investment, demand for and supply of money (See Anyanwu (1996) for this and related issues).

Within this content, monetary policy will consist of altering the rate of interest to achieve the desired trend in the economy. The effectiveness of monetary policy will then depend on the interest elasticity of demand for money.

Here, monetary policy is likely to be effective, the less interest elastic the demand for idle balances, the less interest elastic the investment and consumption schedule that depend on active or transaction balances. Therefore, the effectiveness will be in combating depression rather than inflation. Anyanwu (1996).

The Raddiffe view is a departure from the Keynesian school of thought. He distinguished between the demand for money and the demand for liquidity. These two types of demand are not the same thing because there is interest yielding money substitutes, which people can easily turn to cash whenever they want. As a result of this situation, whatever is done to change the demand for money may be less effective than expected, because it is the demand that will respond to interest change in the rate of interest. Part of the accumulation of liquidity is likely to take the form of interest bearing near-money instead of non-interest yielding cash.

This variance of monetary policy opined that regulating money supply is not likely to be successful in stemming inflation, since the significant variable is not money per se, but the supply

relative to the demand for it. And the flexibility of demand for money makes the control of money supply alone, an unreliable tool of monetary policy. Therefore, for monetary policy to be effective it has to address the control of the volume, cost and direction of liquidity rather than money supply in the economy.

Keynesian view of monetary transmission is anchored on the ability of changes in money supply to influence the cost of capital through changes in short term interest rates. Changes in the money supply through the financial market affect the level of economic activities through the monetary transmission mechanism.

Modigliani (1963) analysed credit availability theory by stating that "interest rates charged to borrower by financial intermediaries are largely controlled by institutional forces and should adjust slowly at best; and that the demand for funds is accordingly limited not by lender's willingness to lend or more precisely, by the funds available to them to be rationed out among would-be borrowers". Monetary expansion includes relaxation in credit rationing by the banking sector resulting to an increase in investment, income and aggregate consumption, Increase in income increase savings which will further increase the bank's ability to give loans and advances to the business sector. The effectiveness of the transmission mechanism lies on the stock of money which in turn increases effective demand.

The Central Bank has at its disposal a number of control mechanisms usually referred to as "tools of monetary policy". Some of these tools are quantitative while others are selective Sanusi (2002).

#### 4. METHODOLOGY

The study is designed in such a way that it is an econometric investigation of the impact of monetary policy on economic growth in Nigeria using such econometric tools like the ordinary least square (OLS) regression analysis. The error correction method is used to ascertain if there is a static long run equilibrium relationship among the explanatory variables and subsequently derive an adequate dynamic model of the short run relationship. Philip-Perron's unit root test was used to test for the stationary or non stationary status of the data series, co integration test, over parameterized test, and parsimonious test was used to show the short run dynamics adjustments required for establishing long run equilibrium relationship among the variables in the model. The T'and F test was used for individual and overall significant of variables included in the model

#### 5. DATA SOURCES

The sources of data are publication of Central Bank of Nigeria (CBN) such as CBN statistical bulletin, CBN statement of account and annual reports, as well as National bureau of statistics publication covering the period of study. The relevant variables sourced include: inflation rate, gross domestic product (GDP), liquidity ratio, balanced of payment equilibrium (BOP) money supply, cash ratio for the period of 1980 to 2011.

## 6. MODEL ESTIMATION

The model estimating the impact of monetary policy (liquidity ratio, money supply and cash ratio) on gdp is stated using credit availability theory model.

The functional form of the model is stated as follows

$$gdp = f(Lr, M_2, Cr) \dots\dots\dots 1$$

The multivariate form of the model is given as

$$gdp = a_0 + a_1lr + a_2M_2 + a_3Cr + U_i \dots\dots\dots 2$$

It is expected that  $a_1 > 0$ ,  $a_2 > 0$ , and  $a_3 < 0$

Where gdp = Real Gross Domestic Product

Lr = Liquidity ratio

M<sub>2</sub> = Money Supply

Cr = Cash ratio

U<sub>1</sub> = Error term

a<sub>0</sub>, a<sub>1</sub>, a<sub>2</sub> and a<sub>3</sub> = Parameters

## 7. DATA PRESENTATION, ANALYSIS AND DISCUSSION OF FINDINGS

**Table-1.** Results of Philip Perron’s Unit Root Tests

Variable	Level	1st Diff.	2 <sup>nd</sup> Diff.	Lag	Decision
GDP	2.395945	-1.748703	-6.127522	2	1(2)
LR	-1.921556	-4.374755	-8.129078	2	1(1)
CR	-1.148548	-4.835870	-13.46994	2	1(1)
M2	7.028820	-1.305930	-4.676615	2	1(0)
ECM(-1)	-3.597501	-5.535161	-9.133081	2	1(0)
CRITICAL VALUE					
1%	-3.8304				
5%	-3.0294				
10%	-2.6552				

**Source:** Authors computation.

To test for the stationary or non-stationary status of the variable (GDP, LR, CR,M2) in the model, we use Philip-Perron’s unit root test with linear deterministic trend and with optimal lag length of two was chosen using AIC and Schwarz criteria. The result revealed that GDP attained stationary status after second difference, M2 at level, while LR and CR attained stationary status at first difference. The critical values which form the bases of our decision making are 1%, 5% and 10% levels respectively.

The ECM (-1) was highly significant and was integrated of the order one. The null hypothesis of non stationary of the variables is therefore rejected at the respective critical levels because; the variables LR, and CR attained stationary at first difference, M2 at level while GDP attained stationary after second difference.

After ascertaining the stationary status of the variables to avoid spurious and nonsensical regression results, we proceed to establish whether long-run equilibrium relationship exist among



the variables in our model using Johansen likelihood ratio and Eigen value tests. If the variables are cointegrated, they are referred to as policy variables. The statistical equivalence of long run equilibrium relationship among variables in a model is cointegration. According to Engel Granger, if two or more variables are cointegrated, the relationship between or among them could be represented as an error correction method (ECM).

The Johansen cointegration test resulted is presented in table 2 below

**Table-2.** Result of Johansen Cointegration Tests

Sample: 1980- 2011

Included observations: 32

Test assumption: Linear deterministic trend in the data

Series: GDP CR LR M2

Lags interval: 1 to 1

	<b>Likelihood</b>	<b>5 Percent</b>	<b>1 Percent</b>	<b>Hypothesized</b>
Eigenvalue	Ratio	Critical Value	Critical Value	No. of CE(s)
0.846296	80.00209	47.21	54.46	None **
0.738079	44.42027	29.68	35.65	At most 1 **
0.607590	18.96572	15.41	20.04	At most 2 *
0.060819	1.192192	3.76	6.65	At most 3

\*(\*\*) denotes rejection of the hypothesis at 5%(1%) significance level

L.R. test indicates 3 cointegrating equation(s) at 5% significance level

**Source:** Authors computation.

The result in table 2 (cointegration result) implemented with linear deterministic trend indicates the presence of three cointegrating equations at 5% and 1% level of significance. This means that long run equilibrium relationship exist among the variables in the model. We therefore reject the null hypothesis of no long run equilibrium relationship (cointegration) among the variables (GDP, LR, CR, and M2) in the model. The identified cointegration equations is used as an error correctiontermin the Ecm. The series form the error correction model

The next step is to perform the over parameterized and parsimonious error correction method to account for short- run dynamic adjustments required for stable long run relationship among the variables in the model.

The over parameterized model is presented in table 3. The over parameterized model account for model misspecification problems as a step towards arriving at a preferred or parsimonious model. This is presented below

In the over parameterized model as shown in table 3, the error correction term ECM (-1) is correctly specified. It is negative and statistically significant. This result conforms to our earlier assertion that the variables in the model are cointegrated. The coefficient of the ECM is the speed of adjustment . it means that about 53 percent departure from long run equilibrium is corrected in the short run. It also implies that 53 percent of the previous years shock or disturbance adjust back to equilibrium in the current year. The speed of adjustment is high.

**Table-3.** Results of Over-Parameterized Test

Dependent Variable: LOG(GDP)

Method: Least Squares

Sample(adjusted): 1980- 2011

Included observations: 32 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GDP(-1)	2.54E-06	4.04E-07	6.295673	0.0001
C	11.43007	0.428761	26.65836	0.0000
LOG(M2)	0.032354	0.049506	0.653544	0.5281
M2(-1)	-1.75E-08	1.69E-08	-1.033449	0.3257
LR	-0.003133	0.002057	-1.523309	0.1587
LR(-1)	0.001134	0.002150	0.527682	0.6092
CR	0.006696	0.007371	0.908392	0.3850
CR(-1)	0.011620	0.007662	1.516503	0.1603
ECM(-1)	-0.534621	0.214863	-2.488195	0.0057
R-squared	0.990527	Mean dependent var		12.87497
Adjusted R-squared	0.982949	S.D. dependent var		0.355335
S.E. of regression	0.046399	Akaike info criterion		-2.997564
Sum squared resid	0.021529	Schwarz criterion		-2.550199
Log likelihood	37.47686	F-statistic		130.7096
Durbin-Watson stat	1.725143	Prob(F-statistic)		0.000000

**Source:** Authors computation.

The adjusted  $R^2$  in the over parameterized model is 0.982949. This means that about 98 percent of the variation of the dependent variable GDP is explained jointly by all the independent variables in the model. The explanatory power of the model is very high and is a good fit, leaving about 2 percent for the stochastic or unexplained variable. The F statistics of 130.7096 with probability of 0.000000 is highly significant. This means that the independent variables in the model (LR,CR, M2) are jointly significant i.e the variables fit well in the model.

The AIC and Schwarz information criteria are within the acceptable limit and therefore shows correct specification of the model. The model passes the diagnostic and normality test. The Durbin Watson statistics 'D' of 1.725143 means the absence of serial or auto correlation.

GDP in the previous year is positive and statistically significant. This means that GDP in the one lag period impacts positively and significantly on current period GDP. This satisfies apriori expectations. M2 in the current period and one lag period is positive but statistically insignificant. In the one lag period, the coefficient of m2 is -1.75E-08 and is significant. This result shows that M2 in the one lag period impact negatively on economic development . M2 in the current period statifies apriori expectation but negate apriori expectation in the one lag period . CR in the current period is positive and statistically insignificant. This means that a unit change in M2 and CR in the current period brings about 0.032354 and 0.006696 change in GDP respectively. Also, LR is negative at current period but statistically insignificant. In the 1 lag period, the coefficient of LR, was 0.001134 that is positive and statistically insignificant. LR contradicts apriori expectation in the current period reason is that central bank in an attempt to control the volume of money in circulation as a measures of controlling inflation introduced contractionary monetary policies which reduces M2 and hence negatively impact on GDP.

The next step is to perform the parsimonious ECM test which is a stepwise reduction of jointly insignificant variables in the over parameterized model until parsimony is obtained. It is worthy to note that even some variables that are jointly insignificant in the over parameterized model can be retained in the preferred model because of their implication in the economy. This is presented in table 4

**Table-4.** Results of Parsimonious Error Correction Test

Dependent Variable: LOG(GDP)  
 Method: Least Squares  
 Sample(adjusted): 1980- 2011  
 Included observations: 32 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GDP(-1)	2.47E-06	1.26E-07	19.60360	0.0000
C	11.90556	0.052320	227.5508	0.0000
ECM(-1)	-0.482265	0.231341	-2.084649	0.0512
R-squared	0.961197	Mean dependent var		12.87497
Adjusted R-squared	0.956347	S.D. dependent var		0.355335
S.E. of regression	0.074241	Akaike info criterion		-2.219051
Sum squared resid	0.088189	Schwarz criterion		-2.069929
Log likelihood	24.08098	F-statistic		198.1701
Durbin-Watson stat	1.856341	Prob(F-statistic)		0.000000

**Source:** Authors computation.

In the parsimonious model as shown in table 4, the ECM is correctly specified. It is negative and statistical significant. The adjusted  $R^2$  0.956347 means that the explanatory power of the model is very high. About 96 percent change in GDP is explained jointly by all the explanatory variables in the model leaving about 4 percent for the unexplained variable or stochastic term. The F statistics of 198.1701 in the result is highly significant. This implies that the independent variables fit well into the model. It is a good fit. The model passes the goodness of fit test.

The AIC and Schwarz information criteria for model specification shows that the model  $GDP=F(LR, CR M2)$  is correctly specified.

The Durbin Watson statistics of 1.856341 shows the absence of auto or serial correlation. GDP (-1) satisfy apriori expectation. It is positive and statistically significant. This implies that a unit change in GDP in the 1 lag period brings about 2.47E-06 changes in GDP in the current period.

The null hypothesis of no significant positive relationship between instruments of monetary policy and economic growth in Nigeria is therefore rejected at 1%, 5% and 10% level of significance.

## 8. POLICY RECOMMENDATIONS

Based on the findings made in the course of this research, it is clear that the development of the Nigerian economy is highly dependent on the provision of the right environment for investment, which will in no doubt encourage economic development. The following are recommended for policy formulation and implementation. The government and Central Bank of Nigeria should:-

1. Make the monetary policies the most preferred efficient provider of favourable environment in terms of the implementation of the appropriate interest rate, exchange rate e.t.c in order to attract both domestic and foreign investment which will create employment opportunities for the Nigerian populace and in turn lead to the expansion of the industries in the country.
2. However, in order to maintain and exploit the current investment climate, the Central Bank should introduce more monetary instruments that are flexible enough to meet the ever-growing financial sector. This will allow for the existence of different measures that will deal with different situations.
3. The government should also endeavour to make the financial sector more viable as it is in developed countries through deregulation of the sector for efficiency. Laws relating to the operation of the financial institutions should be made flexible and favourable.
4. The Central Bank should make more stringent punishment for non-compliance to the monetary policies by financial institutions. This will help to curtail the nefarious activities of some financial institution who undermine the welfare of the nigerian populace
5. The government should also create awareness on the desire of Nigerians to invest in short-term instruments.
6. The Central Bank should use its autonomy to find lasting solution to the problem of money laundering as this has also hampered the success of the monetary policies. The government may go to the extent of applying capital punishment to this criminal act to put an end halt to it.

## 9. CONCLUSION

The role of the Central bank in regulating the liquidity state of the economy which affects some macroeconomic indicators such as the productivity level cannot be over-emphasised. The Central Bank of Nigeria has gone a long way in providing the right environment for economic development by setting the monetary policies in motion in order to enhance the standard of living of the people and promote investment in the country by building confidence in the financial sector of the economy.

More ever, having studied the operations of the Central Bank of Nigeria's monetary policies, its importance and contribution to the growth of the Gross Domestic Product (GDP), the Central Bank should continue to adopt the appropriate measures such as flexible interest rate aimed at consolidating the effectiveness of the monetary policies in the country.

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