The Effects of Monetary Policy on Bank Lending and Economic Performance in Nigeria

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Abstract: The study investigated the effects of monetary policy on bank lending and economic performance in Nigeria for the period of 35 years which covered 1984 to 2018. The study addressed broad money supply, monetary policy rate, prime lending rate and inflation rate as monetary policy indicators while real gross domestic product was regressed as economic performance. The data were gathered from Nigeria Central Bank Statistical Bulletin and National Bureau of Statistics. The study employed two models to analyse the effect of monetary policy on bank lending and economic performance respectively by applying the estimation techniques of Augmented Dickey Fuller (ADF) stationarity test and regression analysis. Evidence from model one positioned that money supply and inflation rate have significant influence on bank lending while and monetary policy rate had insignificant influence on bank lending. The second model discovered that money supply has significant influence on economic performance whereas other variables of prime lending rate, monetary policy rate and inflation rate have negative and insignificant effect on economic performance under the study period. However, the study concluded that monetary policy positively and significantly influenced economic performance in Nigeria. It was therefore recommended that Nigeria's banks should align to government vision of price stability, as well as facilitating the regulatory and supervisory frameworks to secure a strong financial sector for efficient intermediation.

Keyword: Monetary policy; Economic performance; Monetary policy rate; Prime lending rate; Money supply; Nigeria

JEL Classification: E52

1. Introduction

Monetary policy is a precise step taken by the Central Bank (Monetary Authority) to control the value, supply and cost of money in the economy with a view to actualizing predetermined macroeconomic objectives (CBN, 2013). It is the objective of the apex bank to control the volume of money circulation with the

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instrument of money supply and interest (Ufoeze, Odimgbe, Ezeabalisi and Alajekwu, 2018). This discussed the important role of money in an economy.

It has been proved theoretically in the Nigerian economy since the 1980's that some nexus exists between the amount of money for economic growth or economic activity. The Central Bank of Nigeria (CBN) since its establishment has continued to play the traditional role of managing the stock of money in the economy through the use of monetary policy (instruments and targets) that is virtually aimed towards the achievement of full-employment equilibrium, rapid economic performance, price stability, and external balance (Fasanya, and Onakoya, 2013).This is very obvious in the emergence and increase of an active money market where treasury bills for example have grown in size and value becoming a key earning asset for investors and source of balancing liquidity in the market. Another notable instrument of monetary policy used by the Central Bank is the issuance of credit rationing guidelines which initially sets the rates of interest for the key components and aggregates of commercial bank loans and advances to public and private sector. Essentially, the sectoral allocation of bank credit in CBN guidelines was to encourage the productive sectors of the economy, decrease or shrink inflationary pressures, while the fixing of interest rates at relatively low levels was done mainly to promote investment and growth (Ayodeji and Oluwole, 2018).

However, the Nigerian economy is battled with mirage of difficulties such as unemployment, low investment and high inflation rate and these factors hindered against the growth of the economy. In truth, these difficulties cannot be traced to the inadequacies of monetary policies alone but also in the frequent changes in other important economic factors. In addition with the high level of uncertainties in the monetary policy process and there is yet to be a defined set of policies and procedures that policy makers can use to deal with all situations that may arise (Chimezie, 2012). Thus, Central Bank most times undertakes both contractionary and expansionary measures in tackling the difficulties of fluctuations experienced in the economy. The question is, what approaches are to be involved if monetary policy would be effective on bank lending? What approaches are to be involved if monetary policy would be effective in bringing about continuous economic performance and gradual advancement? This question remained unresolved in Nigeria, which this study would attempt to answer. Existing theoretical studies in Nigeria have not fully provided answers to these questions. Moreover, this study is different from other studies by evaluating the composite effects of monetary policy on bank lending and economic performance respectively unlike other studies that mainly focus on monetary policy and economic performance? Hence, the study gathered data up to 2018 which is the most recent time to gather annual data unlike other studies whose data collection stopped at 2016. The goal of the work is to investigate the effect of monetary policy on bank lending and economic performance in Nigeria with the monetary instrument of money supply, inflation, prime lending rate and monetary policy rate on real gross

domestic product proxy as economic performance variable. The study is divided into five sections: introduction, literature review, research method, result and discussion of findings and the conclusion and recommendations.

2. Literature Review

The intentional use of monetary tools (direct and indirect) is at the terrain of central bank in order to achieve macroeconomic stability is usually referred to as monetary policy and has become a particular instrument in executing the mandate of monetary and price stability. Monetary policy is undoubtedly is a device of action undertaken by the monetary authorities, specifically, the central bank, to inhibit and check the amount of money with the public and the flow of fund with a view to achieving what had been decided on macroeconomic targets. Governments try to control the money supply because most governments believe that its rate of growth and performance has an effect on the rate of inflation. Hence, monetary policy involves those government actions planned to change the behaviour of the monetary area of activity. 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 an intentional change in monetary variables influences the movement of many other variables in the monetary sector (Ufoeze, Odimgbe, Ezeabalisi and Alajekwu, 2018). Adegbite and Alabi (2013) opined that monetary policy is an essential tool that a country employs to maintain general domestic price and exchange rate steadiness as a prerequisite for the actualization of a sustainable economic growth and external viability.

On the other hand, economic performance is a sustained rise in the output of goods, services and employment opportunities with the sole aim of improving the economic and financial welfare of the citizens (Ogbulu and Torbira, 2012).In the opinion of Hardwick, Khan and Langmead (1994), economic performance is referred to as a change in a country's productive capacity, identifiable by a sustained increase in real national income. The economic performance is an essential issue in economics and finance and is considered as one of the necessary conditions to achieve better outcomes on social welfare, which is the main objective of economic policy ((Ufoeze, Odimgbe, Ezeabalisi and Alajekwu, 2018). It is thus an important veritable tool for sustainable development.

This study builds on Keynesian Theory of 1936, John Maynard Keynes in their study released on general theory of employment, interest and money and initiated the Keynesian Revolution. The Keynesian theory explains that a change in money supply has effects on total expenditure and output level through the changes in interest rate. Hence, the system operates indirectly. The monetarists affirm that although monetary expansions affect output and employment in the short term,

interest rate and prices are influenced in the long run (Chaudhry, Qamber, and Farooq, 2012). This is because monetary policy hinges chiefly on the supply of money; it will be remiss and abnormal to ignore the role of banks, especially in the money creation process. Hence, the CRDT perspective portends that monetary policy induces movements in bank lending vis-à-vis changes in bank loan supply, whereas shifts in the demand for a bank loan is explained by the INT (Arnold, Kool, and Raabe, 2006).

Onyeiwu (2012) employed ordinary least square analytical test to evaluate the monetary policy role on economic growth in Nigeria from 1981 to 2008. Evidently, monetary policy presented by money supply exerts a positive impact on GDP growth and balance of payment but negative impact on rate of inflation.

Usman and Adejare (2014) empirically studied the effect of monetary policy on industrial growth in Nigerian. Secondary data on manufacturing output, Treasury bills, deposit and leading and rediscount rate were gathered from CBN statistical bulletin over the period 1970 to 2010. Through the analysis of multiple regression, the study revealed that treasury bills, deposit and lending and rediscount rate have significant effects on the industrial Growth in Nigeria. The conclusion is that monetary policy significantly influences industrial output in Nigeria.

Sulaiman and Migiro (2014) examined the complicated series of connection between the Nigerian economic growth and monetary policy from 1981 to 2012 using macroeconomic variables of gross domestic product, cash reserve ratio, monetary policy rate, exchange rate, money supply, and interest rate. Co-integration test result showed the existence of long run connection among the variables and the test for causality indicates that uni-directional causality flows from monetary policy to economic growth significantly.

Adigwe, Echekoba and Onyeagba (2015) discussed the functions of monetary policy on economic growth in Nigeria between 1980 and 2010. The study evaluated the effectiveness of monetary policy measures on gross domestic product and inflation rate respectively with the statistical tool of Ordinary Least Square Method (OLS) and the finding showed that monetary policy symbolize by money supply has a positive influence on GDP growth but negative influence on the rate of inflation.

Ekpung, Udude and Uwalaka (2015) examined the complicated series of connection between monetary policy and Banking sector performance in Nigeria for 36 years which covered 1970-2006 with the aid of least square regression analysis. Bank's deposit liabilities was proxy for bank performance while exchange rate (EXR), deposit rate (DR) and minimum discount rate (MDR) were proxy for monetary policy measures. The study implies that monetary policy has a significant effect on the banks deposit liabilities whereas on individual basis, deposit rate (DR) and minimum discount rate (MDR) had a negative influence on the bank performance, exchange Rate (EXR) had a positive and significant influence on the bank

performance in Nigeria. The study concluded that monetary policy determines the degree of bank performance in Nigeria.

Nwoko, Ihemeje and Anumadu (2016) regressed money supply, average price, interest rate and labour force as monetary policy indicators on economic growth proxy by Gross Domestic Product in Nigeria 1990-2011. Regression model showed that average price and labour force have significant influence on Gross Domestic Product while money supply was not significant. Interest rate was negative and statistically significant. The study concluded that CBN monetary policy assessments are meaningful in the management of both monetary and real sector aggregates towards achieving the rate of economic performance.

Ezeaku, Ibe, Ugwuanyi, Modebe and Agbaeze (2018) assessed the industry effects of monetary policy transmission channels in Nigeria within the period 1981-2014. Techniques of Johansen cointegration and the error correction model (ECM) were employed and the result showed that the private sector credit, interest rate, and exchange rate channels have negative effects on real output growth, both in the long run and in the short run. The result further indicated that, in the Nigerian scenario, monetary policy transmission channels have composite long-run relationship with real sector growth and performance, and any disequilibrium in the system is corrected.

Ufoeze, Odimgbe, Ezeabalisi and Alajekwu (2018) applied ordinary least square and co-integration tests to assess the impact of monetary policy on economic growth in Nigeria over the period of 1986 to 2016. The natural log of the GDP was used as the dependent variables against the explanatory monetary policy variables: monetary policy rate, money supply, exchange rate, lending rate and investment. The study revealed that a long run connection exists among the variables. Not that alone, the study showed that monetary policy rate, interest rate, and investment have insignificant positive effect on economic growth in Nigeria. Money supply however has significant positive effect on growth in Nigeria. Exchange rate has significant negative effect on GDP in Nigeria. Money supply and investment granger cause economic growth, while economic growth causes interest rate in Nigeria. The study affirmed that monetary policy can be adequately used to control Nigerian economy and thus as an important mechanism towards price stability.

Afolabi, Adeyemi, Salawudeen and Fagbemi (2018) investigated the link between monetary policy instruments and Deposit Money Banks Loans and Advances in Nigeria from 1981-2016. The study employed Toda and Yamamoto granger non-causality model and discovered that structural changes in monetary policy system exerted positive significant impact on loan and advances of Deposit Money Banks in Nigeria. Findings also revealed bidirectional relationship existing between MPR and loan and advances of Deposit Money Banks in Nigeria. Notably, MPR granger causes loans and advances in Nigeria. The other explanatory variables; broad money

supply (LM2), liquidity ratio (LR), inflation rate (IFR) and cash reserve ratio (CRR) does not granger cause loan and advances of financial institutions in Nigeria within the examined period. The study concluded that the structural change in monetary policy system and monetary policy rate have significant impact on loan and advances of financial institutions in Nigeria.

3. Methodology

The work used data obtained from the Central Bank of Nigeria (CBN) Statistical Bulletin. The time series data covered the period 1986-2018. Adapting Ayodeji and Oluwole (2018) model, the study developed two models that are able to examine the effects of monetary policies on bank lending and economic performance respectively in Nigeria. The researcher adopts econometric model in determining the effects of monetary policy on bank lending and economic performance in Nigeria using different techniques such as the Augmented Dickey-Fuller (ADF), Unit Root test, and ordinary least square.

From the aforesaid, the model is specified as thus:

$$PLR = f\ (MS, INF, MPR) - 3.1$$

$$RGDP = f\ (MS, INF, PLR, MPR) - 3.1$$

Implicit form:

$$RGDP = f\ \alpha_0 + \beta_1 MS + \beta_2 INF + \beta_3 PLR + \beta_4 MPR + \mu_t - - - 3.2$$

Where RGDP = Real gross domestic product (economic performance); MS = Money supply; INF = Inflation rate; PLR = Prime lending rate; MPR = Monetary policy rate; μ_t = the error term/disturbance term; α_0 = the intercept or constant term; $\beta_1 - \beta_4$= the parameters of the model to be estimated.

4. Data Analyses

ADF Stationarity test

Variable	ADF test statistics	5% Critical value	Order of Integration	Inference
RGDP	-3.114380	-2.960411	I(1)	Stationary
MS	-3.579066	-2.960411	I(1)	Stationary
PLR	-5.342341	-2.960411	I(1)	Stationary
MPR	-6.939850	-2.960411	I(1)	Stationary
INF	-4.080599	-2.960411	I(1)	Stationary

Source: E-view 9, (2019)

The analysis of the table indicates that all the variables were stationary of the same order of integration that is I(1) at 5% critical value. This implies that the series are good to proceed to the next step of analysis.

Regression Analysis of Model 1

Effects of Monetary Policy on Bank lending

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.722854	0.144923	4.987866	0.0000
MS	0.018132	0.013946	1.300144	0.2031
MPR	0.299246	0.122950	2.433885	0.0209
INF	0.124286	0.048706	2.551775	0.0159
R-squared	0.392501	F-statistic		6.676304
Adjusted R-squared	0.333711	Durbin-Watson stat		1.702068
Prob(F-statistic)	0.001315			

Source: E-view 9, (2019)

The result of model one indicates that monetary policy tools of money supply and inflation has positive and significant effect on bank lending. Also, monetary policy rate has insignificant positive effect on bank lending in Nigeria under the study period. Hence, one per cent increase in MS and INF will result to about 0.01% and 0.12% significant increase on bank lending respectively whereas MPR will result to an insignificant positive increase of about 0.29% on bank lending. Overall, the R-square value of 39% explains the variation of the selected explanatory variables on bank lending while the remaining high 61% were accounted to stochastic error, that is, other important variables outside the regression model. Nevertheless, the model is generally significant by its F-statistics value of 6.67 and its probability value of 0.00 which is less than 0.05. The Durbin Watson test statistics of 1.70 explored that the model is free from autocorrelation.

Regression Analysis of Model 2

Effects of Monetary Policy on Economic performance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.980352	0.135010	29.48194	0.0000
MS	0.219683	0.009937	22.10734	0.0000
PLR	-0.054704	0.124625	-0.438951	0.6638
MPR	-0.062270	0.093108	-0.668795	0.5087
INF	-0.011648	0.037176	-0.313307	0.7562
R-squared	0.950338	F-statistic		143.5213
Adjusted R-squared	0.943717	Prob(F-statistic)		0.000000
Durbin-Watson stat	0.162775			

Source: E-view 9

The result of model 2 reveals that among the monetary policy indicators as used in this study, only money supply which is the interest of the study was found to be positively and significantly related to economic performance while other variables of prime lending rate, monetary policy rate and inflation rate were found to be negative and insignificantly related to economic performance in Nigeria under the study period. The result therefore implies that money supply will significantly and directly influence economic performance by 0.39% increase whereas prime lending rate, monetary policy rate and inflation will insignificantly decrease economic performance by 0.05%, 0.06% and 0.01% respectively. The study find it interesting to conclude that monetary policy have significant positive effect on economic performance based on the outcome of the money supply index. The R-square value of 95% explains the variation of the explanatory variables on the dependent variable leaving the remaining 5% to be explained by stochastic error. The overall model is significant by the revelation of the F-statistics value of 143.52% and its probability value of $0.000 < 0.05$.

5. Concluding Remark

Monetary policy is a macroeconomic instrument in the hand of Central Bank of Nigeria to control and mobilize funds from the public. The study employed monetary policy indicators of money supply, prime lending, inflation rate and monetary policy rate to determine the link between monetary policy and bank lending as well as economic performance in Nigeria. The study applied least square regression analysis on two specified models of bank lending and economic performance respectively. Evidence from the model one expressly found that money supply and inflation have

significant influence on bank lending leaving monetary policy rate to be negative and insignificant on bank lending. Revelation from the model two explores that money supply portrays a positive and significant effect on economic performance whereas prime lending rate, monetary policy rate and inflation have an insignificant and negative effect on economic performance in Nigeria under the study period. The study therefore denotes that money supply is the main variable of interest and as such it can be inferred that monetary policy is effective in controlling and mobilizing funds within the system. However, the insignificant and negative prime lending rate, monetary policy rate and inflation rate as evidence in the mode two may be attributed to lack of government standards in controlling the rate of interest which may deter savings in the country. When effective policy measures against the price instability couple with poor interest rate are put in place, it has potency to revive industries which are far below expectation and thus assist the monetary authority to effectively control and monitor the flow of fund within the economy. To cap it all, monetary policy explains 94% of the changes in economic performance in Nigeria. The study is consistence with the finding of Nwoko, *et al.*,(2016); Ufoeze, *et al*., (2018) that monetary policy have significant effect on economic growth and thus can be effectively used to control Nigerian economy and thus a veritable tool for price stability and improved output. The study suggests that monetary authority should create a favourable interest rate policy that can assist individual to save for investment purposes. Nigeria's banks should be committed to the mission of price stability, as well as improving the regulatory and supervisory frameworks to secure a strong financial sector for efficient intermediation.

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