

Central Bank of Nigeria Monetary Policies and Economic Growth in Nigeria (1980-2018)

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ABSTRACT: This study examined the Central Bank of Nigeria Monetary Policies and Economic Growth in Nigeria 1980-2018. Secondary data was used for the study and it was obtained from the financial statement of the Central Bank of Nigeria for the period 1980-2018. The unit root property of the data was analyzed using the Augmented Dickey Fuller Test and the variables were all stationary at level, that is integrated at order zero I (0) implying that Ordinary Least Squares can be used to estimate the function. The summary statistics shows that the probability value of the Jarque-Bera test statistics is greater than the critical value, implying that the data for the study is normally distributed. The result of the study indicates that Cash Reserve Ratio (CRR) is positively related to the Gross Domestic Product (GDP) and the relationship is statistically significant ($p < 0.05$). There is a positive relationship between interest (INT) and Gross Domestic Product (GDP) but the relationship is not statistically significant ($p > 0.05$). Liquidity ratio was positively related to Gross Domestic Product (GDP) and the relationship is statistically significant ($p < 0.05$). It was concluded that the inability of monetary policies to effectively maximize its policy objective most times is as a result of the shortcomings of the policy instruments used in Nigeria as such limits its contribution to growth even though monetary policies had brought impressive contribution over the years than the fiscal policies. It was recommended among others that for monetary policy to have a desired impact on the real economy, it is essential that changes in the short-term market interest rate should ultimately transform into changes in other interest rates in the economy which then influence the overall level of economic activity and prices.

KEYWORDS: Cash, Liquidity, interest rate, Nigeria.

1.0 INTRODUCTION

Monetary policy as a technique of economic management to bring about sustainable economic growth and development has been the pursuit of nations while formal articulation of how money affects economic aggregates dates back to the times of Adam Smith and latter championed by the monetary economists. Since the expositions of the role of monetary policy in influencing macroeconomic objective like economic growth, price stability, equilibrium in balance of payments, promotion of employment and a host of other objective, monetary authorities are saddled with the responsibility of using monetary policy to grow their economies. In general term, monetary policy refers to a combination of measures designed to regulate the value, supply and cost of money in an economy in consonance with the expected level of economic activities. In Nigeria, monetary policy has been used since the Central Bank of Nigeria (CBN) was saddled the responsibility of formulating and implementing monetary policies by Central Bank Act of 1958. This role has facilitated the emergence of active money market where treasury bills, a financial instrument used for Open Market Operations and raising debt for government has grown in volume and value becoming a

prominent earning asset for investors and source of balancing liquidity in the market (Uchendu, 2009).

Another popular instrument of monetary policy (by the CBN) was the issuance of credit rationing guidelines, which primarily sets the rates of change for the components and aggregate commercial bank loans and advances to the private sector. On the other hand, the sectoral allocation of bank credit in CBN guidelines was to stimulate the productive sectors and thereby stem inflationary pressures while the fixing of interest rates at relatively low levels was done mainly to promote investment and growth (CBN, 2011). As mentioned earlier, the objectives of monetary policy includes price stability, maintenance of balance of payments equilibrium, promotion of employment and output growth and sustainable development. These objectives are necessary for the attainment of internal and external balance and the promotion of long-run economic growth. The importance of price stability derives from harmful effects of price volatility, which undermines the ability of policy makers to achieve other laudable macroeconomic objectives.

There is indeed a general consensus that domestic price fluctuation undermines the role of money as a store of value and frustrates investment and growth. In Nigeria nonetheless, there has been various regimes of monetary

policy. Sometimes it could be tight and at other times it is loose mostly used to stabilize prices. The economy has also witnessed times of expansion and contraction but evidently, the reported growth has not been a sustainable one as there are evidences of macroeconomic instability. The question is, could the period of economic growth be attributed to period of appropriate monetary policy? Again could the periods of economic down turn be blamed on factors other than monetary policy ineffectiveness? What measures are to be considered if monetary policy would be effective in bringing about sustainable economic growth and development? These are questions this study would attempt to answer (Okafor, 2009).

Monetary policy is a deliberate action of the monetary authorities to influence the quantity, cost and availability of money credit in order to achieve desired macroeconomic objectives of internal and external balances (CBN, 2011). The action is carried out through changing money supply and/or interest rates with the aim of managing the quantity of money in the economy. Thus, monetary policy as a technique of economic management to bring about sustainable economic growth and development has been the pursuit of nations and formal articulation of how money affects economic aggregates dates back the time of Adams Smith and later championed by the monetary economists. Since the expositions of the role of monetary policy in influencing macroeconomic objectives like economic growth, price stability, equilibrium in balance of payments and host of other objectives, monetary authorities are saddled the responsibility of using monetary policy to grow their economies. Economic growth could be defined as the increase in the amount of goods and services in a given country at a particular time. This of course indicates that when the real per capita income of a country increases over time, economic growth is taking place. A growing economy produces goods and services in each successive time period, showing that the economy's productive capacity is at increase. Broadly, economic growth implies raising the standard of living of the people and reducing inequalities of income distribution (Jhingan, 2004). In Nigeria, monetary policy has been used since the Central bank of Nigeria was saddled the responsibility of formulating and implementing monetary policy by Central bank Act of 1958. This role has facilitated the emergence of active money market where treasury bills, a financial instrument used for open market operations and raising debt for government, have grown in volume and value becoming a prominent earning asset for investors and source of balancing liquidity in the market. Two major periods have characterized monetary policy in Nigeria: the post-and pre-1986 periods. Before 1986, direct monetary control was used in achieving price stability in Nigeria, while the emphasis shifted to market mechanisms after the 1986 market liberalization (Uchendu, 2009). Prior to 1986, direct monetary instruments such as selective credit controls, administered interest and exchange rates, credit

ceilings, cash reserve requirements and special deposits to combat inflation and maintain price stability were employed. The fixing of interest rates at relatively low levels was done mainly to promote investment and growth. Occasionally, special deposits were imposed to reduce the amount of excess reserves and credit creating capacity of the banks (Uchendu, 2009; Okafor, 2009).

The main objective of the study is to examine the effect of Central Bank of Nigeria Monetary Policies and Economic Growth in Nigeria. The specific objectives of the study are to examine the effect of credit reserve ratio on economic growth, the effect of interest rate on economic growth and the effect of liquidity ratio on economic growth.

2.0 LITERATURE REVIEW

Conceptual Framework

Concept of monetary policy

Monetary policy is the deliberate use of monetary instruments (direct and indirect) at the disposal of monetary authorities such as central bank in order to achieve macroeconomic stability. Monetary policy is essentially the tool for executing the mandate of monetary and price stability. Monetary policy is essentially a programme of action undertaken by the monetary authorities, generally the central bank, to control and regulate the supply of money with the public and the flow of credit with a view to achieving predetermined macroeconomic goals (Dwivedi, 2005). Monetary policy is one of the tools of controlling money supply in an economy of a nation by the monetary authorities in order to achieve a desirable economic growth. Governments try to control the money supply because most governments believe that its rate of growth has an effect on the rate of inflation. Hence, monetary policy comprises those government actions designed to influence the behaviour of the monetary sector. Monetary policies are effective only when economies are characterized by well-developed money and financial markets like developed economies of the world. This is where a deliberate change in monetary variables influences the movement of many other variables in the monetary sector. Monetary policy has thus been known to be a vital instrument that a country can deploy for the maintenance of domestic price and exchange rate stability as a critical condition for the achievement of a sustainable economic growth and external viability (Adegbite & Alabi, 2013). Monetary policy may be inflationary or deflationary depending upon the economic condition of the country. Contractionary policy is enforced to squeeze down the money supply to curb inflation and expansionary policy is to stimulate economic activity to combat unemployment in recession (Shane, 2010). Monetary policy consists of a Government's formal efforts to manage the money in its economy in order to realize specific economic goals. Three basic kinds of monetary policy decisions can be made about (1) the amount of money in circulation; (2) the level of interest rate; and (3)

the functions of credit markets and the banking system (Ogunjimi, 1997).

Empirical Studies

A recent study by Chimobi and Uche (2010) examined the relationship between Money, Inflation and Output in Nigeria. The study adopted co-integration and granger-causality test analysis. The co-integrating result of the study showed that the variables used in the model exhibited no long run relationship among each other. Nevertheless money supply was seen to granger cause both output and inflation. The result of the study suggested that monetary stability can contribute towards price stability in the Nigerian economy since the variation in price level is mainly caused by money supply and concluded that inflation in Nigeria is to an extent a monetary phenomenon.

The Error Correction Mechanism and Cointegration technique was employed by Adefeso and Mobolaji (2010) estimate the relative effectiveness of fiscal and monetary policy on economic growth in Nigeria using annual data from 1970-2007. The empirical result showed that the effect of monetary policy is stronger than fiscal policy and the exclusion of the degree of openness did not weak this conclusion.

Amassoma *et al.* (2011) examined the effect of monetary policy on macroeconomic variables in Nigeria for the period 1986 to 2009 by adopting a simplified Ordinary Least Squared technique found that that monetary policy had a significant effect on exchange rate and money supply while monetary policy was observed to have an insignificant influence on price instability.

Onyeiwu (2012) examines the impact of monetary policy on the Nigerian economy using the Ordinary Least Squares Method (OLS) to analyze data between 1981 and 2008. The result of the analysis shows that monetary policy presented by money supply exerts a positive impact on GDP growth and Balance of Payment but negative impact on rate of inflation. Furthermore, the findings of the study support the money-prices-output hypothesis for Nigerian economy. Obviously, the empirical studies on monetary policy and real output growth in Nigeria is still scanty.

Coenan, Orphanides, and Wieland (2003) carried out a study on price stability and monetary policy effectiveness when nominal interest rates are bounded at zero for the European Central Bank. The paper employed stochastic simulations of a small structural rational expectations model to investigate the consequences of the zero bound on nominal interest rates. We find that if the economy is subject to stochastic shocks similar in magnitude to those experienced in the U.S over the 1980s and 1990s, the consequences of the zero bound are negligible for target inflation rates as low as 2 percent. However, the effects of the constraint are non-linear with respect to the inflation target and produce a quantitatively significant deterioration of the performance of the economy with targets between 0 and 1 percent. The

variability of output increases significantly and that of inflation also rises somewhat. Also, the paper showed that the asymmetry of the policy ineffectiveness induced by the zero bound generates a non-vertical long-run Philips curve. Output falls increasingly short of potential with lower inflation targets.

Gul, Mughal, Rahim (2012) reviewed how the decisions of monetary authorities influence the macro variables such as GDP, money supply, interest rates, exchange rates and inflation. The method of least squares is used in the data. The sample was taken from 1995-2010 and included observations are 187. Result shows that interest rate has negative and significant impact on output. Tight monetary policy in term of increase interest rate has significant negative impact on output. Money supply has strongly positive impact on output that is positive inflation and output is negatively correlated, exchange rate also have negative impact on output which is show from the values.

Akanbi and Ajagbe (2012) investigated the influence of CBN's monetary policies on commercial banks in Nigeria. Data spanning from 1992 to 1999 are collected using a sample of three commercial banks. The result showed that a rise in interest rate led to a fall in lending rate – while liquidity ratio and cash ratio were statistically significant to the profit of the selected banks

Orji (2006) examined the efficacy of monetary policy in ensuring price stability using consumer price index and inflation rate as price measure in Nigeria. The analysis used data from 1980 – 2004 and applied the Ordinary Least Squares (OLS) techniques. The study results research reveal that only money supply and domestic credit has significant effects on consumer price index hence for monetary authority to achieve its objective of price stability, its policies should be geared towards targeting the consumer price index, which remains a viable measure for price stability in Nigeria.

Udah (2008) in his research on the monetary policy and macroeconomic management used 3SLS estimation technique as well as carried out policy simulation experiment to investigate how monetary variables interact with aggregate supply, demand and prices in order to aid stabilization policies. The results show that monetary variables and government finance is linked through the government's net indebtedness to the banking system. The simulation results show that a 20 percent monetary squeeze would reduce inflation rate faster than if the reduction in money supply were 10 percent. This reduction in money supply also leads to a reduction in output, employment and government expenditure, which may hurt the domestic economy. Thus, the study concludes that there is a trade-off between high GDP growth and inflation in Nigeria.

3.0 RESEARCH METHODOLOGY

Specification Following Koutsoyiannis (1977), the specification of an econometric model will be based on

economic theory and any available information relating to the phenomenon being studied. On that premise, this study as mentioned in the previous chapter adopts the Keynesian Quantity theory of money considering its closeness as well as its functional relationship with the present study. In specifying our model, this study will adopt the model as specified by Folawewo and Osinubi (2008) with some modifications and the inclusion of Exchange rate and interest rate as some of the explanatory variables.

This is to make the model more robust. In demonstration, two multiple regression models will be used. In model1, the Liquidity ratios, Money Supply, Cash ratio are the independent variables while Gross Domestic Product (GDP) is the dependent variable. In model 2, the Liquidity ratio, Money Supply, Cash ratio, Interest Rate and Exchange rate are the independent variables while Inflation rate is the dependent variable. Our model is therefore specified thus:

$$Y = f(\text{CRR, INT, LQR}) \quad (1)$$

$$\text{GDP} = a_0 + a_1 \text{LnCRR} + a_2 \text{LnINT} + a_3 \text{LnLQR} + \mu_1 \quad (2)$$

A priori expectation

(X_1) = Cash Reserve Ratio; *a priori* expectation is +

(X_2) = Interest Rate; *a priori* expectation is ±

(X_3) = Liquidity; *a priori* expectation is +

Method of Data Analysis

Data collected for this study was analyzed using descriptive and econometric analytical methods. Pre-test assessment on the time series data was employed. The Unit root test is important as it allows us to examine whether a time series is stationary or not. As such to avoid the problem of spurious regression, the data series was tested for stationarity using the Augmented Dickey-Fuller technique (ADF). This is to examine the time series characteristics of the selected variables to overcome the problem of spurious correlation often associated with non-stationary time series data. The econometric method of Ordinary Least Square (OLS) method was employed because it has the advantage of Best Linear Unbiased Estimator (BLUE) property. This is because all the variables are stationary at Levels. Results based on OLS was generated using E-views 10.0.

4.0 RESULTS AND DISCUSSION

This section presents results of empirical analyses of the study. In this section, we present the empirical results on the effects of monetary policy on the Nigerian economy. In order to determine whether the macro variables are stationary or otherwise, unit root tests was conducted if non-stationary at levels.

Table 1: Descriptive Statistics

	GDP	CRR	INT	LQR
Mean	79677.70	6.404167	9.781250	6.924167
Median	83783.60	7.200000	10.40000	7.235000
Maximum	156643.9	9.800000	19.70000	9.400000
Minimum	3554.700	0.400000	1.110000	2.810000
Std. Dev.	41219.58	2.762872	5.397273	2.000802
Skewness	-0.429761	-0.837508	0.018777	-0.515796
Kurtosis	2.877611	2.788031	1.957947	2.079209
Jarque-Bera	0.753756	2.850611	1.087285	1.912036
Probability	0.686000	0.240435	0.580629	0.384421
Sum	1912265.	153.7000	234.7500	166.1800
Sum Sq. Dev.	3.91E+10	175.5696	670.0029	92.07378
Observations	24	24	24	24

Source: Author’s Computation using E-views 10.0

As shown in Table 1, Gross Domestic Product (GDP) averaged 79677.70 units over the period of study with a standard deviation of 41219.58 with a negative standard deviation of -0.429761. Similarly, Cash Reserve Ratio (CRR) has a mean value of 6.404167 and a standard deviation of 2.762872 with skewness to the left of the Mean of -0.837508. Also, Interest Rate (INT) and Liquidity Ratio variables have respective mean values of 9.781250 and

6.924167 and standard deviations of 5.397273 and 2.000802 respectively. Also, the result of the Jarque-Bera test of normality showed that all the variables are normally distributed given that their respective probability values are greater than 0.05 level of significance which implies that the variables are normally distributed, as opposed to a situation of not being normally distributed if their probability values were less than 0.05 level of significant.

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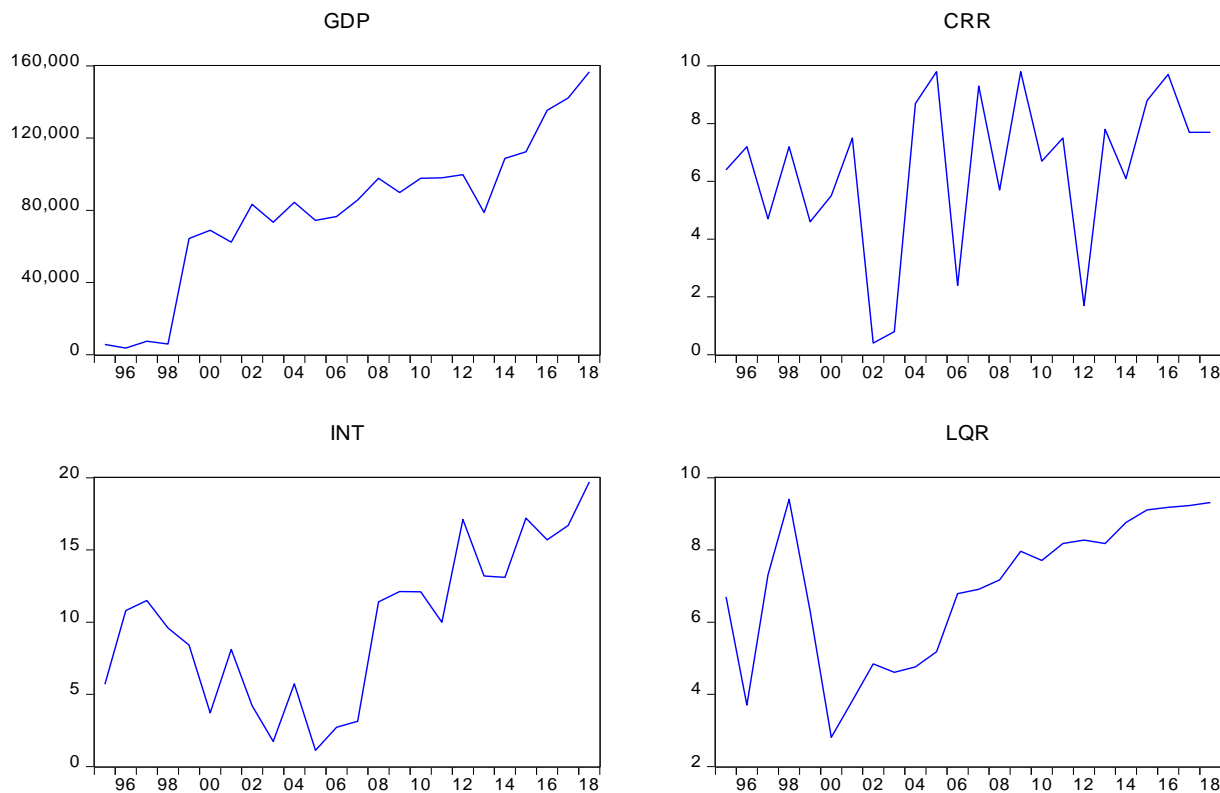


Fig. 1: Trend analysis

The above graph shows trend analysis of the variables as they move from one year to the other during the study period. The graph of the Gross Domestic Product (GDP) against year shows that the GDP rose from 1996 to a considerable height and cascaded steadily from the start point in 2000 and rose gradually in 1999 to its highest in 2018. This oscillation in the level of the GDP can be linked to the changes in factors that affects GDP such as those examined in this study.

Cash Reserve Ratio (CRR), Interest Rate (INT) and Liquidity Ratio (LQR) shows a highly cascaded graph of the

variables as they move from one year to the other. These movement could be as a result of several factors ranging from government fiscal and monetary policies, political instability among other factors.

Testing for Unit Root (ADF-Test)

Testing for the order of integration is standard in applied econometric work at different levels of integration. The unit root test establishes the stationarity properties of the data and to satisfy the basic assumption for the test statistics adopted for this study.

Table 3: Augmented Dickey-Fuller Test (ADF) at Level

Variables	ADF	5% Critical Value	Integration Order
LnGDP	-0.974062	-3.004861	I (0)
LnCRR	-2.998064	-4.797548	I (0)
LnINT	-1.210483	-2.998064	I (0)
LnLQR	-1.733064	-2.998064	I (0)

Source: E-views 9.0 result computation, 2019

The unit root test using Augmented Dickey Fuller test (ADF) shows that the log of Gross Domestic Product (GDP), Cash Reserve Ratio (CRR), Interest Rate (INT) and Liquidity Ratio (LQR) were all stationary at first difference and are integrated of order [I (0)]. This implies that the null hypothesis of non-stationary for all the variables at levels is rejected. This means that all the data are stationary at the same level and can be used to model an empirically meaningful relationship. When all the variables are integrated at levels, then the econometric method of

Ordinary Least Square (OLS) method will be employed because it has the advantage of Best Linear Unbiased Estimator (BLUE) property than any other estimator.

Ordinary Least Squares Regression Analysis

The effect of CBN monetary policies on economic growth proxied by the gross domestic product is examined using the ordinary least squared (OLS) techniques and the result of the regression analysis is as presented below;

Dependent Variable: GDP
 Method: Least Squares
 Date: 07/08/19 Time: 21:49
 Sample: 1995 2018
 Included observations: 24

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CRR	0.526095	0.307468	0.174030	0.0036
INT	0.237883	0.213576	1.103691	0.3228
LQR	0.416552	0.271076	0.710616	0.0455
C	0.240133	0.147603	0.751364	0.4612
R-squared	0.762393	Mean dependent var		79677.70
Adjusted R-squared	0.523347	S.D. dependent var		41219.58
S.E. of regression	38593.78	Akaike info criterion		24.11058
Sum squared resid	2.98E+10	Schwarz criterion		24.30692
Log likelihood	-285.3270	Hannan-Quinn criter.		24.16267
F-statistic	2.078721	Durbin-Watson stat		0.355589
Prob (F-statistic)	0.013210			

Source: E-views 9.0 result computation, 2019

The result of the regression analysis indicates that Cash Reserve Ratio (CRR) is positively related to the Economic Growth proxied by the Gross Domestic Product (GDP) and the relationship is statistically significant ($p < 0.05$) and in line with *a priori* expectation. This means that a unit increase in CRR will lead to a corresponding increase in GDP by a margin of 52.61%. Since the probability value of the of Cash Reserve Ratio (CRR) is less than 0.05, the study rejects the null hypothesis and concludes that Cash Reserve Ratio has a significant effect on Economic Growth in Nigeria. This finding is in line with that of the findings of Akanbi and Ajagbe (2012) who investigated the influence of CBN’s monetary policies on commercial banks in Nigeria. The study revealed the existence of long-run association among monetary parameters (reserve ratio, money supply, interest rate, exchange rate, and inflation rate) and economic growth.

There is a positive relationship between interest (INT) and Economic Growth proxied by the Gross Domestic Product (GDP) but the relationship is not statistically significant ($p > 0.05$). This means that a unit increase in INT will lead to a corresponding increase in GDP by a margin of 23.79%. Since the probability value of the of Interest Rate (INT) is greater than 0.05, the study accepts the null hypothesis and concludes that Interest Rate has no significant effect on Economic Growth in Nigeria. This finding is contrary to that of Gul, Mughal, Rahim (2012) who reviewed how the decisions of monetary authorities influence the macro variables such as GDP. The result shows that interest rate has negative and significant impact on output. Tight monetary policy in term of increase interest rate has significant negative impact on output. This results could have been influenced by several factors operating in the

economy which will lead to the interest rate not been statistically significant.

Liquidity ratio was positively related to Economic Growth proxied by the Gross Domestic Product (GDP) and the relationship is statistically significant ($p < 0.05$). This means that a unit increase in LQR will lead to a corresponding increase in GDP by a margin of 23.79%. This finding is in tandem with Akanbi and Ajagbe (2012) who investigated the influence of CBN’s monetary policies on commercial banks in Nigeria. Data spanning from 1992 to 1999 are collected using a sample of three commercial banks. The result showed that liquidity ratio and cash ratio were statistically significant to the profit of the selected banks.

The value of the R-squared (0.762393) indicates that about 76.62% of the total variation in the dependent variable is explained by the independent variables. Also given that the probability value of the F-statistic (0.013210) is less than the critical value of 0.05, the study therefore rejects the null hypothesis and concluded that the Central Bank of Nigeria Monetary Policies have significant effect on Economic Growth in Nigeria during the period under review

5.0 CONCLUSION AND RECOMMENDATIONS

Conclusion

It has been established in this study that monetary policies implemented in Nigeria depended on major policy instrument such as Cash reserve ratio, interest rates and liquidity ratio. The findings of the study indicates that Cash Reserve Ratio and Liquidity Ratio has a statistically significant effect on economic growth proxied by the Gross Domestic Product. It was noted that monetary policy implementation in a developing country like Nigeria faces

additional challenges that are not present in developed economies.

This study concludes therefore that the inability of monetary policies to effectively maximize its policy objective most times is as a result of the shortcomings of the policy instruments used in Nigeria as such limits its contribution to growth even though monetary policies had brought impressive contribution over the years than the fiscal policies. On the overall, monetary policy explains 62.39% of the changes in economic growth in Nigeria. However, it is shown that cash reserve ratio and liquidity statistically increases economic growth while interest rate did not show any significant effect on economic growth in Nigeria

Recommendation

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

1. In order to strengthen the financial sector, the Central Bank has to encourage the introduction of more financial instruments that are flexible enough to meet the risk preferences and sophistication of operators in the financial sector.
2. For monetary policy to have a desired impact on the real economy, it is essential that changes in the short-term market interest rate should ultimately transform into changes in other interest rates in the economy which then influence the overall level of economic activity and prices.
3. In seeking to promote economic growth, Nigeria's banks should be committed to the mission of interest rate stability, as well as improving the regulatory and supervisory frameworks to secure a strong financial sector for efficient intermediation.

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