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Expansionary Monetary Policy and Performance of Deposit Money Banks in Nigeria

[1]Mang, Niri Job &
[2]Iloani Chibueze Emmanuel
[1&2]Department of Banking and Finance,
University of Jos

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Abstract

This paper sought to assess empirically the effect of expansionary monetary policy on the performance of Deposit Money Banks in Nigeria. The study made use of a panel cross sectional data covering the period from 2017 to 2022. Multiple linear regression technique was employed to test the relationships inherent in the explanatory and dependent variables with the aid of Statistical Package for Social Sciences (SPSS), Version 25. The estimated model expresses banks' operating performance as a function of monetary policy represented by Monetary Policy Rate (MPR), Cash Reserve Requirement (CRR) and Liquidity Ratio (LR) while Return on Assets (ROA) is used as a proxy for bank performance. The study found out that there is a positive and statistically significant relationship between MPR, CRR, LR and ROA in the chosen banks. The problem of ineffective credit delivery to the productive sectors remains an issue and thus raises doubt on the potency of monetary policy instruments in influencing the direction of bank credit to the Nigeria economy. The study recommended that Deposit Money Banks should refocus their attention on expansionary monetary policy instruments to gain a better understanding of what influences their performance; CBN must constantly make enhancement and adjustments of monetary policy indices to ensure that deposit money banks remain competitive, relevant and financially successful as such banks must strictly comply with monetary policy guidelines.

Keywords:
Monetary Policy Rate (MPR), Cash Reserve Requirement (CRR) and Liquidity Ratio (LR) and Return on Assets (ROA)

Corresponding Author:
Mang, Niri Job

Background to the Study

Central banks all over the world have been saddled with the responsibility of ensuring appropriate monetary policies among other policies, with a view to ensuring monetary and financial stability within economies. Although this tendency seems universal (Moenjak, 2014), the inability of monetary policies in Nigeria to effectively contribute to economic stability within the last 5 years (2018-2022) points to the faulty implementation of policy instruments (Kalu, & Odinakachi, 2020). The thought behind Central bank's regulation of the economy is primarily to ensure the stability of the financial system within the economy and consequently stabilize price stability. Unfortunately, the scientific evidence of the monetary policies on both the current financial system stability and the projective pricing stability within the Nigerian economy have been quite unimpressive (Akintola, Soetan, Ogundipe, Fasola, Adesanya, & Olurin, 2021). In a though-provoking economic twist, other Central Banks such as the European Central Bank re-routed their traditional monetary policy, which was previously based on interest rates, to an unconventional monetary policy (Zabala, & Prats, 2020). Apparently, such unconventional approaches may be appropriate or even pragmatic for unforeseen economic exigencies such as the 2008 global economic meltdown.

Investigating the possibility of a relationship between expansionary monetary policy and price stability within the economy has been established by researchers such as Čermáková, & Filho, (2021). Therefore, the focus of this research is to examine the relationship between expansionary monetary policy and the stability of financial systems particularly, Deposit Money Banks. Expansionary monetary policy being a macroeconomic strategy employed by central banks to stimulate economic growth and boost aggregate demand within an economy has been identified to practically find expression through Cash Reserve Rate (Beckers, 2020; Bernanke, 2020), Interest Rate (Gomez, Landier, Sraer, & Thesmar, 2021) and Liquidity Rate (Dang, & Nguyen, 2021). This policy involves increasing the money supply to encourage borrowing, spending, and investment. The goal is to reduce unemployment, increase output, and maintain price stability.

Often, the expansionary monetary policy is implemented during periods of economic downturn or recession such as the current (2023) economic situation in Nigeria where the relentless pursuit of deposits within the banking sector has precipitated the elevation of corrupt and unethical banking practices (Babajide, Lawal, Amodu, Asaleye, Ewetan, Olokoyo, & Matthew, (2020). The Central Bank of Nigeria (CBN) maintains a standpoint geared toward safeguarding the stability and financial returns of Deposit Money Banks through the strategic deployment of monetary policy instruments (Wahua, 2020). However, an inquiry arises as to the way these instruments exert influence on the operational efficacy of banks and the discernible associations that exist between certain instruments and the Return on Assets (ROA) metric within the banking sector. Consequently, an examination of the nuanced impact of these monetary policy instruments on banks' performance and their consequential implications for ROA warrants scholarly investigation.

The main objective of this study is to assess empirically, the effect of expansionary monetary policy on performance of deposit money banks in Nigeria, other specific objectives are thus.

1. To ascertain the effect of Cash Reserve Rate (CRR) on performance of deposit money bank
2. To examine the effect of Interest Rate (IR) on performance of deposit money bank.
3. To evaluate the effect of Liquidity Rate (LR) on performance of deposit money bank.

Literature Review

Return on Asset

Based on the thoughts of Silitonga, Sadalia and Irawati, (2020) the term return on asset refers to a metric that is used to measure the efficiency and profitability of a firm or organization especially within the context of financial institutions like banks. It's determined by dividing the net income of the firm by average total assets. Literature suggests that the monetary policy directly affects the bank performance. In order to make boost Return on Asset (ROA), for instance, commercial banks invest customers' deposits in various short-term and long-term investments (Kumar, Acharya, & Ho, 2020). However, the core of such deposits is used for loans in Nigeria (Alalade, Oseni, & Adekunle, 2020). Consequently, the more loans and advances DMBs extend to borrowers, the more profit they make profit (Solomon, 2013). When the central bank embarks on contractionary monetary policies, it reduces the available resources with the commercial banks. This consequently reduces their ability to make profit. On the other hand, there is a causal nexus between expansionary monetary policy and financial (banking performance) as both influence each other. In the implementation of contractionary monetary policies, the central bank curtails the accessible resources within the purview of deposit money banks (Sequeira, 2021). This contractionary stance thereby diminishes the profitability potential of said banks. Conversely, a reciprocal and causative relationship is discerned between expansionary monetary policy and the financial performance of banks, wherein each exerts a mutual influence on the other within the realm of banking dynamics (Dzeha, Boachie, Kriese, & Kusi, 2023).

Cash Reserve Ratio

One of the chief goals of cash reserve ratio is the regulation of the liquidity levels particularly within the banking system (Rezende, Styczynski, & Vojtech, 2021). In another thought-provoking submission, Peter, Njoku, Ugoani, Nwaorgu, and Ukeje, (2020) expanded by viewing it as a representation of the proportion of a bank's total deposit liabilities that of necessity, must be kept in the Central bank in the form of cash. Expressed as a percentage, the CRR is instrumental in influencing the money supply, controlling inflationary pressures, and fostering financial stability. Commercial banks are mandated to reserve a stipulated percentage, presently set at 6 per cent, of their deposits with the Central Bank. These reserves, denominated as Cash Reserve Ratio (CRR), play a pivotal role in expediting the settlement and clearance processes for inter-bank transactions, including activities such as cheque clearing. Beyond facilitating transactions between

commercial banks and the Central Bank, the CRR mechanism concurrently upholds liquidity, bolsters profitability, and ensures the safety of banks.

The Cash Reserve Ratio, serving as a monetary policy instrument, wields the capacity to influence banking liquidity, the extension of credit, and, consequently, the overall profitability of banks. Notably, alterations in the CRR have discernible effects on inflationary trajectories. Investigations by Dlamini, and Mashau, (2023) reveal that modifications in the Cash Reserve Ratio yield significant impacts on the course of inflation outcomes. Specifically, an elevation of the CRR precipitates a decline in inflation, whereas a reduction in the CRR contributes to an augmentation of inflationary pressures. This underscores the intricate interplay between the Cash Reserve Ratio, monetary policy dynamics, and macroeconomic outcomes.

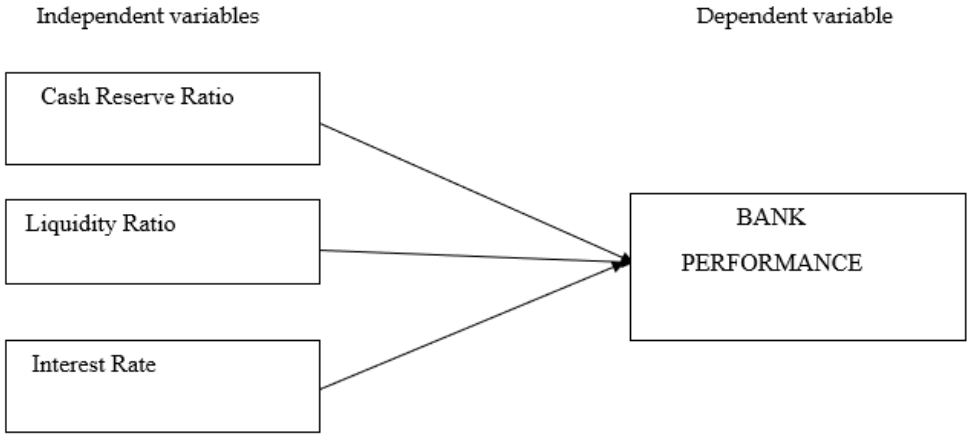
Interest Rates

The term "interest rate" refers to the cost of borrowing capital or the compensation earned on invested funds over a specified period, typically expressed as a percentage. This financial metric serves as a pivotal component within the broader framework of monetary policy and financial markets. Interest rates are fundamental in determining the expense of debt financing for borrowers and the return on investment for lenders. Interestingly, Bauer, and Rudebusch, (2020) viewed interest rate as the cost of borrowing capital over a specified time period, in percentage. Scholars (Liu, Mian, & Sufi, 2022) have observed that the control of interest rates and the use of expansionary monetary policy are crucial steps towards enhancing banks performance. The use of market – based instrument was not feasible at that point (direct monetary policy era 1960-1985) because of the underdeveloped nature of the financial market and the deliberate restraint of interest rate.

Liquidity Rate

Researchers (Adrian, & Shin, 2009) have viewed liquidity rate as the level of fluidity or ease with which assets of an organization can be converted into liquid cash. Researchers (Tobin, 1947; Christiano, & Eichenbaum, 1995) have compiled quite a bit of evidence that reveal that quantitative metric reflecting the availability of liquid assets within a financial system is a key indicator of financial performance in terms if ability to handle economic shocks. There are even strong evidences (Al Nimer, Warrad, & Al Omari, 2015) indicating that liquidity rate is a strong predictor of return on assets of organizations.

Figure 1: The Conceptual Model of the effect of expansionary monetary policy on the performance of deposit money banks.



Source: Researchers Model (2023)

The proposed model seeks to investigate whether cash reserved ratio, liquidity ratio and interest rate, are significant predictors of expansionary monetary policy and its effect on performance of deposit money bank.

Theoretical Review

The theoretical review helps in understanding of the current body of knowledge on the research topic. This section introduces two prominent theories: Keynesian economic theory, monetarists' economic theory.

Keynesian Economic Theory

Before Keynes (1936) in response to the Great Depression, experienced in Great Britain, wrote his book, "General Theory of Employment, Interest and Money, the classical economists held that in the capitalist market, economies which are subject to periodic shocks, the market mechanism, called the invisible hand, would operate quickly and efficiently to restore full economic equilibrium. They believe that government intervention to stabilise the economy was neither necessary nor desirable. This assumption, by the classical economists, that full employment was the normal situation was shattered by the experience of Britain and other major capitalist economies in 1920s and 1930s. Unemployment rate went as high as 20% in Britain in 1932 and as much as 25% in United States in 1933 (Snowdon & Vane, 2005). According to Snowdon and Vane (2005) more than anything else, it was the experience of the Great Depression that drove Keynes to write his most important book on economic theory, "The General Theory of Employment, Interest and Money". In the book Keynes placed a great deal of emphasis on the role of expectations and uncertainty in his explanation of aggregate instability. The central theme of Keynes's analysis is his contention that "capitalist market economies are inherently unstable and are 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" (Keynes (1936) cited in Snowdon and Vane (2005). In the opinion of Keynes, this instability was predominantly the result of fluctuations in aggregate demand and the Great Depression resulted from a sharp fall in investment expenditure occasioned by a cyclical change in the marginal efficiency of capital. He further said that the resulting unemployment was involuntary and reflected a state of low aggregate demand. He asserted 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 stablise the economy at full employment. And this requires government intervention, and once full employment is restored, the classical theory can operate effectively again. Keynes's conclusion, therefore, is that "limited government intervention could remedy the shortcomings of the invisible hand (market forces) (Keynes (1936) as cited by Snowdon and Vane (2005). The implication of this theory is that there is a need for government intervention in the economy through fiscal and monetary policies.

Methodology
The study based on time series data. Thus, the study has a time frame that suits its objectives. For the purpose of this study, the scope is limited to time series data of CBN statistic bulletin and Guaranty trust bank audited financial statement for a period of 5years from 2017 to 2022. The justification for this is to ensure good coverage and to give a fair representation. This study used an expo facto design. The purpose of using expo facto design was to collect detailed and factual information that describes the relationship between expansionary monetary policy and performance of deposit money banks in Nigeria. The study utilized only the secondary source of data. This is because the estimation of the models in the study requires the use of time series data. Data were sources from 5 years Central Bank of Nigeria statistical bulletin (various issues), audited published financial statements of Guaranty trust bank plc and National bureau of statistics from 2017 to 2022.

Multiple linear regression technique was employed to test the relationships inherent in the variables used for the study, with the aid of version 25 of the Statistical Package for Social Sciences (SPSS). The model to be estimated expresses banks' operating performance as a function of monetary policy, represented by Monetary Policy Rate (MPR), Cash Reserve Requirement (CRR) and Liquidity Ratio (LR). There are several measures of performance but, Return on Assets (ROA) will be used for this study.

The relation is expressed mathematically thus:
ROA = f (MPR, CRR, LR,) …………………………….. (1)

This is further written as a regression equation thus:
$ROA = \alpha 1 + \beta 1MPR + \beta 2CRR + \beta 3LR + \lambda$ ………… (1)

Where:
MPR = Monetary Policy Rate

CRR = Cash Reserve Ratio
LR = Liquidity Ratio
ROA = Return on Assets. ά, is a constant; while β1, β2 and β3represent coefficients of determination and λ is the error term. Return on Assets is calculated as Guaranty trust bank's Plc's profit for the year (Profit after interest and tax) as a percentage of its total assets. MPR, CRR and LR are all obtained from CBN Statistical Bulletins (2022).

Data Presentation
This section analyses the data used for the study and provides answers to the research questions, objectives and hypotheses.

Table 1: Presentation of Data used for the study

YEAR	ROA(%)	MPR(%)	CRR(%)	LR(%)
2017	2.27	12.00	15.00	30.00
2018	1.11	13.00	31.00	30.00
2019	2.81	14.00	22.05	30.00
2020	3.44	14.00	22.05	30.00
2021	3.46	14.00	22.05	30.00
2022	5.02	13.50	22.05	30.00

Sources: 1. CBN Statistical Bulletin (2022) 2. GTB Annual Reports 3. Computed from GTB Plc's Annual Reports.* Average figures.

The study which examined the effects of expansionary monetary policy on performance of deposit money banks in Nigeria, has MPR (monetary policy rate), CRR (cash reserved ration) and LR (Liquidity ratio) as the explanatory variables while ROA is used as the dependent variables. Relevant statistics of the dependent and explanatory variables of the sample are summarized in Table 2.

Table 2: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
MPR	6	12.00	14.00	13.4167	.80104
CRR	6	15.00	31.00	22.3667	5.08337
LR	6	25.00	30.01	29.1650	2.04044
ROA	6	1.11	5.02	3.0183	1.31337
Valid N (listwise)	6				

Source: SPSS output

Table 2 above shows that the minimum and maximum MPR for the period under study were 12% and 14% respectively, while the mean and standard deviation were respectively 13.4167 and 0.80104. The minimum MPR was obtained in the year 2014 while the maximum MPR was obtained in years 2017 and 2018. Year 2015 has the minimum ROA of 1.11%, while year 2019 recorded the maximum.

Linear regression was employed to help capture the individual effects of the dependent variables in the model. This is to indicate if the explanatory variables have a significant relationship with the dependent variable. It also indicates the relative strength of different dependent variables on the independent variable. The model summary for the regression analysis is presented in table 3.

Table 3: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.982[a]	.965	.911	.39123	2.329

Source: SPSS Output.

Table 3 above shows the model summary for the multiple regression analysis. From the table, it can be seen that the R square is .965, meaning that the explanatory variables used explain about 96.5% of the variations in the dependent variable (ROA). Taking into consideration the number of predictors entered the model, table 3 reveals an adjusted R square of .911, meaning that the explanatory variables (MPR, CRR and LR) explain about 91.1% of the variations in the respondent variable (ROA). The 8% is explained by factors outside the model.

Durbin-Watson Test: The Durbin-Watson (DW) test for serial correlation (auto-correlation) stands at 2.329 This fall within the range of 1.50 and 2.50, implying the absence of serial correlation among the residuals within the study period.

Table 4: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	-8.252	2.941		-2.806	.001
	MPR	-.548	.903	-2.164	-3.928	.013
	CRR	-.631	.100	-2.444	-6.286	.024
	LR	.503	.478	3.888	5.233	.035

a. Dependent Variable: ROA

Table 4 reveals that when all the explanatory variables are absent, ROA will be negative as indicated by a negative constant of -8.252 and significant given the probability value of 0.001. This means that expansionary monetary policy towards performance is negative without the interplay of the explanatory variables in the model.

The coefficient of monetary policy rate is positive at .107. This implies that for every 1unit increase in monetary policy rate (MPR), ROA rises by -.548. The variable remains significant at 5% level of significance (0.013 less than 0.05). It can also be seen from the

table that the coefficients of CRR is both weak and negative at (-.631) with a significant probability value of 0.24 less than 0.05 level of significance. By implication, a unit increase CRR results in decrease in ROA by -.631.

While LR is positive at .503 and statistically significant given the probability of 0.035 which is less than 0.05 level of significance. By implication, a unit increase in LR results in an increase in ROA by .503 respectively and vice versa. The "Beta" values provide a standardized version of the slope coefficient. The same explanation can be given as with unstandardized coefficients. A unit standard deviation increase in MPR results in a -2.164 unit (216.4%) standard deviation decrease in ROA and vice versa. Like Wise a unit standard deviation increase in CRR caused a -2.444 fall in ROA and a unit standard deviation increase in LR caused a 3.888 rise in ROA.

Discussion of Findings

This study assessed the effect of expansionary monetary policy on performance of deposit money banks in Nigeria. On overall basis, Findings revealed that expansionary monetary policy have a significant effect on performance of deposit money banks in Nigeria given the probability value of 0.001. This depicts that expansionary monetary policy is a necessity for financial institutions to survive and thrive in the long term.

This research found on an individual basis, that the effect of monetary policy rate (MPR) on performance of DMBs was statistically significant and positive given the probability value of 0.013. Hence leading to rejection of the null hypothesis (H_0) which assumes that has no significance effect monetary policy rate (MPR) on performance of deposit money banks in Nigeria and accepting the alternative hypothesis (H_1) which assumes that monetary policy rate (MPR) has significance effect on performance of deposit money banks in Nigeria.

Similarly, this research also found on an individual basis that cash reserve ratio (CRR) had a positive and significant effect on performance of deposit money banks in Nigeria given the probability value of 0.024. Hence leading to rejection of the null hypothesis(H_0) which assumes that cash reserve ratio (CRR) has no significance effect on performance of deposit money banks in Nigeria and accepting the alternative hypothesis (H_1) which assumes that cash reserve ratio (CRR) has significance effect on performance of deposit money banks in Nigeria. Finally, the study found that the influence of liquidity ratio (LR) on performance was positive and statistically significant given the probability value of 0.035. Hence performance of deposit money banks in Nigeria and accepting the alternative hypothesis (H_1) which assumes that liquidity ratio (LR) has significance effect on performance of deposit money banks in Nigeria.

Conclusion/Recommendation

The primary objective of this study was to assess the effect of expansionary monetary policy on the performance of deposit money Banks in Nigeria. The research findings indicate that the influence and effect monetary policy rate (MPR), cash reserve ratio (CRR)

and liquidity ratio (LR) on performance of DMBs should not be underestimated. This is more so, since monetary policy instruments work better than it has been working in the Nigerian banking industry as such if all the variables can be made to be effective as a combined effect of all the instruments of expansionary monetary policy will tend to give better result. From the findings the study concludes that; the study found that, monetary policy rate (MPR) has a positive significant effect on performance of DMBs. Similarly, cash reserve ratio (CRR) had a positive and significant effect on performance of DMBs. Lastly, the study found that the influence of liquidity ratio (LR) on performance of DMBs was positive and statistically significant.

It is recommended that Deposit Money Banks should take advantage of expansionary monetary policy instruments to gain better understanding of what influences their performance; CBN must constantly make enhancement and adjustments of monetary policy indices to ensure that deposit money banks remain competitive, relevant and financially successful as such banks must strictly comply with monetary policy guidelines.

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