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Impact of Monetary Policy on the Performance of Commercial Banks: Evidence from Nigeria: 2008-2023

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ABSTRACT

This paper investigates the impact of monetary policy on the performance of deposit money banks in Nigeria, using monthly data series spanning the period 2008 to 2023. Total private sector credit of deposit money banks was used to proxy the performance of deposit money banks while money supply, monetary policy rate, cash reserve ratio, and maximum interest rate were used as proxies for monetary policy. The Ex-post Facto research design was adopted in this study. Data on total private sector credit of deposit money banks, money supply, monetary policy rate, cash reserve ratio, and maximum interest rate were obtained from the Central Bank of Nigeria (CBN) Statistical bulletin. The hypotheses of this paper were tested using the Autoregressive Distributed Lag statistics. The findings disclosed that total private sector credit of deposit money banks has a significant relationship with money supply and maximum interest rate while cash reserve ratio and monetary policy rate has an insignificant relationship with total private sector credit of deposit money banks. The researchers recommended among other things that the monetary authorities should consider policies that enhance liquidity within the banking system. This can be achieved through open market operations, reducing the reserve requirements, or other mechanisms that increase the availability of funds in the economy as the money supply was found to be statistically significant. Also, it is crucial for monetary authorities to monitor and adjust the maximum interest rates to ensure they remain conducive to deposit growth. High lending rates may discourage borrowing and subsequently reduce deposits, while more favorable rates could encourage economic activity and deposit inflows.

KEYWORDS

Monetary Policy; Money Supply; Central Bank of Nigeria, Nigeria

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1. Introduction

Suffice to say that the importance of deposit money banks cannot be over-emphasized as its effectiveness can help bring about economic prosperity. Deposit money banks are institutions that collate funds from the idle cash owners to the people that actually need it for businesses, that is, they stand as a middleman between the lenders and borrowers in an economy. Alalade, Oseni and Adekunle (2020) explained the important role that the financial sector plays in the economy of any economy. That is, it is a medium that inactive money is provided to the fruitful sector, thus, helping the utilization of savings in the system to bring about employment opportunities for the citizens and boost the gross domestic product.

However, the roles of commercial institutions stir foreign trade thereby also improving the balance of payment. To bring this significant function of financial intermediation to reality, commercial institutions are subjected to the effective use of monetary policy thus relying on the control of the supply of money in their reserve to decipher economic activities and finances. Monetary policy is a macroeconomics that concerns the effective use of monetary tools to influence the supply and cost of funds in a country, in consonance with an expected level of economic activities Ayodele (2014). It is important to state that monetary policy is a mixture of several packages with the intention to influence the volume, direction, and cost of money in an economy at any given time. Azeez and Ilori (2021) opined that monetary policy concerns the management of interest rates and money within the economy which the central banks have sole responsibility.

Further, according to Central Bank of Nigeria (2018) they described monetary policy as a vital control instrument utilized by financial authorities, that is, the Central Bank of a nation in other to put in check the supply as well as the demand of funds with the goal of attaining macroeconomic objectives. Also, it includes different processes intended to influence interest rates and money supply in the context of macroeconomic objectives. Monetary authorities such as the CBN make use of monetary policy to control the amount, value, accessibility, and guidelines of money as well as credit in the system to achieve certain macroeconomic objectives and curb unwanted economic shift.

Moreover, proper liquidity is needed to enhance development and economic growth; to attain stability; sufficient utilization of monetary policy is needed. Despite the establishment of regulatory agencies and monetary policy committees, commercial banks in Nigeria have been dissuaded in sufficient liquidity creation as well as extra loans for economic maintenance in general. This moved Ayodele (2014) to state that the inputs of financial institutions in bringing about economic growth and development process cannot be overstretched as they play this function very well.

Nevertheless, Nnamdi and Nwakanma (2013) stated that, in time past the CBN has employed various policies for the purpose of controlling and developing the domestic financial system in other to attain major macroeconomic goals that often conflict and bring disruption in the economy. Dang and Huynh (2022) opined that the monetary authorities increase or decrease policy rate into the system through open market operations (OMO) thus reducing total profits and increasing instability in financial capacity thus, commercial banks react to this policy shifts. In addition, according to Ndugbu and Okere (2015) they mentioned that some instrument of monetary policy - cash reserve ratio including capital requirements have being used to scrutinize financial institutions liquidity creation through deposit level including loan facilities to the general system. Monetarist and Traditional theories have submitted that monetary policy mechanisms are effective regulatory instruments which tend to influence financial performance of banks. Thus, monetary authorities are mandated to firmly assure commercial banks financial execution through monetary policy utilization (Akomolafe et al., 2015).

Thus, commercial banks invest their customer's deposits in order to make a profit either in a long-term or short-term investment in the capital market (Asobari & Christian 2023). Also, the majority of the deposit is given out as loans to the business people. Hence, Solomon (2012) opined that the more loans and credit commercial banks

give to those who need it, the more their profit increases. It is important to state that reducing interest rates was significantly done to enhance growth and development in the economy, promoting investment. The monetary authorities through the commercial banks induce special deposits to the general public when needed in order to mop up excess cash within the economy and also increase financial institutions loan creating ability.

Also, Asobari and Christian (2023) stated that the tools of monetary policy do not directly influence economic activities, instead, they move through their impacts on commercial banks and on capital market. Initially, the tools of monetary policy already influence the supply and demand of cash held by commercial banks including the credit creation ability. It is safe to quickly add that any time the guidelines and acts of the monetary authorities restrict the profit-making of commercial banks they quickly look for other means of making their gains.

Ogbeifun and Akinola (2019) submitted that the apex bank influences loan availability creation of commercial banks, interest rate, security prices, and money supply through changing reserve requirements and other monetary instruments. Thus, a major function of the apex bank is to make sure that these commercial banks are not agitated. In the pursuit to make that happen, the apex bank introduced the N25 billion capitalization requirement for the then existing financial institutions; the commercial banks that could not meet this requirement faced distress.

Hence, concerning recent adjustments in Nigeria's monetary policy instruments, the apex bank monetary policy committee in November 2020 retained the monetary policy rate (MPR) at 11.5 percent; retained the asymmetric corridor of +100/-700 basis points around the MPR; increased the Cash reserve ratio (CRR) to 27.5 percent; and retained the liquidity ratio (LR) at 30 percent (Emefiele, 2020). According to Emefiele (2020), the decision to raise the CRR from 22.5 to 27.5 percent was in response to the inflationary pressure in the economy. Currently, the inflation rate stands at 12.69 percent from 12.88 percent in 2020 and 11.40 percent in 2019. A number of scholars have established that the frequent adjustments made on monetary policy tools influence the performance of banks in terms of their lending activities. Whereas, an analytical look into the Central Bank statistical bulletin (2019), reveals that there have been times when adjustments in monetary policy instruments did not amount to any tangible change in the level of interest rates and credit availability. Adeyemi et al., (2018) discovered that the financial standing of commercial banks to the private sector increased in the tune of N 10,660.07 billion in 2011 to N18,674.15 in 2015 in spite of the adjustments carried out on the monetary policy instruments during that period. Some scholars' opinion that changes in monetary policy tools influence the action of banks requires investigation. Thus, this paper wants to make findings whether there exists a statistically significant connection between the tools of monetary policy and the performance of commercial banks. The broad objective is to empirically find out how monetary policy impacts the performance of commercial banks in Nigeria. Thus, the null hypothesis is that there is no significant relationship between the variables of monetary policy and total bank deposits in Nigeria.

This paper is of great importance because it will provide an adequate overview of monetary policymaking to monetary authorities and serve as useful guidelines to the formation of monetary policies that will affect growth and investments given its benefits and projected usefulness to the Nigerian economy also for other developing countries around the globe. This paper utilizes a time series of 15 years (2008 to 2023). The justification for choosing these time series is because it covers the civilian administrations, thus allowing for a thorough investigation of the monetary policy's role in promoting economic growth dynamics in Nigeria. This study contributes to knowledge by extending its scope to 2023 which to the best of the researchers' knowledge is the most recent study on the subject area. Also, the paper employed relevant variables like Maximum interest rate which was lacking in addition in the previous works reviewed by the authors.

2. Literature Review

2.1. Empirical Review

Investigation of the relationship between monetary policy on the performance of commercial banks generally has enjoyed the patronage of many scholars. Some scholars have the opinion that there is a negative relationship; while others have a positive relationship between monetary policy and commercial banks, which is a lack of consensus. The lack of consensus by past researchers leaves a research gap which indicates that more studies are required on this subject. Therefore, among such relevant previous studies critically reviewed by the researcher are highlighted below:

According to Christain and Asobari (2023), they carried out an empirical analysis on the impact of monetary policy on the actions of commercial banks within the economy of Nigeria for the time series of 31 years (1990 to 2021) making use of a method known as multiple regression. From the paper, the variables employed were - liquidity ratio (LQR), cash reserve ratio (CRR), prime lending rate (PLR), and exchange rate (EXR) which were the explanatory variables while banks' performance was the dependent variable during the period under investigation. Findings from the paper unveiled that CRR had a positive and insignificant relationship with the ratio of banks' ROA/GDP. EXR was observed to have a negative and significant relationship with the ratio of banks' ROA/GDP. Prime lending rate unveiled an insignificant yet positive connection with the ratio of banks, liquidity ratio displayed significant yet negative association with ratio of banks. Thus, the authors recommended that the government should reduce the stipulated cash reserve ratio (CRR) in order to boost credit expansion amongst others.

An empirical study carried out by Ilori and Azeez (2021) on the actions of commercials between 1989 and 2019. The paper utilised Autoregressive distributed lag (ARDL) as a method of analysis. The results revealed that in the long run bank deposit rate and liquidity ratio are significant and exhibit a negative relationship with total bank deposit (TBD). While the cash reserve ratio is significant, and exhibits a positive relationship with TBD and bank lending rate (BLR) exhibits a positive relationship with TBD but is not significant. The authors recommended that monetary authorities should strike a balance on the rate of deposit as a tool for controlling commercial banks actions and how they operate.

2.2. Conceptual Review

2.2.1. Monetary Policy

Afrogha et al., (2023) opined that monetary policy encompasses various processes intended to control money supply and interest rates within the context of economic objectives. Also, Azeez and Ilori (2021) describe monetary policy as basically the management of interest rates and money in circulation and is generally carried out by Central banks. Monetary policy entails a deliberate effort by a country's monetary authorities (i.e. the Central Bank of Nigeria) to control the supply of money as well as credit conditions in order to achieve specific broad objectives in the economy (Mengistu, 2021). Further, Lyndon and Godspower (2019) defined monetary policy as one in which systemic actions are carried out by CBN through the highest bank of a nation to regulate the cost and availability of funds within the system thus helping to attain specified goals that the government wants to carry out. Moreover, in another study, Charity et al., (2021) defined monetary policy as measures designed to regulate money supply in an economy. Monetary policy is a crucial regulatory tool employed by financial authorities, such as the Central Bank of a nation, to manage the demand and supply of money with the aim of achieving macroeconomic objectives (Central Bank of Nigeria, 2018).

2.2.2. Deposit Money Bank

Banks are financial institutions that are incorporated as well as licensed to undertake the business of banking which includes receiving customers' deposits, accepting withdrawals on customers' accounts, and the issuing loans

and advances to customers that are willing (BOFIA, 2020). According to the duo, Adelalu and Osho (2020) ascribed deposit money banks as a medium in which inactive money are made available to the fruitful part of the economy, in that way bringing about the utilization of excesses within the system to create jobs and foster the development of the economy. Julius et al., (2018) described deposit money banks (DMBs) as institutions that act as financial intermediaries in the economy. They mobilized deposits from where there is a surplus and give this out as loans to areas where there is a shortage.

2.2.3. Research Gaps

A lot of studies in the past have been done on the relationship between the performance of deposit money banks and monetary policy. The review of past empirical literature revealed a lack of consensus in the paper findings of previous scholars; Lawal et al., 2022 concluded that monetary policies have a significant influence on the profitability of Nigerian listed deposit money banks when they are pooled together while Ilori and Azeez (2021) found a negative association between monetary policy and commercial banks in Nigeria. Hence, the lack of consensus by past researchers leaves a research gap which indicates that more studies are required on this subject. This study however examined the impact of monetary policy on the performance of deposit money banks in Nigeria between 2008 and 2023 in addition to filling the gap in literature and the scope of 2023, to the best of the authors' knowledge is very recent in this study. However, scholars (Asobari & Christain, 2023; Uruakpa, 2023; Jeff-Anyeneh et al., 2023, Lawal et al., 2022) who examined the impact of monetary policy on the financial performance of deposit money banks in Nigeria extended their work to only 2021 as against this current paper which extended her scope to 2023, which is the most recent on the subject area. Also, this paper utilized four explanatory variables including maximum interest rate which was lacking in addition to the previous studies to decipher how it affects our economy.

3. METHODS AND MODEL SPECIFICATION

Thus, this study carried out the impact of monetary policy on the performance of deposit money banks in Nigeria for the fact that it relies on past events and finding back in time for things responsible for changes, the research design is the ex-post facto. To carry out the analysis we covered between 2008 and 2023. This paper utilized secondary data on commercial banks and monetary policy. Data were obtained from the apex bank statistical bulletin of different issues including the National Bureau of Statistics.

The fundamental assumption of the model of the paper is time series stationarity. The unit root test is required to ensure that the variables are stationary within I (0) and (1) because above these levels of integration, the ARDL cannot be applied. The justification for the use of Autoregressive Distributed Lagged (ARDL) is based on the fact that most of the economic variables that were used were not stationary at the same level. According to Pesaran et al., (2001), Autoregressive Distributed Lagged (ARDL) allows researchers to estimate economic variables integrated at 1(0) and 1(1) without any serious implications. Thus, the ARDL model is a powerful and widely used econometric tool that plays a crucial role in understanding the long-term relationships between non-stationary time series variables, forecasting future values, and performing policy analysis. Its flexibility and robustness make it an indispensable choice in empirical economic research and various other fields. Also, it is justified by capturing more variables as regressors, which are MPR, MS, CRR, and MAX. Thus, since economic time series are non-stationary, the paper avoided spurious results by utilising Augmented Dickey Fuller (ADF) test to identify the order of integration.

3.1. Model Specification

$$TBD = \int (MS, MPR, CRR, MAX) \quad (1)$$

Where;

TBD = Total Bank Deposit in Nigeria

MPR = Monetary Policy Rate

CRR = Cash Reserve Ratio

MAX = Maximum Interest Rate

In linear stochastic forms;

$$TBD = \beta_0 + \beta_1 MS + \beta_2 MPR + \beta_3 CRR + \beta_4 MAX + U_{t2} \quad (2)$$

However, the ARDL model is thus;

$$\begin{aligned} \Delta TBD_t = & \beta_0 + \sum_{g=1}^k \beta_{1i} \Delta TBD_{t-i} + \sum_{h=1}^l \beta_{2i} \Delta MS_{t-i} + \sum_{i=1}^m \beta_{3i} \Delta MPR_{t-i} \\ & + \sum_{i=1}^m \beta_{4i} \Delta CRR_{t-i} + \sum_{i=1}^m \beta_{5i} \Delta MAX_{t-i} \\ & + \sum_{g=1}^k \beta_{1i} TBD_{t-i} + \sum_{h=1}^l \beta_{2i} MS_{t-i} \\ & + \sum_{i=1}^m \beta_{3i} MPR_{t-i} + \sum_{i=1}^m \beta_{4i} CRR_{t-i} + \sum_{i=1}^m \beta_{5i} MAX_{t-i} \varepsilon_t \end{aligned} \quad (3)$$

Below is the ARDL ECM model;

$$\begin{aligned} \Delta TBD_t = & \beta_0 + \sum_{g=1}^k \beta_{1i} \Delta TBD_{t-i} + \sum_{h=1}^l \beta_{2i} \Delta MS_{t-i} + \sum_{i=1}^m \beta_{3i} \Delta MPR_{t-i} + \sum_{j=0}^n \alpha_{4i} \Delta CRR_{t-j} \\ & + \sum_{j=0}^n \alpha_{5i} \Delta MAX_{t-j} + \beta ECM_{t-1} + \varepsilon_t \end{aligned} \quad (4)$$

The model above is used to adjust the estimation until the ECM turned negative. The negative sign of the coefficient of the error correction term ECM (-1) shows the statistical significance of the equation in terms of its associated t-value and probability value.

Where

Δ = first differencing operator

U_t = white noise or disturbance term

β_0 = is the intercept

$\beta_1, \beta_2, \beta_3, \beta_4 \dots$ are the coefficient to be estimated

3.2. Theoretical Underpinning

The theoretical framework that underpins this paper hinges on the Monetarists' Economic Theory which recognises the crucial role monetary policy plays in an economy.

Friedman (1956) propounded the monetarist theory. Thus, the mandate of monetary policy having a lone purpose of impacting the amount, value, and guidelines of money supply was brought about in the person of Friedman (1968) at the time he stated that inflation is often and everywhere a monetary occurrence. To his notice during a short run when the money supply is boosted unemployment falls but in the same vein can bring about inflation thus, the apex bank should gradually increase the money supply. Monetarist theory adopted Fisher's

equation of exchange to illustrate their theory.

Fisher's equation states that $MV = PQ$ Where: M = is the supply of money in the economy; V = velocity of circulation; P = price level in the economy; and Q = output produced by the economy. The import of this equation is that "if the money supply in the economy doubles so will the price level. And if the money supply increases by 10%, so will the price level". Monetarists like Friedman (1956; 1963) emphasized money supply as the key factor affecting the well-being of the economy. Moreover, promoting a constant growth rate requires that the money supply increases at an unchanging rate, rather than subjecting it to control and shifts from the apex bank. He further stated that money is not only held in bonds it can also be held in other forms such as goods and services, he submitted that the rising and falling of the money supply have indirect as well as direct impacts on investment and expenditure. It is the belief of the monetarists that a change in the money supply leads directly to a change in the real magnitude of money. According to the monetarists they submitted that monetary authorities buying and selling of securities can impact the real sector of any country. Thus, if the central bank were to influence the activities of the commercial bank it can either increase or decrease the money supply.

4. Data Presentation and Analysis

From this study we empirically carried out the impact of monetary policy on the performance of deposit money banks in Nigeria: 2008 to 2023 monthly series. The variables used in the paper were - maximum interest rate, monetary policy rate, money supply, cash reserve ratio, and bank deposits. We rely on the a priori that an increase in money supply would increase bank deposits, while the increase in the monetary policy rate would reduce bank deposits. Table 1 will be used to describe and explain the acronym of the variables in the research.

Table 1. Description of Variables.

Variable	Description	Measurements
Bd	Bank deposit of other depository corporations in Nigeria	Billions
Crr	Credit reserve ratio	Billions
M2	Money Supply	Billions
MPR	Monetary Policy Rate	Percentage (%)
Max	Maximum interest rate	Percentage (%)

Source: Authors computation, 2024

4.1. Descriptive Statistics

The mean, median, maximum, minimum, and standard deviation were used to analyze the characteristics of the variables under scrutiny.

Table 2. Descriptive Statistics

Variables	BD	CRR	M2	MPR	MAX
Mean	20897399	17.33	24227344	11.97	26.24
Median	16826427	22.50	19912644	12.00	26.86
Maximum	70242905	32.50	78831122	18.75	31.55
Minimum	5790351	1.00	6527673	6.00	17.58
Standard dev	13205002	10.55	15028537	2.95	3.49
Observation	192	192	192	192	192

Sources: Authors Computation

The above table shows that M2 had the highest mean of 24227344, followed by the bd 20897399, then CRR had a 17.33, the least should be 11.97. Also, the median descriptive statistics show that M2 had the highest value of

19912644, followed by bd with a value of 16826427. The lowest median value was 12.00, followed by CRR 22.50. The highest maximum value was M2 with a figure of 78831122, followed by the bd 70242905, the least maximum value is 18.75 which is MPR, followed by 31.55 of max. The variable with the highest minimum value is M2, with a value of 6527673, followed by 5790351. The variable with the least minimum value is CRR, with a value of 1.00, followed by 6.00. The variable with the highest standard deviation is M2 with a value of 15028537, followed by bd with a value of 13205002. The variable with the least standard deviation is MPR with a value of 2.95, followed by max with a value of 3.49.

4.2. Unit root test

A unit root test is a statistical test used to determine whether a time series variable is non-stationary and possesses a unit root. A time series is said to be non-stationary if its statistical properties, such as mean and variance, change over time. The presence of a unit root indicates that shocks to the level of the series have a permanent effect, making the series unpredictable and making conventional regression analysis invalid.

Table 3. Unit root test

Variable	Level				First difference		
	n	c	ct	n	c	ct	
lbd	6.47	1.74	0.73	1.91**	14.79***	14.92***	
crr	1.02	0.76	2.66	13.74***	13.91***	13.88***	
lm2	5.85	0.68	0.96	3.96***		15.05***	
mpr	1.49	0.07	2.72	7.65***	7.76***	7.81***	
lmax	1.22	-2.69*					

Sources: Authors Computation Note: * represents 10 percent significance, ** represents 5 percent significance, while *** represents 1 percent significance

From the above table, it shows that only lmax is stationary at level, while other variables were stationary at first difference.

4.3. Bound test

The ARDL (Autoregressive Distributed Lag) bounds test is a method utilized to check for the availability of long-run association between variables of interest. This test is particularly useful when variables are of different orders of integration, i.e., some are stationary at a level and some at first difference.

Table 4. Bound test

Test statistics	Value	Sig	I(0)	I(1)
F-statistics	2.64			
K	4	5%	3.47	4.57

Sources: Authors Computation

The above table shows that f-statistics is less than I(0), which means the short-run ardl would be estimated instead of a long-run ardl model.

4.4. Ardl Estimation

Autoregressive Distributed Lag (ARDL) estimation is a methodology used in econometrics to check the association between a dependent variable and one or more independent variables when the underlying data series can be of different orders of integration (i.e., some variables are stationary at level and others at first difference).

Table 5. Ardl Estimation

Variable	Coefficient	Standard Error
Lbd(-1)	0.92**	0.028
Crr	-0.00035	0.00
Lm2	0.73**	0.04
Mpr	0.00069	0.00
Lmax	-0.060**	0.02
C	0.260	0.30
Trend	0.000	0.00

Sources: Authors Computation Note: * represents 10 percent significance, ** represents 5 percent significance, while *** represents 1 percent significance

The above table shows that the money supply and maximum interest rate are significant, while the cash reserve ratio and monetary policy rate are not statistically significant. Findings depict that a change in the cash reserve ratio would bring about a 0.035 unit reduction in bank deposits. A change in money supply was shown to bring about a 0.73 increase in bank deposits, which is statistically significant. Though the monetary policy rate showed not to be significant, a change in the monetary policy rate brought about a 0.069 unit increase in bank deposits. A maximum lending rate which is significant at a 5 percent level of significant displays that a unit change in maximum lending rate will lead to a 0.06 unit reduction in bank deposits.

4.5. Post Estimation test

Post-estimation tests in ARDL models are crucial for validating the model's assumptions and ensuring the reliability of the results. These tests include checking for autocorrelation, heteroscedasticity, normality of residuals, and stability of the model. Here are some common post-estimation tests:

Table 6. Post estimation test

Test	Prob
Heteroskedasticity	(0.59)
Serial correlation	(0.95)

Sources: Authors Computation

The above table shows that the model is free from heteroscedasticity and serial correlation, which makes the model suitably good and appropriate for analysis.

5. Conclusion

The study examined the impact of monetary policy on the performance of deposit money banks in Nigeria from 2008 to 2023. The findings reveal that among the monetary policy variables analyzed, money supply and maximum interest rate are statistically significant determinants of bank deposits, while the cash reserve ratio and the monetary policy rate are not. The analysis shows that a change in the cash reserve ratio would result in a 0.035 unit reduction in bank deposits, though this effect is not statistically significant. In contrast, a change in the money supply leads to a substantial and statistically significant 0.73 unit increase in bank deposits, highlighting the critical role of money supply in influencing banking performance. The monetary policy rate, despite not being statistically significant, still shows a 0.069 unit increase in bank deposits per unit change, suggesting some influence on deposit levels.

Furthermore, the maximum lending rate, significant at the 5% level, shows that a unit change in this rate results in a 0.06 unit reduction in bank deposits, reflecting the sensitivity of bank deposits to lending rates. These results

underline the importance of carefully calibrating money supply and lending rates to foster bank deposit growth, while adjustments in the cash reserve ratio and monetary policy rate require further scrutiny to determine their nuanced impacts. Overall, the findings emphasize the critical influence of money supply on banking performance, advocating for policies that enhance liquidity to support the banking sector's growth and stability. The findings of this paper agree with Uruakpa (2023) who found a mixed relationship with the variables of monetary policy in consonance with commercial banks.

5.1. Policy recommendations

Based on the findings of this paper, several policy recommendations can be made to enhance the performance of deposit money banks in Nigeria:

- **Increase Money Supply:** Given the statistically significant impact of money supply on bank deposits, monetary authorities should consider policies that enhance liquidity within the banking system. This can be achieved through open market operations, reducing reserve requirements, or other mechanisms that increase the availability of funds in the economy. Enhanced liquidity will likely stimulate deposit growth, thereby improving the banks' performance.

- **Monitor and Adjust Maximum Lending Rates:** Since the maximum lending rate significantly affects bank deposits, it is crucial for monetary authorities to monitor and adjust these rates to ensure they remain conducive to deposit growth. High lending rates may discourage borrowing and subsequently reduce deposits, while more favorable rates could encourage economic activity and deposit inflows.

- **Review the Cash Reserve Ratio:** Although the cash reserve ratio was not found to be statistically significant, it still has an effect on bank deposits. Policymakers should review and possibly reduce the cash reserve ratio to ensure banks have more funds available for lending and investment, which can, in turn, stimulate deposit growth.

- **Assess the Role of the Monetary Policy Rate:** Despite the monetary policy rate not being statistically significant in this study, it still influences bank deposits. Policymakers should ensure that the monetary policy rate is set at a level that balances the goals of controlling inflation and fostering economic growth. A carefully calibrated policy rate can support overall economic stability, which is beneficial for the banking sector.

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Conflict of interest

All the authors claim that the manuscript is completely original. The authors also declare no conflict of interest.

Author contributions

Author Contributions section written based on the above descriptions: Conceptualization: Obiaje; Methodology: Umeokwobi; data curation: Umeokwobi; Writing – review & editing: Obiaje.

References

Afrogha, O. O., Tyohen, J. T., and Afrogha, N. (2023). Influence of monetary policy on the performance of deposit money banks in Nigeria. *UMM Journal of Accounting and Financial Management (UMMJAFM)*, 3(1).

- Akomolafe, K. J., Danladi, J. D., Babalola, O., and Abah, A. G. (2015). Monetary policy and commercial banks' performance in Nigeria. *Public Policy and Administration Research Journal*, 5(9), 158–166.
- Alalade, O., Oseni, M., and Adekunle, A. (2020). Monetary policy and its effects on the Nigerian banking sector. *Nigerian Journal of Economic Research*, 25(3), 45–60.
- Alalade, Y. S., Oseni, E., and Adekunle, O. A. (2020). Monetary policy and financial performance of deposit money banks in Nigeria. *Asian Social Science Journal*, 16(11), 123–135.
- Asobari, W. J., and Christian, E. J. (2023). Monetary policy and performance of deposit money banks in Nigeria. *Business Management International Journal*, 6(7).
- Ayodele, J. C. (2014). Effects of monetary policy on the commercial banks' lending in Nigeria. *Review of Public Administration and Management*, 3(5), 134–146.
- Ayodele, O. M. (2014). Effect of monetary policy on commercial banks' lending in Nigeria. *Review of Public Administration and Management*, 3(5).
- Azeez, B. A., and Ilori, O. O. (2021). Effects of monetary policy on the performance of Nigerian deposit money banks. *International Journal of Intellectual Discourse (IJID)*, 4(2).
- Central Bank of Nigeria. (2018). *Monetary Policy Framework*. Retrieved from <https://www.cbn.gov.ng/monetary/Monetary%20Policy%20Framework%20Book%20Revised.pdf>
- Friedman, M. (1956). The quantity theory of money: A restatement. In *Studies in the Quantity Theory of Money* (pp. 277–290). University of Chicago Press.
- Friedman, M. (1963). Money and business cycles. *Review of Economic and Statistics*, 45(1), 32–64.
- Friedman, M. (1968). The role of monetary policy. *American Economic Review*, 58(1), 1–17.
- Ifionu, E. P. (2019). *Monetary theory and fiscal policy: A Nigerian perspective*. Jeso International. ISBN: 978-37139-8-1.
- James, C., Van, H., and Wochowicz, M. (2016). Understanding financial performance in banking: A comprehensive analysis of key ratios. *Journal of Banking and Finance*, 40(2), 451–461.
- Lawal, B. A., Oyetunji, O. T., Adekoya, A. A., Adukepe, P. E., and Lawal, B. O. (2022). Monetary policy and financial performance: Empirical evidence from listed deposit money banks in Nigeria. *Journal of Positive School Psychology*, 6(9).
- Lyndon, M. E., and Godspower, T. O. (2019). Monetary policy and economic growth nexus: Further evidence from Nigeria. *Global Journal of Arts, Humanities and Social Sciences*, 7(8), 24–37.
- Mengistu, M. M. (2021). Evaluation of the financial performance of the banking sector in Ethiopia: The case of Zemen Bank. *Global Journal of Management and Business Research: Finance*, 15(9), 29–38.
- Ndugbu, M., and Okere, P. A. (2015). Monetary policy and the performance of deposit money banks: The Nigerian experience. *European Journal of Business and Management*, 7(17).
- Nnamdi, I. S., and Nwakanma, P. C. (2013). *Corporate financial policy: An introductory text* (pp. 66–72).
- Ogbeifun, I. E., and Akinola, A. O. (2019). Impact of qualitative monetary policy on the performance of deposit money banks in Nigeria. *International Journal of Development Research*, 9(7), 28833–28840.
- Osho, A. E., and Adelalu, O. E. (2020). Monetary policy and financial performance of quoted deposit money banks in Nigeria. *The International Journal of Business Management and Technology*, 4(5).
- Pesaran, M. H., Shin, Y., and Smith, R. J. (2001). Bound testing approaches to the analysis of level relationships. *Journal of Applied Econometrics*, 16(2), 289–326. <https://doi.org/10.1002/jae.616>
- Uruakpa, P. C. (2023). Monetary policy and deposit money banks' profitability: Evidence from Nigeria. *European Journal of Accounting, Finance and Investment*, 9(12).