KIU Interdisciplinary Journal of Humanities and Social Sciences

MONETARY POLICY AND THE FINANCIAL PERFORMANCE OF QUOTED DEPOSIT MONEY BANKS IN NIGERIA.

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Citation: Hassan, J.S., & Oyedele, O. (2022). Monetary policy and the financial performance of quoted deposit money banks in Nigeria. *KIU Interdisciplinary Journal of Humanities and Social Sciences, 3*(2), 195-222

ABSTRACT

The roles of monetary policy of the apex bank in any economy cannot be overstated in view of the importance of banks in regulating the price liquidity by accumulating a large number of small deposits and giving credit to those who require the funds. This study examines the effect of Monetary Policy on Financial Performance of Deposit Money banks quoted in Nigeria from 2008-2020. The independent variable (Monetary Policy) was represented by Cash Reserve Ratio, Inflation Rate and Interest Rate, while, the dependent variable (Financial Performance) was measured by Return on Asset. The sample size comprise the Ten (10) deposit money Banks quoted on the Nigerian stock exchange as at 31st December, 2020. The panel data were retrieved from the annual reports of the sampled banks. The data were analysed by Pooled Ordinary Least Square multiple regression and the results showed that Cash Reserve Ratio has a positive significant effect on Financial Performance, Inflation Rate has an insignificant negative effect on Financial Performance, while, Interest Rate has a significant negative effect on Financial Performance of the samples banks. The study concluded that Monetary policy is a strong determinant of financial performance of Nigerian banks. The study recommended that Management of Deposit Money banks in Nigeria should prepare themselves against the effect of increased Cash Reserve Ratio as it has a significant positive effect on their performance. Government should strive to control Inflation rate as its effect on banking operations is negative albeit insignificantly and that the Central bank should keep Interest rate from fluctuation so widely as it has significant negative effect on banks financial Performance.

Keywords: Monetary Policy, Financial Performance, Cash Reserve Ratio, Inflation Rate, Interest Rate, Return on Asset

INTRODUCTION

Financial sector of any economy plays a very important role in the economic growth and development of a nation and this cannot be overemphasized. It only serves as a conduit via which idle monies are made accessible to the productive sector, allowing the economy to utilise savings to create jobs for the public and foster economic growth. A well-structured, strong and developed financial sector is required to achieve a sustained growth (Aurangzeb, 2012). More importantly, the financial sector also serves as the avenue through which the monetary policies of the government are carried out (Aurangzeb, 2012).

Monetary Policy specifically refers to the actions taken by monetary authority, such as the apex bank of a nation to regulate the value of money; supply and cost of money in the economy with the aim of achieving predetermined macroeconomic objectives. Monetary policy is the policy framed and controlled by a central bank with the help of the monetary policy committee to regulate the supply money in an economy. There are two types of monetary policy situations, and they are expansionary and contractionary policy. Expansionary monetary policy helps in supplying the money to the economy by reducing the interest rates when there is less liquidity. Hence, it is used during a time of recession. Contractionary monetary policy helps in reducing the excess liquidity and inflation in the economy by increasing interest rates so that the money supply will become limited and automatically the inflation comes down (Nikhil & Deene, 2021). Hoque et al. (2020) assert that basic aims and objectives of implementing monetary policy are to keep inflation at a tolerable level, protect the purchasing power of national currencies, provide adequate employment opportunities and ensure the sustainability of economic development. Hoque et al. added that monetary policy could be flexible or rigid noting that if the monetary authorities want to boost up the flow of currency or funds in an economy, then flexible (expansionary) monetary policy is promoted, while, rigid (contractionary) policy is used to reduce the flow of funds.

Interest rates refer to borrower's cost on a loan and the lender's reward on investment. Interest rates are important because they affect individual choices regarding whether to spend or save and also the decisions of business organizations on whether to expand operations by developing more facilities or save by buying treasury bonds. Hayes (2013) posits that interest rates influence bank earnings through net interest margins/ net interest income which is a driving force to bank earnings and performances.

In Nigeria, cash reserve ratio is the responsibility of the Central Bank and not the market forces which implies that any increase in cash reserve ratio of banks might broaden the gap between the total deposit and lending rates. As the gaps get widened, the domestic sector might find it too expensive to borrow money from banks because of the increase in interest rates and consequently adversely affect the profitability of banks (Akinleye et al., 2022). The Cash Reserve Ratio (CRR) was set at a different percentage between the private and public sector fund from 2013 -2014 but was harmonized in 2015 by the CBN in a press release through Communiqué No. 98 & 101. Akinleye et al. noted that the Central Bank of Nigeria in November, 2020 fixed the cash reserve ratio of Deposit Money Banks at 27.5% (billion), explaining that this was done to stimulate banks to be more proactive in performing their obligation of financial intermediation rather than depending on government funds as their main source of deposit.

Inflation refers to a rise in the general prices level of goods and services in an economy over a period of time, when each unit of currency buys fewer goods and services. It reflects erosion in the purchasing power of money because of the loss of real value in the internal medium of exchange and unit of account within the economy. During inflationary period, savings is discouraged as the worth of what saved funds can purchase in a later date is lower than in the present. Inflation has a positive correlation with bank performance as the propensity of the customer to borrow for investment increases and hence their profitability will also increase (Batsinda & Shukla, 2019)

Financial performance refers to the degree to which financial objectives have been realized during a particular period of time usually on annual basis. Financial Performance evaluation is the process of accessing the achievements of a firm's policies and activities in monetary terms. The financial performance of deposit money banks is determined greatly by Return on asset (ROA) which measures how efficient a firm used its assets to generate profits for the purpose of maximizing the wealth of the shareholders. It is usually the best financial performance indicator in the banks. Financial Performance is used to assess a firm's total financial sustainability over a given period of time and to compare and contrast similar firms across the same industry (Ravinder & Muskula, 2013; Yahaya & Lamidi, 2015). Oganda et al. (2018) note that ROA is the ratio of total income to the total asset. It measures the efficiency of banks' management strategy to generate income by utilizing the bank's assets at their disposal.

The banking industry owes the primary responsibility of financial intermediation in order to make fund available for economic agents as they move fund from surplus sector/units of the economy to deficit sector/units by accepting deposits and channeling them to those who need the funds through lending such as granting of loans, overdraft and financing of projects (Ajayi and Atanda, 2012). The extent to which banks can discharge this enormous responsibility is contingent upon the prevailing rate of interest and the level of development of financial sector as well as the saving habit of the people in an economy (Efanga et al., 2020). In view of the essential services provided by the banking sector and the effect on the entire economic development, it becomes very imperative that the apex bank of any nation regulate their activities which are done through monetary policy implementation.

STATEMENT OF THE PROBLEM.

The primary source of fund for the private sector in Nigeria is the banks in terms of different types of credit. The banks face a lot of difficulties in their operations from the rules and regulations imposed by the Central Bank and government policies in the economy. This study is structured to identify the impact of monetary policy instruments on the performance of banks.

The performance of the deposit money banks is a function of mainly the monetary policies adopted in the country and this invariably has a multiplier effect on the economic development and growth. Deposit money banks are usually considered around the world as the most appropriate channels for implementing monetary policy by most Central Banks in many countries. It therefore, becomes necessary that regular study be conducted to examine the extent to which monetary policy explains the fluctuations in the performance of deposit money banks in Nigeria which this study keys into.

There has been mixed findings on the exact effect of monetary policy implementation on the Performance of deposit money banks in literature. For instance, while scholars including Gimba et al. (2020) observed that monetary policy has a significant effect on the financial performance of deposit money banks, others including Uruakpa (2019) reported that monetary policy has insignificant effect on financial performance of banks.

This mixed findings opens up a space for further writing which this study keys into.

OBJECTIVES OF THE STUDY

The main objective of this study is to investigate the effect of Monetary Policy on Financial Performance of Deposit Money Banks in Nigeria, while, the specific objectives are to:

I. Establish the effect of Interest Rate on Financial Performance of Deposit Money Banks in Nigeria;
II. Ascertain the effect of Cash Reserve Ratio on Financial Performance of Deposit Money Banks in Nigeria; and

III. Examine the effect of Inflation rate on Financial Performance of adeposit Money Banks in Nigeria.

REVIEW OF RELATED LITERATURE

CONCEPTUAL REVIEW.

Monetary policy is defined as mixture of processes intended to regulate value of supply and interest rate as fees for money in a financial transaction, in agreement with the status of economic accomplishments (CBN, 2018). Nwoko et al. (2016) define monetary policy as the blend of procedures taken by monetary authorities, that is, the Central Bank and the ministry of finance to influence directly or indirectly both the supply of money and credit to the economy and the structure of interest rate for economic growth, price stability and balance of payment equilibrium. Ufoeze et al. (2018) sum it up when they pointed out that monetary policy is used to influence the availability and cost of credit in order to control the money supply policy in an economy. Chigbu and Okonkwo (2014) refer to monetary policy generally as a deliberate effort of the government to use changes in money supply, cost of credit, size of credit and direction of credit to influence the level of economic activities to achieve desired macroeconomic stability in an economy.

Hogue et al. (2020) state that monetary policy indicates the amalgamation of measures arranged to manage the supply, outlay and value of money in a particular economy, defining it as the mechanism of overseeing the volume of funding facilities to keep stability in price and budgetary progress in a country. Uruakpa (2019) asserts that monetary policy relates to the supply of money and credit allocation which is controlled by factors including as interest rates and Cash Reserve Requirements (CRR), v currency peg, discount window, quantitative easing, open market operations for banks by the apex

bank in order to influence outcomes like economic growth, inflation, exchange rates with other currencies and unemployment. Okpara (2010) defines monetary policy as a measure designed to influence the availability, volume and direction of money and credits to achieve the desired economic objectives.

Richard et al. (2009) defined financial performance as the measure of the variance of the financial state of an organization or the financial outcomes that results from management decisions and the implementation of those decisions by the management of the organisation, arguing that the outcomes are not universal but that the selection of the measures that represent performance of a particular organization is done based upon the situation of the organisation being rated. Financial performance reflects the degree to which financial objectives are being or has been achieved during a particular period of time and form the process of accessing the achievements of a firm's policies and activities in financial terms (Yahaya & Lamidi, 2015). Financial performance assessment is employed to evaluate firm's total financial sustainability over a given period of time and it can also be used to compare and contrast similar firms across the same industry or to compare industries or sectors in aggregation (Ravinder & Muskula, 2013.

There are three ratios that are typically used to measure the Financial Performance of banks in empirical studies, these are return on assets (ROA), return on equity (ROE) and net interest margin (NIM) (Tan, 2018). Kohlscheen et al. (2018) asserted that return on assets (ROA) is the simplest measure of bank financial performance using profitability explaining further that ROA reflects the capability of a bank to generate profits from its asset management functions Return on asset is the most frequently used ratio for evaluation of bank profitability (Abel et al., 2018). Olokoyo (2019) defined return on assets (ROA) as a financial ratio that reveals the rate of profit an organization earns in relation to its overall resources. ROA is an indicator of how lucrative a business entity is, in relation to its total assets. It is the main ratio that reveals the profitability level of banks.

Interest Rate and Financial Performance.

Efanga et al. (2020) define Interest rate also referring to lending rate as the price paid for the use of money explaining that, it is the opportunity cost of borrowing money from a lender to finance investment project. Interest rate can also be seen as the return being paid to the provider of financial resources, for forgoing the fund for future consumption and is usually expressed in percentage. Udeh (2015) notes that a rising rate should lead to overall higher banking sector profitability. Tan (2018) agrees with Samuelson conjecture which states that banks benefit from rising interest rates in normal economic conditions explaining that the profitability of banks improves since rising interest rates tend to increase the spread between the saving and the borrowing rates. Borio et al. (2015) found evidence of a positive and significant relationship between interest rates and profitability of banks affirming that rising interest rates enhance banks profitability.

Kohlscheen et al. (2018) also observes that there is a positive relationship between interest rates and bank profitability. Khan and Sattar (2014) find a significant negative relationship between interest rate and financial performance of banks. Enyioko (2012) discovered that interest rate policies have not significantly improved the overall performances of the banks in Nigeria. Rao (2006) reported that lending rates had a positive relationship with banks' profits which indicates that a rise in lending interest rates will increase the profitability of the banks. Okoye and Eze (2013) asserted that lending rate has significant and positive effects on the performance of Nigerian deposit money banks, adding that the lending rate is a good parameter for measuring bank performance. Punita and Somaiya (2006) established that lending interest rate exert positive and significant influence on banks' profitability, which indicates a fall in lending rate will reduce the profitability of the banks. Obidike et al. (2015) found out that interest rate spread has a negative and significant impact on bank performance in the long-run.

Cash Reserve Ratio and Financial Performance.

Ude, (2015) defined cash reserve ratio is the fraction of total deposit liability which banks are expected to keep as cash with the Central Bank of Nigeria (CBN). Bawa et al. (2018)

defined cash reserve ratio as the funds that Deposit Money Banks set aside with the apex bank for use in emergencies and it represents the stipulated minimum rate of the total deposits that deposit money banks have to reserve for economic stability. Cash reserve also called reserve requirement, is the central bank standard employed by most of the world's apex banks and it is a monetary tool that affects the volume of banks transactions in terms of loans and advances and hence their financial performance (Akinleye et al., 2022).

As cited by Hoque et al. (2020), Lodhi (2015) observed that, changes in Cash Reserve Ratio negatively affect bank's profitability, adding that, the negative effect means that, as the Central Banks increase the Cash Reserve Ratio requirements, profitability measured by either return on asset (ROA) or on return on equity (ROE) will reduce, while, ROA and ROE will improve if the Cash Reserve Ratio is lowered. Udeh (2015) noted that cash reserve ratio do not significantly impact the bank's profitability. Oganda et al. (2018) revealed that cash reserve ratio increase has a significant negative correlation with all the proxy (ROA, ROE & NIM) of the commercial banks profitability for national banks. Punita and Somaiya (2006) established that cash reserve ratio has a negative significant influence on banks' profitability, which indicates a rise in cash reserve ratio will have a diminishing effect on the profitability of the banks. Otalu et al. (2015) showed that cash reserve ratio has a significant negative effect on performance of commercial banks.

Inflation Rate and Financial Performance.

Ali and Ibrahim (2018) defined inflation as a rise in the general prices level of goods and services in an economy over a period of time, when each unit of currency buys fewer goods and services. Inflation also reflects erosion in the purchasing power of money because of the loss of real value in the internal medium of exchange and unit of account within the economy. Inflation may be defined as the reduction in the purchasing powers of a national currency as a result of a rising cost of production or a rising demand for a particular product or service and it another determinant of bank financial performance.

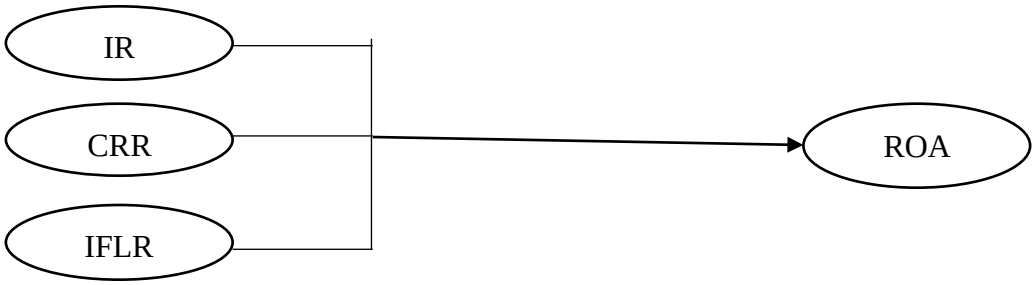
During inflation, Almansour (2015) noted that the cost of goods and services in an economy goes up as the purchasing power of the national currency is eroded. The effect of inflation on bank performance has been reported as mixed depending on the structure and pattern of the economy (Mbabazize et al., 2020). Miguel et al. (2018) and Cetin (2019) argued that on one hand, inflation has an adverse effect on banking sector performance and its spillover effect is very harmful to the overall economy, while on the other hand, they maintained that inflation leads to an increase in bank performance as long as the banks can be able to anticipate future inflation and adjust interest rate to generate higher revenue.

Batsinda and Shukla (2019) observed that cost push inflation had a positive high correlation to the Profitability of Banks. Odhiambo (2012) established that there is a negative short-and long-run effect of inflation on financial sector performance, suggesting that inflation reduces the efficiency of the performance of the financial sector.
Alimi (2014) indicated that inflation has a diminishing effects on financial performance. Chege (2010) found out that there is a significant and negative relationship between inflation rate and banks' performance. Abbey (2012) established that there is a negative relationship between the inflation rate and financial performance of banks. Tan and Floros (2012) pointed out that a higher inflation rate leads to higher bank profitability, arguing that when core inflation is fully anticipated and interest rates are adjusted accordingly, a positive impact on bank profitability results.

Conceptual Framework.

The conceptual framework of this study is made up of the independent variable (Monetary Policy) proxied by Interest Rate (IR), Cash Reserve Ratio (CRR) and Inflation Rate (IFLR) and the dependent variable (Financial Performance) measured by Return on Asset (ROA) of the sampled banks in Nigeria. According to Aminu (2015), a conceptual framework is better represented by a diagram as below for easy visualization.

Figure 1: Conceptual Framework of Monetary Policy and Financial Performance.



Source: Muhoho et al. (2019).

THEORATICAL REVIEW.

This study is underpinned with the Keynesian Economic Theory. The theory was propounded by John Keynes in 1936. The central point of Keynes's analysis is his contention that capitalist market economies are inherently unstable and is capable of coming to rest in a chronic condition of sub- normal activity for considerable period without any marked tendency, either towards recovery or towards complete collapse. In the opinion of Keynes, this instability was predominantly the result of fluctuations in aggregate demand which may result from a sharp fall in investment expenditure occasioned by a cyclical change in the marginal efficiency of capital. John further said that the resulting unemployment was involuntary and reflected a state of low aggregate demand, asserting that, given the weak equilibrating powers of the market mechanism, in these circumstances, the implication was that only fiscal and monetary policy could correct the aggregate instability exhibited by market economies and help stabilise the

economy at full employment. And this requires government intervention. The implication of this theory is that there is a need for government intervention in the economy through fiscal and monetary policies.

EMPIRICAL REVIEW.

Dang and Huynh (2022) examined the relationship between monetary policy and bank performance in a multiple-instrument environment, particularly highlighting the conditioning role of bank business models. The specific objectives were to evaluate the effect of policy rate and foreign exchange reserve ratios on bank financial performance Employing a unique dataset of Vietnamese all commercial banks from 2007 to 2019, the study found that banks react to monetary policy changes, either when the central bank increases policy rates or injects money into the economy through open market operations, by decreasing overall returns and increasing financial instability. The study further found that the accumulation of foreign exchange reserves benefits bank outcomes, contrasting to open market operations, albeit the central bank uses both of these policy instruments to alter money supply in the economy. Analysis of interest reveals that business models considerably matter in the effects of monetary policy on bank performance. Collectively, the study concludes that banks' business models that yield more non-interest income or diversify more into different income sources may mitigate the pass-through of monetary policy to bank performance. This finding holds across all interest- and quantitative-based monetary policy indicators and across all the functions of risk-taking behavior, earning-profit capacity, and financial stability. They offered no recommendations.

Nikhil and Deene (2021) identified the impact of monetary policy tools on the performance of banks in India. The specific objective was to determine the relationship between bank rate (BR) and the performance of public sector banks in India. The study

adopted descriptive and analytical research design. Correlation and regression analyses were used to determine the relationship between bank rate (BR) and the performance of public sector banks in India. The sample chosen for this study is the public sector banks actively performing in India. Bank performance was measured by deposits, loans and advances and total asset value of the banks. The study concluded that three factors have shown an impact of Bank Rate on them during the five years. Loans and Advances affected the least amongst the three factors, but the other two were significantly impacted by the change in BR. The study recommended that there should be a favourable fluctuation in the BR which will bring flexibility in the banking system, and they can perform well in the economy.

Alalade et al. (2020) considered the influence of monetary policy on financial performance of deposit money banks in Nigeria using time series data for 35 years spanning from 1984 to 2018; all deposit money banks as captured by the Central Bank of Nigeria Statistical Bulletin were considered. The specific objectives were to examine the effect of liquidity ratio, lending rate, loan to deposit ratio and cash reserve ratio on the financial performance of deposit money banks measured by their net worth and total credits. The data were analyzed using descriptive and inferential statistics. Based on the result of stationarity test, the ordinary least square method and the Autoregressive Distributed Lag method were employed. A short run model of net worth and long run model for both the log of net worth and the log of total credits were estimated. The study revealed that when financial performance is measured as total credits, the liquidity ratio and loans to deposit ratio had positive significant effect in the long run. The cash reserve ratio had a negative significant effect in the long run. The log of lending rate was insignificant in both the long and short run. The study concluded that monetary policy significantly explains the financial performance of deposit money banks both in the short and long run. They recommended that the loans to deposit ratio should be reviewed upward in order to improve the financial performance of deposit money banks in the

current years and for the future year and that the cash reserve ratio should be reduced for improvements in the financial performance of deposit money banks.

Mbabazize et al. (2020) examined the effect of monetary policy on the profitability of commercial banks in Uganda. The specific objectives were to analyse the effect of lending rate, core inflation, treasury bill and money supply on bank profitability. This study adopted a causal relationship research design. Data, covering 9 years from 2010-2018, were collected from all the registered commercial banks which were in operation over the study period. Various monetary policy variables are included in the empirical model as predictor variables. Return on Assets was used as a measure of bank profitability. A dynamic two-step System Generalized Method of Moments panel estimator was applied to estimate the empirical model. The results showed that monetary policy in terms of lending rate has a significant causal effect on Return on Assets, The also revealed that a rise in core inflation has a significant negative effect on the banks' profitability. The Treasury bill rate and money supply were insignificant in predicting bank profitability. The study concluded that monetary policy has significant effect on bank profitability. They recommended for the need for the central bank to monitor the micro-dynamics of individual bank behavior and continuously assess and enhance the efficacy of the interest rate pass through to the lending channel of monetary policy transmission mechanism as this will improve the availability of credit for corporate and private investment and enhance bank performance.

Gimba et al. (2020) examined the effect of monetary policy on the performance of listed deposit money banks in Nigeria from 2006-2018. The specific objectives were to evaluate the effect of liquidity ratio (LQR), Interest Rate (INR), Loan to deposit ratio (LDR) and cash reserve ratio (CRR) on performance. The research design adopted for the study was ex post-facto research design. Panel time series data were extracted based on the variables used in the study. Net profit margin (NPM) as the dependent variable, while liquidity ratio (LQR), Interest Rate (INR), Loan to deposit ratio (LDR) and cash reserve ratio (CRR) as

independent proxies to measure monetary policy. The findings showed that monetary policy has significant effect on the performance of listed deposit money banks in Nigeria. The study concluded that liquidity ratio and loan to deposit are significant on net profit margin, likewise interest rate and cash reserve ratio were insignificant on net profit margin. The study recommended that; the Central Bank of Nigeria should manage the monetary policy rate properly, with the recent increase of loan to deposit, Government should also employ other measures to control the loan to deposit and the monetary authorities should also minimize the 22.5 % Cash reserve ratio in order to influence the level of bank performance with capacity to raise a volume of funds.

METHODOLOGY.

This study adopted the ex-post facto research design. The population of the study consisted of the Ten (10) deposit money banks quoted on the Nigerian Exchange Group (NGX) as at 31st December, 2020. The study purposively focused on the Ten (10) quoted deposit money banks in Nigeria as at December, 2020. The sampling technique adopted by this study was the Census Sampling technique. The dataset used for this study was from secondary sources obtainable from the financial statements of the sampled deposit money banks in Nigeria. The panel data for this were analysed with the aid of Pooled Ordinary Least Square Multiple regression method which reveal the result of the linear relationship between the independent and dependent variables. Other diagnostic tests conducted were descriptive statistics for determination of the standard deviation and means of the variables, Pearson Correlation for multi-collinearity and Shapiro-Wilk data normality to find out the distribution pattern of the variables.

Table 1: Variables and Measurement.

Variables	*Type*	*Measurement*	*Justification*

Return on Asset (ROA)	Dependent	Net Profit divided by Total Asset	Akinleye *et al*. (2022); Mbabazize *et al.* (2020) Adesina *et al*. (2018); Borio *et al*. (2015)
Interest Rate (IR)	Independent	Cost of .borrowed funds	Alalade *et al.* (2020); Gimba *et* (2020); Cheng (2018); Ndegwa and Waweru (2016)
Cash Reserve Ratio (CRR)	Independent	Ratio of the banks liquid asset to be held down by the CBN	Akindutire and Adesina (2021); Alalade *et al*. (2020); Uruakpa Oganda *et al*. (2018)
Inflation Rate (INFLR)	Independent	Rate of rise in general price levels of goods and services in an and Ibrahim (2018) economy at a period	Batayneh *et al*. (2021); Almansour *et al*. (2021); Ali

Source: Researcher's Compilation, 2022.

The specified model for this study comprises the independent variable: Monetary policy proxied by Interest Rate, Cash Reserve Ratio and Inflation Rate and the dependent variable (Financial Performance) measured by return on assets (ROA). The linear equation expressing the relationship as used by Muhoho et al. (2019) is as follows.

ROA = f(IR + CRR + INFLR).

Expressing the above equation in an econometric term, it becomes: ROAit =

β0 + β1IRit + β2CRRit + β3INFLRit + €it …….. (Model)

Where:

ROA = a predictor representing Return on Asset (Measure of Financial Performance – DV; β0 = a constant; β1 – β3 = Coefficients of the proxies of the independent variables;

IR = a predictor for Interest Rate; i = Firms;

CRR = a predictor for Cash Reserve Ratio;

t = Periods; and

INFLR = a predictor for Inflation Rate;

f = a functional relation.

€ = Error term;

DATA ANALYSIS AND RESULTS.

Table 2 below presents the descriptive statistics of the variables of this study.

Table 2: Descriptive Statistics.

Variable	*Obs*	*Mean*	*Std. Dev.*	*Min*	*Max*
ROA	130	.0099	.0424	-.242	.106
CRR	130	14.6	8.4627	1	22.5
INFLRATE	130	12.2946	3.0381	8	18.6
INTRATE	130	25.5723	3.4083	18.7	30.6

Source: STATA 15 Output (2022).

Table 2 above revealed that ROA has a mean value of 0.0099 with standard deviation of 0.0424 that is higher than the mean indicating that the examined banks had improved financial performance during the period covered by this study. The mean values of all the variables were within the range of their respective minimum and maximum as expected, affirming that the data were evenly spread. The standard deviations of CRR, INFLRATE and INTRATE (8.4627, 3.0381 and 3.4083) are all lower than their means (14., 12.2946 and 2.5773) indicating that these variables had slow growth rate during the period the study covered.

Table 3 below shows the result of the Pearson correlation with coefficients representing the strength of the relationship between the variables. The decision rule is that a correlation coefficient above 0.85 between two variables shows the presence of multicollinearity, while if no two pairs of the independent variables correlated above the threshold (0.85), then multicollinearity does not exist in the model.

Table 3: Pearson Correlation Matrix.

	ROA	*CRR*	*INFLRATE*	*INTRATE*
ROA	1.0000			
CRR	0.0163	1.0000		
INFLRATE	-0.1009	0.1755	1.0000	
INTRATE	-0.0564	0.5346	0.1751	1.0000

Source: STATA 15 output (2022).

Table 3 above revealed that no pair of the independent variables correlate above 0.85 implying that there is no multicollinearity in the model. It should be noted also that both Inflation Rate and Interest Rate correlate negatively with ROA which tallies with real life situation where a rise in inflation and interest rates will adversely affect profitability of firms.

Table 4 below presents the results of the normality for residuals conducted with the aid of Skweness/Kurtosis joint test. The decision rule is to accept the hypothesis of normal distribution if the p. value is higher than 0.05 or reject the hypothesis if the p. value is lower than or equals to 0.05.

Table 4: Skewness/Kurtosis Normality Test.

Variable	*Obs*	*Pr(Skewness)*	*Pr(Kurtosis)*	*adj chi2(2)*	*Prob>chi2*
Residuals	130	0.9963	0.0000	24.20	0.0000

Source: STATA 15 output (2022).

Table 4 above revealed that the model has a p. value of 0.0000 which is lower than 0.05, an indication that there is no normal distribution of the residuals.

Table 5. below shows the result of the heteroskedasticity test conducted to determine the stability of the residuals. The decision rule is to accept the null hypothesis that the residual has a constant variance if the p. value is higher than 0.05 or reject the hypothesis if the p. value is lower than or equals to 0.05.

Table 5: Heteroskedasticity Test.

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance *Variables:*

fitted values of roa

chi2(1) = 29.22 Prob > chi2 = 0.2718

Source: STATA 15 output (2022).

Table 5 above indicated that the model has p. value of 0.2718 that is higher than 0.05 which means that the null hypothesis that states that the model has constant variance is accepted. This result implies that the findings of this study can be used to predict future outcomes.

Table 6 below presents the results of the regression analysis conducted with the aid of Pooled Ordinary Least Square regression technique.

Table 6: Regression Analysis.

ROA	*Coef*	*Std. Err.*	*t*	*P>|t|*
CRR	.0027	.0010	2.75	0.002*
INFLRATE	-.0014	.0012	-1.13	0.261
INTRATE	-.0017	.0004	-3.77	0.000*
_cons	.0608	.0515	1.18	0.242
R-squared	0.7382			
Adj R-square23	0.6732			
F statistics	41.54			
Prob> F	0.000			

Source: STATA 15 output (2022).

Results from Table 6 above revealed that the model has a coefficient of determination adjusted for the degree of freedom of 0.6732 which implies that the independent variables jointly account for approximately 67% variations in Financial Performance measured by Return on Asset (ROA) of the banks examined from 2008 to 2020. The Table also revealed that the model has F statistics of 41.54 and p. value of 0.000 (significant at 1% level) indicating that the model is fit. Furthermore, Table 6 showed that Cash Reserve Ratio (CRR) has a significant (0.002) positive (2.75) effect on ROA, Inflation Rate (INFLRATE)

has an insignificant (0.261) negative (-1.13) effect on ROA, while, Interest Rate (INTRATE) has a significant negative (0.000) negative (-3.77) effect on ROA.

DISCUSSION OF FINDINGS.

Finding revealed that Cash Reserve Ratio has a significant (0.002) positive (2.75) effect on Financial Performance of Deposit Money Banks in Nigeria measured by Return on Asset, such that a unit increase in the Cash Reserve required by the Central Bank leads to a significant increase in Financial Performance. This finding agrees with those of Akinleye and Oluwadare (2022); Akindutire and Adesina (2021); Alalade et al (2020) who found out that Cash Reserve Ratio has a significant effect on Financial Performance, but it disagrees with those of Nguyen et al. (2017); Ndugbu and Okere (2015) who reported that Cash Reserve Ratio has an insignificant effect on Financial Performance.

Finding also revealed that Inflation Rate has an insignificant (0.261) negative (-1.13) effect on Financial Performance of Deposit Money Banks in Nigeria measured by Return on Asset, such that a unit increase in Inflation Rate brings about an insignificant reduction in Financial Performance. This finding corroborates that of Muhoho et al. (2019) who observed out that Inflation Rate has a significant effect on Financial Performance, but it is at variance with those of Batayneh et al.(2021); Almansour et al
(2021) who reported that Inflation Rate has an insignificant effect on

Table 6 above further revealed that Interest Rate has a significant (0.000) negative (-3.77) effect on Financial Performance of Deposit Money Banks in Nigeria measured by Return on Asset, such that, a unit increase in Interest Rate brings about a significant reduction in Financial Performance. This finding tallies with those of Mbabazize et al. (2020), Gimba et al. (2020); Cheng (2018) who found out that Interest Rate has a significant effect on Financial Performance, but it contradicts those of Alalade et al. (2020); Omisope and Ajibade (2020); Ndugbu and Okere (2015) who reported that Interest Rate has an

insignificant effect on Financial Performance.

CONCLUSION.

From the findings of this study, the following conclusions were drawn. Increasing the Cash Reserve Ratio led to positive significant performance as it decreases cash available for banking operation and therefore raise the cost of borrowing which brings more money for the banks as customers pay more for obtaining credits. Inflation Rate showed to have weak but negative effect on performance of banks in Nigeria because of loss of value of the currency. Increasing Interest Rate has shown to a performance depleting factor as borrowing which fetches banks mush of it income is discouraged.

Recommendations

Based on the findings of this study, the following recommendations were offered.

I. Management of Deposit Money banks in Nigeria should prepare themselves against the effect of increased Cash Reserve Ratio as it has a significant positive effect on their performance.

II. Government should strive to control Inflation rate as its effect on banking operations is negative albeit insignificantly.

III. Interest rate should be kept stable as it has a significant negative effect on banks financial Performance.

Contribution to Knowledge.

This study has contributed to existing literature by evaluating the combine effect of Cash Reserve Ratio, Inflation Rate and Interest Rate on Nigerian Banks performance with data

including those of 2020. The Individual variables' effect on Financial Performance were also revealed.

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