



THE EFFECTS OF MONETARY POLICY ON LENDING OF DEPOSIT MONEY BANKS IN NIGERIA

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Abstract: This study examined the effects of monetary policy on aggregate bank lending of deposit money banks in Nigeria from the period of 1984 to 2020. It specifically established the effects of monetary policy on aggregate bank lending of Nigerian deposit money banks and analysed how monetary policy affects aggregate bank lending activities of Nigerian deposit money banks. The study made use of secondary data obtained from Central Bank of Nigeria and National Bureau of Statistics to carry out econometrics and regression analysis on certain macroeconomics variables that were combined and estimated. The findings revealed that monetary policy rate, money supply and exchange rate have significant and positive effects on aggregate lending to private and public sectors by deposit money banks in Nigeria aside inflation that has a negative and insignificant effect. The effect of these is that monetary policy is the true parameter of measuring the effects of aggregate bank lending of deposit money banks in Nigeria. The researcher therefore concludes that monetary authorities need to supervise thoroughly the deposit money banks activities to enable them comply with all regulatory frameworks issued by the CBN. Also the objectives of monetary policy should be spelt out without ambiguity because of its multi-target characteristics so that conflict of objectives and instruments are avoided and resolved.

Keywords: Monetary policy, Aggregate Bank Lending, Deposit Money Banks

JEL: E51, E52, F63

I INTRODUCTION

The effects of monetary policy on total bank lending is an important issue to discuss because of the growing dynamism of using bank loan in the world economies which is sourced from deposit money banks (DMBs). There has been a growing concern on the effects of monetary policy on total banks' lending of deposit money banks in Nigeria in recent times, despite the fact that the government had embarked on several strategies aimed at improving the performance of Deposit money banks towards efficient lending in order to achieve sound investment for economic performance, aim at poverty reduction and developmental stability. This worry is understandable in view of the fact that it has been generally welcome and it is notable that the non-

performance of this sector (DMB's) in Nigeria lending to investors is mainly due to lending given out is misused and prone to huge embezzlement of funds, politically motivated programmes, abuse on the use of loan facility hence lending to the public sector is weak in generating growth within the economy because they are liable to waste, which may not deliver the best result mainly through the monetary policy in the operational period or the past decades.

Though finance is the pivot of every business or firms, as firms or business grows; it needs more funds to support its strategic operational and non-operational activities. To finance such activities in any organisation, the organisation has two main sources of funding; internal and external. The credit from financial institutions like

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deposit money banks, specialised banks like Bank of Industry (BOI) e.t.c are key source among the major external sources of funding business and firms while ploughing back profit, non- payment of dividend to shareholders and retention of revenue reserves serves as internal sources. The existing studies revealed that the existence of bank lending plays a dominant role towards improvement of economic performance mostly in developing economies.

Lending which may be on short, medium or long term basis is one of the services that banks do render to their customers. In other words, banks do grant loans and advances to individuals, business organisations as well as governments in order to enable them embark on investment and developmental activities as a means of aiding their growth in particular or contributing towards the economic development of a country. The total domestic bank lending can be divided into two: lending to the private sector and lending to the public sector amounting to aggregate bank lending. However, the signalling argument states that good companies should provide more collateral for them to show the banks that they are less risky type borrowers and quality for concessionary lower interest rates. Meanwhile, the reverse signalling argument states that banks only require collateral and/or covenants for relatively risky firms that also pay higher interest rates as opined by the neoclassical or loanable funds theory of interest (Bernanke and Blinder, 1988).

Hence, credit constitutes the biggest single income earning assets in the portfolio of most deposit money banks in Nigeria. In the light of the above, monetary policy which refers to the specific action taken by the Central Bank to regulate the value, supply and cost of money in the economy with a view to achieving government's macroeconomic objectives has both positive and negative effects on banks and its attendant effects on lending activities of DMBs.

Monetary policy is tight if it reduces the size of the money supply or increases it slowly, or if it raises the interest rate. An ease policy increases the size of the money supply more rapidly, or decreases the interest rate. Furthermore, monetary policies are described as accommodative, neutral or tight. Though monetary policy uses a variety of tools to control or achieve intended objectives set by government or monetary authorities, at times, one is prompted to ask whether monetary policy dynamics is responsible for the distress syndrome as it was witnessed in the banking industry in Nigeria before banks' consolidation, since some banks cannot meet customers' demand on withdrawals cum lending to customers and firms to pursue plant expansion. Hence, the effects of monetary policy on deposit money banks' towards aggregate banks' lending in Nigeria need to be examined and in the process, highlight its hindrances and the approaches to bring more positive impacts on banking operations as a whole in Nigeria.

Research questions

In the light of the above, the following fundamental research questions were raised specifically in answering the following questions.

- i. Has the effects monetary policy on bank lending improved significantly since the financial sector reforms?
- ii. Is there any significant relationship between bank lending and monetary policies in Nigeria?

Research objectives

The objective of this study is to examine:

- i. the effects monetary policy on bank lending in Nigeria
- ii. the nexus between bank lending and monetary policies in Nigeria

Statement of Hypotheses

The hypothesis formulated for this study was tested in null form so as to be in line with the above stated objectives. For the purpose of this research, the hypothesis formulated states that:



- i. there is no meaningful effects or improvement of monetary policy on bank lending since the financial sector reforms
- ii. there is no significant nexus between bank lending and monetary policies in Nigeria

Answering these questions will provide insights into the empirical relationship between financial sector reforms and their implications for banks' credit supply to other sectors. The study is divided into five sections: introduction, literature review, research method, result and discussion of findings and the conclusion and recommendations.

II LITERATURE REVIEW

The intentional use of monetary tools (direct and indirect) at the instance of Central Bank in order to achieve macroeconomic stability is usually referred to as monetary policy. This has become a particular instrument in executing the mandate of monetary and lending stability.

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 characterised by well-developed money and financial markets as obtained in the developed economies of the world. In theory, this study noted that deposit money banks acts as financial intermediaries between the surplus unit and deficit unit that needs credit for productive purposes. The financial intermediation theory explained the role of bank credit in an economy and it specifies that the business of financial intermediation in any modern economy is to give an avenue to attract financial flows from surplus economic agents to those economic agents craving for finance in the economy. Gorton and Winton (2002) as cited by Nwite (2014) defined financial intermediaries as institutions that borrow from consumers/savers and lend to companies that need funds for investment. With financial mediator, lenders and borrowers do not need to transact directly as financial institutions act as a link between the units. They

intervene to smoothen the flaws of direct finance. Financial mediators are committed to providing delegated monitoring to the organisation to which they provide capital. Transaction costs and asymmetric information provide the basis for understanding intermediaries. Financial mediators play an essential role in the growth of the real sector and the development experience of developed and newly industrialised countries. The overall objective of the monetary policy towards efficient bank lending relied on the performance of the macroeconomic variables operating in the economic system and by performance; this is an increase in the capacity of an economy to produce goods and services from one period of time to another.

Olofinlade, S. O, Aremu, O. S, & Ogunwole, C. O. A., (2021). Examine the impact of monetary policy on assets management of deposit money banks in Nigeria. The study specifically addressed the effect of monetary policy rate, liquidity rate and cash reserve requirement on banks asset management for the period which spanned from 1981 through 2019. While secondary data were sourced from the Central bank of Nigeria Statistical bulletin and National Bureau of Statistics. However, Vector Error correction (VECM) econometric techniques approach was applied on the secondary data. Reveals that monetary policy rate and cash reserve requirement have significant and positive effect on bank asset management while liquidity rate had an insignificant negative effect on bank asset management. The study concluded that monetary policy has a significant effect on bank asset management in Nigeria.

Moreover, 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 an existing bidirectional relationship between MPR and loans and advances of Deposit Money Banks in Nigeria. Notably, MPR granger causes loans and advances in Nigeria. The other explanatory variables are broad money supply (LM2), liquidity ratio (LR), inflation rate (IFR) and cash reserve ratio (CRR) does not granger cause loan and advances of Deposit Money Banks in Nigeria within the study period. The study concluded that the structural change in monetary policy system and monetary policy rate have significant impact on loan and advances of deposit money banks in Nigeria. This study is strictly on the link between monetary policy instruments and deposit money banks, loan and advances in Nigeria excluding the impact of bank lending.

Dare and Okeya, (2017) empirically examined the impact of monetary policy on the performance of commercial banks in Nigeria. The study specifically adopted United Bank for Africa (UBA) Plc as a case study. The study made use of a panel cross sectional data covering the period from 2009 to 2014. Multiple linear regression technique was employed to test the relationships inherent in the explanatory and dependent variables with the aid of Statistical Package for Social Sciences (SPSS), Version 20. The estimated model expresses banks' operating performance as a function of monetary policy represented by Monetary Policy Rate (MPR), Cash Reserve Requirement (CRR) and Liquidity Ratio (LR) while Return on Assets (ROA) is used as a proxy for banks' credit performance. The study found out that there is a positive but statistically insignificant relationship between MPR and ROA in the chosen bank. The analysis further indicated negative and statistically insignificant relationships between CRR, LR and ROA. The study concluded that the rationale for the statistically insignificant relationships observed might not be far from the commercial banks' low rate of compliance with monetary policy guidelines. The findings are inconclusive and the study was based on the case of United Bank of

Nigeria Plc. and not on the entire generality of the country.

Odufuye (2017) investigated the effects of bank credit on Nigerian economic growth for the period of 24years (i.e. 1992-2015) due to the poor accessibility of funds by the investors to invest in real sectors of the economy. Secondary data extracted from journals, textbooks and the Central Bank of Nigeria's (CBN) statistical bulletin were used. The variables employed are gross domestic product as proxy for economic growth, commercial bank credits to small and medium scale enterprises, credits to private sector, money supply and interest rate. To avoid spurious results, Ordinary Least Square (OLS) estimation technique with the aid of Statistical Package for Social Science (SPSS) was used as a statistical tool. The findings revealed that each of the explanatory variables has insignificant effect on gross domestic product. Based on the f-statistic result, it was also discovered that the joint variables of bank credit have meaningful impact on gross domestic product for the period under review. The study concluded that bank credit if properly channelled is a catalyst for Nigeria economic growth. There are inconsistencies in the empirical findings of the studies.

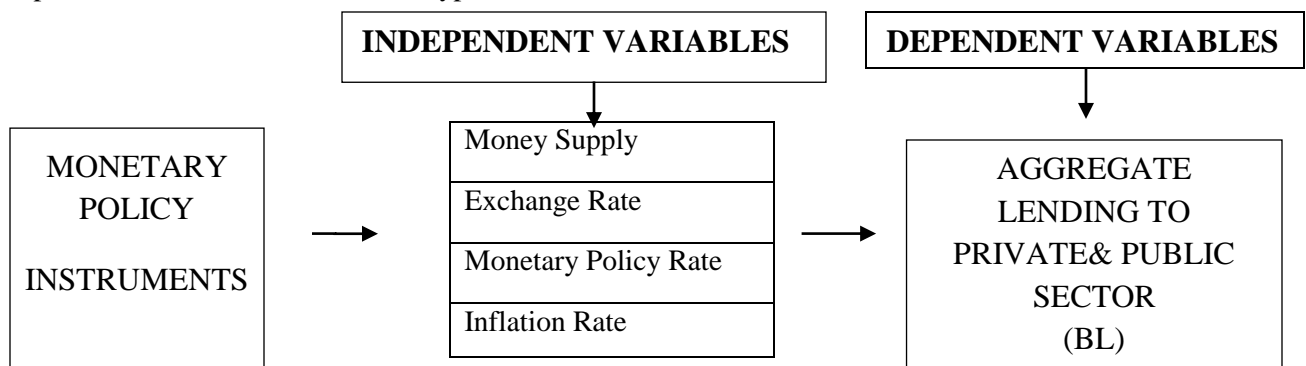
Jegede (2014) examined the impacts of monetary policy on the commercial banks' lending in Nigeria. The study empirically investigated the impacts of monetary policy on commercial banks' lending in Nigeria between 1988 and 2008; using macroeconomic time series variables of exchange rate, interest rate, liquidity ratio, money supply and commercial bank loans and advances. Using vector error correction method and ordinary least square econometric technique as estimation method. The findings revealed that there exists a long run relationship among the variables in the model. Specifically, the findings showed that exchange rate and interest meaningfully influenced commercial banks' lending, while liquidity ratio and money supply exert negative effects on commercial banks' loans and advances.



Olokoyo (2011) examined the Determinants of Commercial Banks’ Lending Behaviour in Nigeria. The study aimed to test and confirm the effectiveness of the common determinants of commercial banks’ lending behaviour and how it affects the lending behaviour of commercial banks in Nigeria. The model used is estimated using Nigerian commercial banks’ loans and advances (LOA) and other determinants or variables such as their volume of deposits (Vd), their investment portfolio (Ip), interest/lending rate (Ir), stipulated cash reserve requirements ratio (Rr) and their liquidity ratio (Lr) for the period; 1980 – 2005. The model hypothesizes

that there is a functional relationship between the dependent variable and the specified independent variables. From the regression analysis, the model was found to be significant and its estimators turned out as expected and it was discovered that commercial banks’ deposits have the greatest impact on their lending behaviour.

The conceptual framework below show the linkage effects between monetary policies on aggregate lending of deposit money banks’ in Nigeria.



Source: Author’s Design, 2020

Figure 1: The conceptual framework showing the interaction between the effects monetary policy on aggregate lending on deposit money banks in Nigeria.

III METHODOLOGY

The researcher adopts econometric technique to examine the effects of monetary policy on aggregate lending of deposit money banks in Nigeria using different techniques such as the Augmented Dickey-Fuller (ADF), unit root test, and ordinary least square regression method. . Furthermore, the monetary policy instruments of money supply, monetary policy rate, exchange rate and inflation as the independent variables on aggregate credit to private and public lending as dependent variable.

The study made use of data obtained from the Central Bank of Nigeria (CBN) Statistical Bulletin and National Bureau of Statistics. The time series annual data covered

the period 1984-2020. The model of Okoye & Eze (2013) that examined the effects of banks’ lending rate on the performance of Nigerian deposit money banks was adapted and thus stated as

$$BE = f (LR, MPR).....1$$

This model was modified to suit this study so as to be able to achieve the questions raised with adequate variables. The model was also modified in order to improve the fit, thereby estimating the most likely relationship or effects among the variables and to investigate how the model predictions match real observations. The equation 2 which represents the effects



of monetary policy on aggregate lending of deposit money banks in Nigeria is thus stated below as:-

$$BL = f(MS_2, MPR, EXR, INF, U_t).....2$$

Expressing equation (2) more explicitly, we have:

$$BL = \beta_0 + \beta_1 MS_2 + \beta_2 MPR + \beta_3 EXR + \beta_4 INF + U_t.....3$$

Where:

BL = Aggregate lending to private and public sector; MS₂ = Broad money supply; MPR = Monetary policy rate; EXR = Exchange rate; INF = Inflation rate; β_0 = Constant intercept; $\beta_1 - \beta_4$ = Parameters or coefficients to be estimated; f = Functional notation and U_t = Stochastic error term

The *a priori* expectation provides expected signs and significance of the values of the coefficient of the parameters under review on the part of our regression model and it is stated as:

$$\beta_0 \neq 0; \beta_1 \geq 0; \beta_2 \geq 0; \beta_3 \geq 0; \beta_4 < 0$$

IV DATA ANALYSES

Stationarity Test or Unit Root Test

The study performed the Augmented Dickey–Fuller (ADF) unit root test to establish the stationarity of the time series variables in order to avoid spurious result from modelling non stationary variables. The result of the test is presented in Table 1

Table I Summary of Unit Root Test

Variables	ADF test statistic	Critical value 5%	Integration	Remark
MS ₂	-3.482146	-2.957110	I(1)	Stationary
MPR	-6.764028	-2.957110	I(1)	Stationary
EXR	-6.142668	-2.957110	I(1)	Stationary
INF	-3.894322	-2.957110	I(1)	Stationary
BL	-4.779052	-2.957110	I(1)	Stationary

Source: E view 9 Statistical, (2020)

The unit root test in Table I showed that all the monetary policy variables used were stationary at first difference. The aggregate lending to private and public sector, money supply, monetary policy rate, exchange rate and inflation rate failed stationary test at level but all became stationary at first difference. The reason behind this is that the Augmented Dickey Fuller (ADF) statistical test of each of the monetary policy variable was greater than 5 percent critical value of each of the monetary policy variables in absolute terms. This result implies that there is a short run equilibrium relationship among the economic variables

under investigation. The dynamic nature of the monetary policy variables as revealed by the unit root test led to the adoption of fitted regression as an appropriate model to test and to determine the existing effects among the variables of monetary policy and banks' lending of deposit money banks in Nigeria.

Result of Fitted Regression Model

The fitted regression estimate was applied on the studied variables, namely; (BL, MS₂, MPR, EXR, and INF)



Table II Regression Result of the Effects of Monetary Policy on Aggregate Bank Lending of Deposit Money Banks

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.121409	0.109603	1.107707	0.2768
MS ₂	1.143420	0.028687	39.85917	0.0000
MPR	0.299246	0.122950	2.433885	0.0209
EXR	0.156862	0.042675	3.675741	0.0009
INF	-0.072871	0.031781	-2.292900	0.0290
R-squared	0.997987	F-statistic		3718.435
Adjusted R-squared	0.997719	Durbin-Watson stat		2.018270
Prob(F-statistic)	0.000000			

Source: E view 9 Statistical Package, 2020

Evidence from Table II indicated that monetary policy tools of money supply, monetary policy rate and exchange rate have positive and significant effect on banks' lending at 5% level of significance aside inflation which has negative and insignificant effect on banks' lending. In particular, the result explored that 1% increase in the level of explanatory variables will spur banks' lending positively. However, money supply have 1.143420 coefficient value on banks' lending in Nigeria, implied that banks' lending significantly increased by the output of money supply which is estimated to be 114.3%. Also, the coefficient of monetary policy rate is 0.299246 which is positive and significant; as such' it implied that monetary policy rate significantly and positively influenced banks' lending by 29.92%. Furthermore, the coefficient of exchange rate 0.156862 is positive and significant at 5% level of significance; nonetheless, the result indicated that an attempt to further increase exchange rate value will positively and significantly affect banks' lending by 15.68%. Lastly, inflation appeared to be negative and insignificant with the value of -0.072871 on banks' lending in Nigeria. This implied that inflation rate has propensity to increase the fortune of

banks' lending by contributing about 7.28% increase to the dependent variable, hence, this is in consistent with the inflation theory of creditors gain debtors loose.

The test for the significance of the estimated parameters of the fitted regression model using the probability value showed that the probability value of money supply (MS₂), monetary policy rate (MPR), exchange rate (EXR) and inflation rate (INF) were $0.000 < 0.05$; $0.02 < 0.05$; $0.000 < 0.05$ and $0.029 < 0.05$ respectively. The standard error test for the parameters also affirmed the same result and thus implies the statistical significance of the estimated parameters for the money supply, monetary policy rate and exchange rate significantly affects banks' lending while inflation does not. Moreover, it was discovered from this study that the Adjusted R-square value of 0.997719 revealed that 99.77 percent variation in banks' lending can be explained by the influence of the explanatory variables in Nigeria while the 0.23 is subjected to error terms.

The F-statistics value of 3718.425 with the probability of F-statistics value of $0.000 < 0.05$ showed that the fitted regression model is statistically significant and thus appropriate, reliable and acceptable for examining the



effects of monetary policy on bank's lending of deposit money banks in Nigeria. More so, the Durbin Watson test statistics of 2.018 is greater than 2 which explain that the model is free from autocorrelation.

The test for the economic or theoretical significance of the parameters was determined based on the sign of the estimated parameters which revealed that money supply (MS_2), exchange rate (EXR), monetary policy rate (MPR) in Nigeria were positively signed. Thus, it implies that money supply (MS_2), exchange rate (EXR) and monetary policy rate (MPR) positively affected banks' lending in Nigeria during the period under investigation. Thus, the result concluded that monetary policy rate (MPR), exchange rate (EXR) and inflation rate (INF), money supply (MS_2) is influential to banks' lending of deposit money banks in Nigeria. Based on economic *a priori* expectation, all the explanatory variables were rightly signalled except inflation rate which signalled a negative relationship with banks' lending during the study period as indicated in the *a priori* expectation. The empirical result from the fitted regression established the effects of monetary policy on bank lending has improved meaningfully since the over half of the financial sector of the Nigerian economy and the implementation of financial reforms. The result finding revealed that there were meaningful nexus between monetary policy in use during the investigative period and banks' lending notably during the period of contractionary policy; it was harder for money deposit banks' to lend to investors with the monetary policy rate (MPR) result of 29.9% but was willing to lend excessively during the expansionary policy with the result of broad money supply (MS_2) at 114.3% this findings affirmed that the estimators turned out meaningfully as expected in the *a priori* expectation and it was discovered that commercial banks' deposits have the greatest effects on their lending behaviour.

V. CONCLUSION AND RECOMMENDATIONS

Monetary policy as a way through which the Central Bank of Nigeria control the activities of money deposit banks have been extensively reviewed and the effects which these measures have on banks' lending of deposit money banks have also been critically examined. The study uses monetary policy tools of money supply, aggregate lending to private and public sector, inflation rate and monetary policy rate to establish the linkage effects between monetary policy and bank lending of deposit money banks in Nigeria. The unit root test showed that all the monetary policy variables used were stationary at first difference. Revelation from the OLS expressly found that money supply monetary policy rate, and exchange rate have meaningful influence on bank lending of deposit money banks leaving inflation rate to be negative and insignificant on bank lending of deposit money banks in Nigeria under the study period. The findings therefore affirm that money supply is the main variable of interest and as such it can be inferred that monetary policy is effective in controlling and mobilising funds within the economic system. To cap it all, monetary policy explains with the R square of 99.77% of the changes in bank lending of deposit money banks in Nigeria indicates that monetary policy in used during the investigated period is effective. The study suggests that monetary authorities needs to supervise thoroughly the deposit money banks activities to enable them comply with all regulatory frameworks issued by the CBN such that the financial sector reforms undertaken since 1986 can achieve the desired results absolutely. Not that alone, the objectives of monetary policy should be spelt out without ambiguity due to the multi-target characteristics of monetary policy tools so that conflict of objectives and instruments are avoided but resolved.



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