



MONETARY POLICY AND PERFORMANCE OF DEPOSIT MONEY BANKS IN NIGERIA

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ABSTRACT

Over the years, there has been much debate on the extent to which monetary policy affects bank performance, with differing perspectives on the magnitude of the effects and the channels through which these effects are produced. This study investigates the effect of monetary policy on the performance of Deposit Money Banks (DMBs) in Nigeria. Specifically, it assessed the effect of Cash Reserve Requirement (CRR) on banks' lending activities and ascertained the effect of Minimum Discount Rate (MDR) and Liquidity Ratio (LR) on banks' performance. 20 licensed DMBs were purposively selected and time series data from 2014 to 2019 were obtained from Central Bank of Nigeria (CBN) Statistical Bulletin. Data were analysed using descriptive statistics, correlation and ordinary least square (OLS) model. Findings revealed a strong yet negative link between CRR and MDR and DMBs performance. This means that increase in CRR and MDR leads to a sharp decline in bank performance. LR, on the other hand, showed a substantial and positive link with DMB performance, showing that higher LR improves bank performance. Furthermore, the results of the OLS model revealed that CRR and MDR had an adverse but considerable influence on DMBs performance. However, LR has a favourable and considerable influence on bank performance. The study found that monetary policy significantly influences DMBs performance in Nigeria. It is suggested that the CBN should modify its monetary policy instruments to make them more appealing to DMBs.

Keywords: Monetary policy, cash reserve requirement, liquidity ratio, minimum discount rate



1. INTRODUCTION

A country's banking system plays a key role in protecting its financial stability (Naseem, 2012). This sector's operations and performance have a direct impact on achieving macroeconomic goals while also improving the economy (Isibor, Ojo, & Ikpefan, 2018). This sector performs a significant role by intermediating funds from the surplus to deficit sectors of economic units thereby generating the appropriate framework for economic growth and development. Many central banks around the world consider Deposit Money Banks (DMBs) to be the most efficient means of implementing monetary policy. Central banks establish and implement monetary policies to moderate the volume, valuation, and associated costs of currency in circulation for government economic objectives to be accomplished (CBN, 2016). By managing the availability and pricing of credit, monetary policy influences the economy's financing conditions (Ali, 2019). The Central Bank of Nigeria (CBN) is in charge of monetary policy development and implementation, in addition to regulatory oversight of financial institutions, notably DMBs.

CBN employs monetary instruments such as the cash reserve requirement (CRR), the liquidity ratio (LR), the minimum discount rate (MDR), open market operations (OMO), credit control, and monetary variables (Adegbite & Alabi, 2013). Furthermore, according to CBN (2016), there are two forms of monetary policy: expansionary and contractionary policies. When there is a lack of liquidity, expansionary monetary policy serves to supply money to the economy by lowering interest rates. As a result, it is employed during a downturn. By raising interest rates, contractionary monetary policy limits the amount of money in circulation and lowers inflationary pressures. Generally, efficiency of monetary policy is felt by its effects on bank performance. This is attributable to the relevance of banks in the implementation of monetary policy. The CBN also directly influences the operations of DMBs through the controls imposed by monetary policies, which ultimately affects their performance. These controls may have an impact on bank policies and objectives that are unique to each bank, but they generally have an impact on profitability, liquidity, and shareholder wealth maximization. As a result, it is critical to investigate how monetary policy affects the operations of DMBs, as this may be an ideal proposal to regulators, particularly the CBN, in establishing favourable policies that would improve DMB performance and invariably satisfy the macroeconomic objectives of the country.



Statement of the Problem

Recent trend of the crisis in the banking sector has aroused policymakers' interest, and regulators have typically connected monetary policy to banking defaults. Monetary policy, according to the CBN, protects banks, their customers, shareholders, and the economy as a whole. In fact, it protects all stakeholders and affiliated entities in a bank's lifeline. Nevertheless, not all studies supported its beneficial benefits on bank operational activity, liquidity, and financial performance. For example, some researchers discovered that monetary policy does not influence banks' performance, but others claimed that the influence is insignificant (Ajayi & Atanda, 2012; Akanbi & Ajagbe, 2012; Ogbulu & Torbira, 2012; Okoye & Udeh, 2009; Okpara, 2010; Okoro, 2013). Others reported that monetary policy has a favorable and substantial influence on banks' performance (Okoye & Eze, 2013; Ekpung et al. 2015; and Akomolafe et al. 2015). This study aims to bridge a knowledge gap caused by contradictions in the researchers' reports. Furthermore, little research has been conducted to analyze the effect of Cash Reserve Ratio (CRR), Minimum Discount Rate (MDR), and Liquidity Ratio (LR) as proxies for monetary policy on the performance of Nigerian DMBs. We also discovered a void in this area, which this study attempts to fill. Therefore, this study seeks to:

- Examine the effect of Liquidity Ratio (LR) on the performance of DMBs
- Investigate the effect of Cash Reserve Ratio (CRR) on DMBs performance
- Determine the effect of Minimum Discount Rate (MDR) on DMBs performance

2. LITERATURE REVIEW

Monetary Policy in Nigeria

Monetary policy is the conscious effort made by central bank to manage the volume, value, and availability of money in circulation so as to attain desired economic objectives of international and domestic equilibrium (CBN, 2011). The activity is achieved by adjusting the interest rates hence managing the amount of money in circulation (Uchendu, 2009). It is primarily an instrument for achieving the goals and objectives of monetary and price stability (Chuku, 2009). Governments regulate money supply because of the belief that the growth in money supply influences inflation rate (Onyeiwu, 2012). As a result, monetary policy includes any government acts aimed at influencing the behavior of the financial sector (Jhingan, 2014).



Due to varying economic frameworks, differentiation in stages of advancement in financial markets and variations in current economy, the efficiency of monetary policy and its significance as a driving force for economic stabilization differs significantly from one economy to the next. The numerous monetary policy tools or instruments are usually divided into two categories. These are monetary policy instruments that can be used directly or indirectly (CBN, 2016). Direct monetary policy instruments include the Central Bank's order to DMBs on the maximum percentage or amount of loans (credit ceilings) to certain economic sectors or activities, interest rate caps, liquid asset ratio, and the issuance of credit guarantees to favoured loans. However, indirect monetary policy instruments are open market operations (OMO), cash reserve operations, monetary policy rate (MPR), liquidity ratio, moral suasion and selective credit (Adegbite & Alabi, 2013).

Bank Performance

The banking industry plays a major role in the economic development of a nation. It is based on this premise that a lot of researchers pay greater attention to the performance of DMBs. Macit (2012) suggested that the performance of DMBs can be measured in terms of competition, productivity, profitability, efficiency as well as concentration. Financial performance is based on how well a bank is performing over time and expressed in terms of profitability or losses incurred over the period under consideration (Bodie, Kane, & Marcus, 2005). Profit is the motivating factor behind every business and the most important measure of banks' viability (Laeven et al., 2014). Profitability is a metric of performance and also a requirement for competitiveness and successful monetary policy implementation (Abel et al., 2018). However, return on assets (ROA) is commonly used to measure bank profitability (Kohlscheen et al., 2018). It indicates a bank's capacity to earn profits from its asset management operations while minimizing variances caused by variation in capital structure. In the literature, it is widely used for evaluating bank profitability (Borio et al., 2015; Kohlscheen et al., 2018; Abel et al., 2018).

Empirical Review

Okoye and Eze (2013) investigated the influence of bank lending rates on DMBs performance in Nigeria between 2000 and 2010; Findings revealed that the loan and monetary policy rates have significant and favorable effects on DMBs performance. Ekpung et al., (2015) also looked into the effect of monetary policy on DMBs performance. Findings suggest that monetary policy substantially affect bank deposit



liabilities. Deposit rates and minimum discount rates, in particular, negatively affect banks' deposit liabilities, whilst exchange rates favorably affect DMBs performance. Udeh (2015) evaluated the influence of monetary policy instruments on Zenith Bank's profitability in Nigeria. It was revealed that the CRR, LR, and IR have no effect on the bank's profit before taxes. The MDR, on the other hand, is found to have a considerable impact on the profitability of the bank.

Ozioma, Chiaka, and Samuel (2017) studied the effect of monetary policy regimes on DMBs' performance in Nigeria using a simple regression framework, concentrating on two policy regimes: SAP and post SAP periods. While total assets value, deposit mobilization, and credit to the private sector are used to gauge commercial bank performance, the monetary policy rate being the explanatory parameter. Their cover selection spans the years 1986 through 2013. They discover that whereas monetary policy has no effect on performance metrics during the SAP era, it affected all of them during the post SAP period. As a result, monetary policy regimes in Nigeria considerably affect DMBs performance. Meshack and Nyamute (2016) evaluated the influence of monetary policy on DMBs performance using multiple regression models. They discovered that the association between OMO and DMBs performance is slightly favorable, whereas CBR and CRR adversely affected DMBs performance. Alper, Binici, Demiralp, Kara and Ozlu (2018) investigated the correlations between reserve requirements, bank balance sheets, and bank lending decisions. They highlighted that central bank policies substantially affect bank's funding needs and liquidity decisions.

Furthermore, Ekpung, Udude, Uwalaka (2015) examined the effect of monetary policy on the Banking sector in Nigeria. They tested the relationships between Exchange rate, Deposit rate, minimum re-discount rate and bank performance. Their result showed that monetary policy plays a vital role in determining the volume of bank's deposit liabilities in Nigeria. Also, Nguyen, Huong Vu, and Thu Le (2017) focused on the impact of monetary policy on profitability of commercial banks using the case of Vietnam'. Monetary base (MB), discount rate (DIS) and required reserve ratio (RRR) were utilized as proxies for monetary policy. Profit before tax (PROFIT) was utilized to represent commercial banks' performance. The result showed that there is a positive relationship between banks' profits and monetary policies. Tamunosiki, Giami, Baribefe, and Obari (2017) empirically investigated the interrelationship between liquidity and corporate performance of banks in Nigeria. They used Cash Reserve Ratio, Liquidity Ratio and Loan-to-Deposit Ratio as proxies

for liquidity; and Return on Shareholders' fund as proxy for performance. Their result showed a significant negative short-run relationship between Cash Reserve Ratio and corporate performance, as well as a positive relationship between Loan-to Deposit Ratio and Liquidity Ratio on one hand and corporate performance on the other albeit significantly and insignificantly respectively.

Theoretical Framework

The Theory of Keynes

According to Keynesians, monetary policy has a significant impact on economic activity. Keynes theory states that a change in the supply of money can permanently change variables such as the rate of interest, the aggregate demand and the level of employment, output and income. Keynes disagreed with the classical assumption that money supply directly affects price levels and that the economy was always at full employment. However, in a situation of unemployment, Keynes advocated for a cheap monetary policy, (Udeh 2015) As a result, when the money supply is expanded, the first effect is on the interest rate, which tends to decline. A decrease in the rate of interest will encourage investment due to the marginal efficiency of capital. Multiplier effect increases effective demand, increasing income, output, and employment. Keynes posited that interest rate is governed by the demand for and supply of money. It went on to say that changes in money stock facilitate financial market activities such as interest rates, investment, output, and employment (Keynes, 1930).

Conceptual Framework

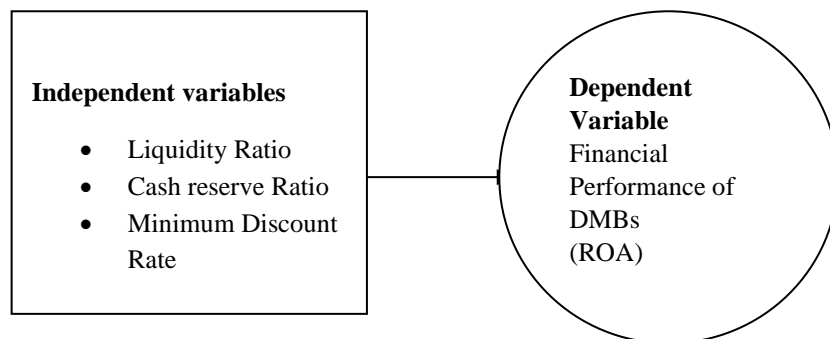


Fig I: Relationship between Monetary Policy and Bank Performance
Source: Author's conceptualization, 2022



3. METHODOLOGY

The study adopts descriptive research design which addresses the objectives of the study by investigating the relationship between monetary policy variables and performance of DMBs in Nigeria. The population of the study comprised of 24 DMBs licensed and supervised by the Central Bank of Nigeria as at 31st December 2019. A total of 20 licensed DMBs which were operational as at the time of the study were purposively selected for the study. Time series data from 2014 to 2019 were obtained from Central Bank of Nigeria (CBN) Statistical Bulletin Furthermore, descriptive statistics, correlation and ordinary least square model were used for data analysis. The dependent variable was Return on Assets (ROA) and is a measure of bank performance (profitability) that is bank profit before tax divided by the total assets. It indicates management's ability to utilize banks resources to make profits (Borio et al., 2005). The independent variables considered in the study are Liquidity Ratio, Cash Reserve Ratio and Minimum Discount Rate

Model Specification

The functional relationship between monetary policy variables and performance of DMBs in Nigeria is expressed thus:

$$ROA = f(LR, CRR, MDR, \mu) \dots \dots \dots (1)$$

Obtaining the OLS model from the above expression, we have:

$$ROA = a_0 + \beta_1 LR + \beta_2 CRR + \beta_3 MDR + \mu \dots \dots \dots (2)$$

Where:

ROA = Return on Asset

LR= Liquidity Ratio

CRR = Cash Reserve Ratio

MDR = Minimum Discount Rate

Statistical Package for the social sciences (SPSS 22) is used for data analysis.

4. RESULTS AND DISCUSSION

The results as displayed in Table I showed that CRR has the greatest mean value (25.55), followed by MDR (17.33), LR (10.70), and ROA with the lowest mean value of 10.38. Furthermore, the standard deviations demonstrated that all of the variables cluster tightly around their mean values, as they all have low standard deviations when compared to their mean values. The skewness results revealed that all of the examined variables are positively and normally skewed, with values ranging from -

1 to +1. Furthermore, the kurtosis coefficients indicate that all of the variables under evaluation have tiny tails, with kurtosis values lesser than three. The Jarque-Bera statistics which is a test of normality revealed that all the variables have probability values that are greater than 0.05 critical values. Thus, findings showed that all of the variables were properly and normally distributed.

Table 1
Summary of Descriptive Statistics

	ROA	CRR	MDR	LQ
Mean	10.38798	25.55414	17.33833	10.70463
Median	8.38732	26.38800	17.05605	9.818750
Maximum	12.48868	28.99900	19.12230	14.52354
Minimum	7.31483	21.44100	15.31210	8.062486
Std. Dev.	1.032971	2.721120	0.845100	1.964680
Skewness	0.805452	-0.235317	0.468011	0.241278
Kurtosis	2.66032	1.434076	2.779592	1.441193
Jarque-Bera	5.05503	8.020847	2.774156	7.988216
Probability	0.40032	0.218126	1.029804	0.138424
Sum	127.93492	1839.898	1248.360	770.7335
Sum Sq. Dev.	20.077181	525.7189	50.70782	274.0576
Observations	120	120	120	120

Dependent Variable: Return on Asset (ROA)

CRR = Cash Reserve Ratio; MDR = Minimum Discount Rate and LR = Liquidity Ratio

Source: Authors' computation, 2022

The relationship between monetary policy and DMB performance was determined using the correlation coefficient, as shown in Table 2. In the model, the liquidity ratio, cash reserve ratio, and monetary policy rate are used as proxies for monetary policy. The study found a strong but negative link ($R = -0.6929$, $p < 0.05$) between cash reserve ratio (CRR) and DMB performance in Nigeria. As a result, an increase in CRR results in a considerable drop in bank performance. Reducing the CRR increases the money supply, which should assist stimulate aggregate demand in the economy and improve bank performance. This discovery is in line with Kiganda's (2014) findings, which indicates a strong but inverse relationship between CRR and performance of banks.

Furthermore, the findings revealed a strong but negative relationship between Minimum Discount Rate (MDR) and DMBs performance ($R = -0.7149$, $p < 0.05$). As the CBN's lending rate rises, the banks' lending capacity grows as well. Higher MDR

could cause the economy to contract by increasing the cost of borrowing for borrowers, prohibiting them from borrowing for capital investments that are important for economic growth. It shows that a higher discount rate reduces the money supply, which reduces bank lending activity and, as a result, profitability. In his investigation, Udeh (2015) found comparable outcomes. However, liquidity ratio (LR) exhibited strong and positive relationship with DMBs' Performance ($R = 0.7043, p < 0.05$). This indicates that adequate LR enhances performance of Nigerian banks. It may also improve banks' solvency, which is the banks' ability to meet its long-term financial obligations. This finding is in tandem with the submission of Younus & Akhta (2009).

Table 2
Relationship between monetary policy and performance of DMBs

	ROA	CRR	MDR	LQ
ROA	1.0000			
CRR	-0.6929**	1.0000		
MDR	-0.7149**	-0.1176	1.0000	
LQ	0.7043**	0.1848	0.2914	1.0000

Dependent Variable: Return on Asset (ROA)

CRR = Cash Reserve Ratio; MDR = Minimum Discount Rate and LR = Liquidity Ratio

** . Correlation is significant at the 0.05 level (2-tailed).

Source: Authors' computation, 2022

The result of the effect of monetary policy on banks' performance as indicated in Table 3 is stated as:

$$ROA = 0.0278 - 0.00447CRR - 0.01658MDR + 0.02131LR + e$$

The coefficient of determination (R^2) at 81.47% indicates that the variables are strongly fitted and the adjusted R^2 provides that CRR, MPR and LR are responsible for 79.77% of the total variation found in ROA while the remaining 20.23% is due to variation from the stochastic term. The F-cal. Value of 96.16 with a probability value of 0.000 shows that the proxies jointly impact on bank performance and that the model is fit to explain the relationship between monetary policy tools and performance of banks in Nigeria. Findings revealed that CRR has a negative but significant effect on performance of DMBs in Nigeria. Hence a unit increase in CRR equals 0.00447 reduction in performance of DMBs. The lower the CRR, the more money banks can lend. When it is high, however, the banks must set aside more money. As a result, there is less money flowing in the economy, which means there is less money available for banks to conduct their business. Thus, this has a



substantial impact on bank performance. This finding is consistent with the findings of Bouwman (2013) and Gray (2011), who discovered a negative link between reserve requirements and bank performance. Furthermore, Ma et al. (2011) claimed that reserve requirement is responsible for some banks' poor financial performance around the world.

The MDR, or the rate at which the Central Bank of Nigeria (CBN) is willing to lend to DMBs, had a large but unfavorable impact on bank performance. As a result, MDR is extremely important to bank performance. According to the findings, each unit rise in MDR results in a 0.01658 loss in bank performance. That is, the greater the MDR, the worse the banks' performance in Nigeria. By raising the MDR, the central bank makes it more expensive for banks to do business because it costs them more if they require a short-term loan, so the higher the rate, the riskier banks become. When the central bank lowers the discount rate, it also lowers the cost of borrowing. In addition, Ogunyemi (2014) asserted that MDR, one of the monetary policy instruments, is not in favor of a rise in the volume of bank loans and advances in Nigeria due to insufficient infrastructure and high operating costs in such a volatile environment. He believes that when these failures occur, investment, which is a critical component of economic growth, is suppressed, and as a result, trust and confidence in the financial system may erode, and sourcing of money from banks may experience a declining trend due to rising loan costs. This conclusion is consistent with submissions of Udeh (2015) and Ekpung et al., (2015) that MPR has negative but significant effect on banks' performance.



Table 3
Effect of monetary policy on performance of DMBs in Nigeria

Variable	Coefficient	Std. Error	F-Statistic	Prob.
C	0.027827	0.070439 //	0.395060	0.6940
CRR	-0.004468	0.001472	-3.035616	0.0034**
MDR	-0.016584	0.004804	-3.451862	0.0010**
LR	0.021318	0.002623	0.502379	0.0361**
R-squared	0.814720	Mean dependent var		0.387985
Adjusted R-squared	0.797723	S.D. dependent var		0.032971
S.E. of regression	0.020912	Akaike info criterion		-4.843064
Sum squared residual	0.029736	Schwarz criterion		-4.716582
Log likelihood	238.3503	Hannan-Quinn criter.		-4.792711
F-statistic	96.16505	Durbin-Watson stat		1.942140
Prob (F-statistic)	0.000000			

Dependent Variable: Return on Asset (ROA) Method: Least Square

CRR = Cash Reserve Ratio; MDR = Minimum Discount Rate and LR = Liquidity Ratio

Notes: ** 5% level of significance

Source: Authors' computation, 2022

5. CONCLUSION AND RECOMMENDATION

The study examined the effect of monetary policy on the performance of Nigerian DMBs. The specific goals of this research are to determine the effect of the Cash Reserve Requirement on bank lending and the impact of the CBN Minimum Discount Rate and Liquidity Ratio on bank operating performance. To represent monetary policy, explanatory variables such as the Minimum Discount Rate (MDR), cash reserve requirement (CRR), and liquidity ratio (LR) were employed, while Return on Asset (ROA) was utilized to quantify the performance of DMBs in Nigeria. Time series data from 2014 to 2019 were obtained from Central Bank of Nigeria (CBN) Statistical Bulletin. Data was analysed using descriptive statistics, correlation and the ordinary least square (OLS) model.

Findings revealed a strong yet negative link between CRR and MDR and DMBs performance. This means that a rise in CRR and MDR results in a considerable drop in bank performance. LR, on the other hand, showed a substantial and positive link with DMB performance, showing that higher LR improves bank performance.



Furthermore, the results of the OLS model revealed that CRR and MDR had a negative but significant effect on DMBs performance. However, LR has a favourable and considerable impact on bank performance. The result of the study showed that monetary policy is critical to the performance of DMBs performance in Nigeria and its significance cannot be over-emphasized.

This study therefore recommends that the Central Bank of Nigeria should modify its monetary policy instruments to make them more appealing to DMBs. This will make banks to embrace them beyond mere coercion. DMBs should also avail themselves of the additional benefit of profit enhancement component of minimum rediscount rate for better implementation. Moreover, banks should strive to increase their liquidity ratio in order to attract more customers, thus enhancing their performances.

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