

## Banking Regulation and Performance of Banks in Nigeria

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### **Abstract**

*Banking regulation is an on-going exercise in the banking industry in order to enhance the performance of banks and position the banks for efficient and effective services. We examined banking regulation and performance of banks in Nigeria to assess the relationship between regulators' policies such as cash reserve requirement (CRR), liquidity ratio (LIQR), capital base requirement (CAPR), monetary policy rate (MPR) and credit to private sector (CPS). The study covered the period spanning 2008 and 2022. Ex post facto research design was employed in the study. The results revealed that CRR, CAPR and MPR exhibited a positive relationship with CPS whereas LIQR exhibited a negative relationship. In addition, only CRR and CAPR exhibited statistically significant relationship with CPS. Regulators are enjoined to caution banks not to lend excessively to private sector hoping to be rescued by the amount of cash reserve with CBN in case of any misfortune. Findings also strengthen the need for bigger banks judged by capital base in order to boost the quality of transactions they can financed.*

**Keywords:** *Banking Regulation, Performance of Banks, Capital base requirement, Cash Reserve Requirement, Liquidity ratio*

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## 1. INTRODUCTION

### 1.1 Background to the Study

Banks are the life-giving force of an economy. They are important in providing external and internal sources of funds to a country by granting loans to individuals and companies and as well as acting as a “safe-box” for depositors. Banks’ failures can affect a country financially and economically, thereby leading to recession in some cases. Banking regulation in Nigeria has evolved significantly over the years to ensure stability and growth within the financial sector. The Central Bank of Nigeria (CBN) plays a crucial role in overseeing and implementing these regulations, aiming to maintain financial stability, enhance transparency and foster healthy competition among banks (Jeff-Anyeneh, *et al.*, 2023). These regulations cover areas such as capital adequacy, risk management, corporate governance and lending practices, among others.

Absence of or inadequate regulation, unhealthy banking practices, weak supervision, inexperience, mismanagement, failure to stick to ethical standards, poor asset quality, undercapitalization, among other factors affected the performance of banks in pre and post-colonial days in Nigeria. Despite these setbacks or challenges Nigerian banks continue to adapt to the changing landscape, seeking ways to improve efficiency and maintain profitability while complying with stringent regulations.

Hence, recent developments in Nigeria’s banking regulation have seen the Central Bank of Nigeria (CBN) introducing reforms aimed at enhancing financial stability and ensuring the sector’s resilience. Some notable development includes periodic adjustment of capital requirement to strengthen bank financial bases. In 2004, the Central Bank of Nigeria increased the minimum capital requirements for different categories of banks to ensure they have enough capital buffers to absorb risks. Currently, the Central Bank of Nigeria in March 2024, has issued a circular in respect of review of minimum capital requirement for banks. From time to time, CBN directs banks through its monetary functions as regards money supply and credit availability.

Nigerian banks have embraced financial technology solutions. The Central Bank of Nigeria has introduced regulation to encourage collaboration between banks and fintech firms, promoting innovation like mobile banking, digital payments and block chain technology (Central Bank of Nigeria, 2016).

The Central Bank of Nigeria (CBN) continuously emphasizes robust risk management practices and improved corporate governance within banks to mitigate financial risks and enhance transparency (Hassan and Oyedele, 2022).

Addressing the issue of non-performing loans (NPL) remains a priority. The CBN has implemented measures to reduce NPL’s which can strain banks’ balance sheets and hinder lending capacity. The Central Bank of Nigeria (CBN) has been proactive in promoting financial inclusion, aiming to bring more unbanked individuals into the formal financial system.

Nigerian regulators are aligning their frameworks with international standards, ensuring compliance with global banking best practices. Regarding banks’ performance, despite challenges like economic volatility, regulatory changes and occasional asset quality issues, Nigerian banks have displayed resilience and innovation.

Many have expanded their digital offerings, improved customer experiences and diversified their revenue streams. The recent developments and the adaptability of Nigeria banks showcase a dynamic landscape with efforts to strengthen regulatory frame works and enhance the sector’s stability while fostering innovation and growth.

Nigerian banks have experienced various phases of growth and challenges. They have shown resilience in expanding their services, embracing technology and reaching wider markets. The issue of regulatory compliance and adaptation, the challenge lies in banks adaptation to ever-evolving regulatory requirement set by the Central Bank. Ensuring compliance without hampering innovation and profitability remains a delicate balance.

Concerning the issue of capital adequacy and liquidity management, Nigerian banks often face challenges in maintaining adequate level of capital and liquidity to meet regulatory requirements and support their lending activities. They need to comply with Based III capital adequacy standards coupled with economic uncertainties and volatile market buffers and liquidity positions, affecting their ability to support credit expansion and absorb financial shocks. Despite efforts to promote financial inclusion and expand access to credit, a significant portion of the Nigerian population remains under served by banking sector.

This study in its broad perspective intends to examine the effect of regulatory policies on performance of banks in Nigeria. This will involve the evaluation of the effect of capital base requirement, cash reserve ratio, liquidity ratio and monetary policy rate on lending to private sector in Nigeria

Consequently, the following hypothesis which states that there is no significant relationship between capital base requirement, cash reserve ratio, liquidity ratio, monetary policy rate and lending to private sector in Nigeria was formulated in the null form to guide the study. The study covered the period ranging between 2008 and 2022.

## 2. REVIEW OF RELATED LITERATURE

This chapter focuses on the review of related studies carried out in Nigeria and other developing and emerging economies. The review is segmented into conceptual review, theoretical review and empirical review.

### 2.1 Conceptual framework

The conceptual relationships among the variables are depicted in Figure 2.

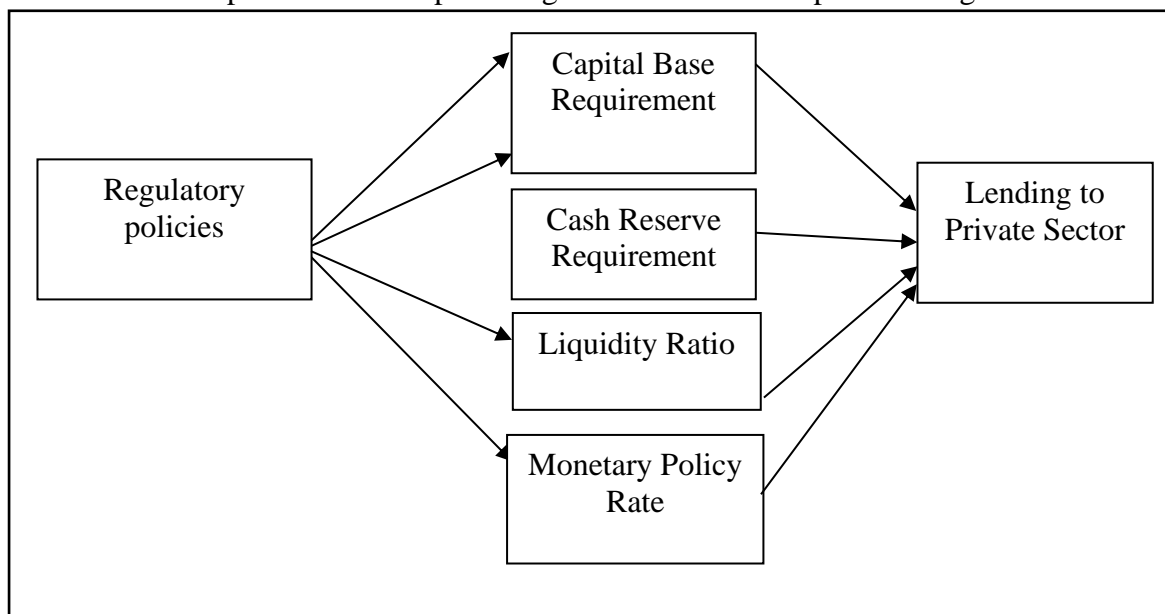


Figure 1: Diagrammatic Representation of the Relationships Among the Variables

**Source:** Researcher's Conceptualization (2024)

Figure 2.1 is a visual view of the conceptual framework of the study based on the scope selected for the study. The main goal of the conceptual framework is to illustrate the research approach in a pictorial form to ease readers' understanding. The independent variables are the regulatory policies which include capital base requirement, cash reserve requirement, liquidity ratio and monetary policy rate which impact banks' performance being the dependent variable and which is measured by lending to private sector.

#### 2.1.1 Regulatory Policies

Bank regulation is a form of supervisory and regulatory requirements, restrictions and guidelines, designed to create boundaries, provide market transparency and foster confidence among players in the financial ecosystem. Regulation means an official rule made by government or some other authority to control the activities and business operations in a sector. It is a set of specific rules or agreed behaviour either imposed by some government or external agency or self-imposed by explicit agreement within the industry to achieve a defined objective. Okaro (2013) defines regulation as government enforcements of permissible and non-permissible business operations meant to govern a people.

#### 2.1.2 Capital Base Requirement

Capital base requirements often referred to as minimum capital base are regulatory standards set to ensure that financial institutions maintain a minimum level of capital relative to their risk-weighted assets. These requirements are fundamental to the stability and integrity of the financial system. By mandating that banks and other financial entities hold a certain

amount of capital, regulators aim to protect these institutions from insolvency, thereby mitigating the risk of a broader financial crisis. The primary objective of capital base requirements is to ensure that banks have sufficient capital to absorb unexpected losses while continuing to operate and meet their obligations (Berger and Bouwman, 2013).

Capital base requirements function as a buffer against financial distress. They are designed to provide a margin of safety for banks, enabling them to withstand significant financial shocks without failing. This protection is crucial for maintaining public confidence in the financial system, as it reduces the likelihood of bank runs and financial panics. By requiring banks to hold capital proportional to the risks they undertake, these regulations encourage prudent risk management practices. Banks with riskier asset portfolios are compelled to hold more capital, thereby discouraging excessive risk-taking and fostering more conservative lending practices (Acharya *et al.*, 2020).

Various regulatory frameworks across the world shape capital adequacy requirements. These frameworks aim to enhance the banking sector's ability to deal with economic stress, improve risk management, and strengthen banks' transparency and disclosures. For example, in the United States, the Dodd-Frank Wall Street Reform and Consumer Protection Act has introduced measures to ensure that banks hold adequate capital. Such regulations are designed to ensure that banks accumulate capital during good times, which can be drawn down during periods of stress, thus providing a cushion against economic downturns (Repullo *et al.*, 2020).

One key aspect of capital base requirements is the introduction of leverage ratios, which act as non-risk-based measures of a bank's capital. Unlike risk-weighted ratios, leverage ratios do not vary with the perceived riskiness of assets, providing a simple and robust measure to guard against the risks of excessive leverage and model errors. By setting a floor on the amount of capital banks must hold, regardless of the risk profile of their assets, leverage ratios add an additional layer of protection to the financial system (Repullo *et al.*, 2020).

Despite the clear benefits of capital base requirements, there is an ongoing debate regarding their optimal levels and implementation. While these requirements are crucial for financial stability, overly stringent regulations can potentially limit banks' ability to lend, thereby restricting economic growth. Finding the right balance between ensuring financial stability and promoting economic activity is a complex and evolving challenge for regulators. As financial markets continue to evolve, regulatory frameworks must adapt to address new risks and ensure that capital requirements remain effective in safeguarding the stability of the financial system (Acharya *et al.*, 2020).

### **2.1.3 Cash Reserve Requirement**

The fraction of total deposits accepted by banks that must be kept as cash in vaults and also deposits with the Central Bank of Nigeria is referred to as cash reserve requirement. The purpose of cash reserve requirement is to allow the CBN, through its monetary policy tools, to vary the requirement within the desired threshold to ensure the safety of the depositors' funds. Relatively, the cash reserve ratio requires the deposit money banks to keep a certain proportion of their total deposit liabilities as cash balances with the CBN, while the liquidity ratio stipulates the proportion of total deposits to be kept in specified liquid assets, mainly to safeguard the ability of banks to meet depositors' cash withdrawals and ensure confidence in the banking system.

Both Cash Reserve Ratio (CRR) and the Liquidity Ratio (LR) constitute the reserve requirements. While CRR is defined as a fraction of the total demand, savings and time deposits which banks are expected to keep as deposits with the CBN, the liquidity ratio refers to the proportion of banks' liquid assets to their total deposit liabilities. Any increase, in the reserve

requirement, the ability of DMBs to create credits declines due to high liquidity requirement. However, with a decrease in the reserve requirement by the monetary authority, DMBs therefore be able to expand their credit and make more profits. Cash reserve ratio is one of the most powerful instruments of monetary control, it is used to increase or reduce the liquidity of banks.

#### **2.1.4 Liquidity Ratio**

Generally, the speed with which assets can be converted to cash with no or minimal cost is known as liquidity. The liquidity ratios are computed to assess the extent to which organizations can meet their immediate maturing obligations. We hear of current ratio and acid test or quick ratio among other liquidity ratios. Liquidity management is accomplished through the viable utilization of assets (Robinson *et al.*, 2015). The size of this ratio communicates high liquidity of the organization. a ratio of 2:1 is preferred for current ratio while a ratio of 1:1 is preferred for quick ratio. A ratio below one (1) shows the vulnerability of the organization involved and that communicates the deficiency of liquidity (Robinson *et al.*, 2015).

#### **2.1.5 Monetary Policy Rate**

In order to achieve some macroeconomic objectives, monetary authority apply monetary instruments to regulate the volume, cost, availability and the direction of money and credit in an economy (Ayodele, 2014). The level of compliance with the monetary policies by banks guarantees its effectiveness. It should be emphasized that banks are business ventures that are formed with profit motive in addition to provision of services while regulations are always safety-focused. For banks to make their acceptable level of profits even at clients' perils, they take some risks by not embracing some policies as they are communicated. Their partial compliance affects the effectiveness of the policies. The CBN sets the interest and allocates credits in the economy, according to the economic objectives and plans of the Government. The policies involve targeting monetary aggregates to monitoring and manipulating policy rates to direct the interbank rate in the desired direction which in turn determines the direction of other market rates (Central Bank of Nigeria, 2016).

Monetary policy plays a pivotal role in shaping the financial performance of deposit money banks (DMBs) worldwide (Akinroluyo and Dimgba, 2022). The monetary policy rate is the minimum lending rate of the central bank at which it rediscounts first class bills of exchange and government securities held by the commercial banks. When the CBN finds that inflationary pressure has set into the economy, it raises the MPR. Consequently, borrowing from the central banks, becomes costly and DMBs borrow less from it. This leads to increase lending rate by DMBs brings about low borrowings by businesses and individuals. As a result, credit contraction sets in and prices are checked from rising further.

On the contrary, when the general price level is low, the CBN lowers its MPR and it becomes cheaper to borrow from the CBN by DMBs. Hence, DMBs lower their lending rates also. While businesses and individuals are encouraged to borrow more. Investment is encouraged; output, employment, income and demand start rising and the downward movement of prices is checked. Monetary policy indicates the amalgamation of measures arranged to manage the supply, outlay and value of money in a particular economy. It is the mechanism of overseeing the volume of funding facilities to keep stability in price and budgetary progress in a country.

#### **2.1.6 Bank Performance**

The performance of DMBs is a central issue for partners and stakeholders. Most particularly, financial performance which is referred to as financial metrics or indicators utilized in deciding the overall prosperity of a DMB. Concerning this, Bhunia, *et al.*, (2011)



characterized organizational financial well-being as general financial wellbeing throughout a given timeframe. The review added that investigation of financial performance is pointed toward evaluating the plausibility, strength and richness of a business. This infers that financial performance addresses the after effect of company's operation in financial terms for a particular period. Sequel to this, financial managers use ratios from organization budget summary to evaluate its monetary exhibition (Watson and Head, 2007; Bhunia et al. 2011). One of the key variables utilized in estimating financial performance is profitability which as per Ross *et al.* (2002) is the degree to which firm can produce benefit from its operations.

Profitability is the pivotal target of all operations; this is on the grounds that the continuous existence of these businesses relies on their profitable operations. Its estimation is most surprising mark of business achievement (Khan, *et al.*, 2016). Samhan and Al-Khatib (2015) directed a review on determinants of financial performance of Jordan Islamic Bank, covering the period year 2000 to 2012, return on assets (ROA), return on equity (ROE), and return from unlimited investment accounts (ROUIA) were utilized to estimated monetary execution. Additionally, CBN in 2013 has buttressed the significance of the net investment margin (NIM) as a mark of bank performance. Return on Equity as the central purpose of this review. Return on equity (ROE) can be characterized as how much net gain returned as a level of investors' equity. ROE is well known among financial backers since it connects the income statement (net profit/loss) to the balance report (shareholders' equity). Notwithstanding, for various reasons, some authors believe that ROE could be a deceptive proportion of corporate financial performance. In the first place, profit can be controlled inside the lawful system through changes in bookkeeping strategy. Second, ROE increments with more financial influence, as long as the profits earned on the acquired assets surpass the expense of the loans. An expansion in leverage past a specific level might make interpretation into an increment into the company's precise risk or beta. Third, ROE is additionally vulnerable to inflation; inflation had a negative relationship with the profit margin which will, thusly, diminish ROE and anticipated development.

### **2.1.7 Lending to Private Sector**

Lending to private is chosen as a measure of bank performance in this study because as much money is given to the private sector, more productive capacity would be enhanced and that would mean increase in growth rate of the economy. The volume of money that would be available to the private sector would be determined by the direction of the regulatory variables. Ranging from the capital base requirement, cash reserve requirement, loan to deposit ratio, liquidity ratio to monetary policy rate, we see that their movement pattern have a lot of influence on the volume of money in the private sector. They are mostly measured in rates. Ngure (2014) defined interest rates as the price a borrower pays for the use of the money they borrow from a lender (financial institution) or fee paid on borrowed assets. Sayedi (2013) expressed an interest rate as the percentage rate over a period of one year. Irungu (2013) asserts that interest rates are major economic factors that influence the economic growth in an economy.

## **2.2 Theoretical Framework**

The theories adopted in this study are classical theory and monetarist theory.

### **2.2.1 The Classical Theory**

The Classical theory starts with the work of Smith (1776), in his book "An Inquiry into the Nature and the Causes of the Wealth of Nations". He maintained that if everyone did what was best for themselves, the result would be best for the society. He stated that "It is not from the benevolence of the butcher, the brewer, or the baker that we expect our dinner, but from

their regard to their own interest.” He assumed that there is a force, the so called “invisible hand” that directs or controls people’s action. He emphasized the importance of the free-market mechanism and believed that any interference by government, whether in the form of fiscal or monetary policy will distort the market’s smooth operations and lead to disequilibrium. He therefore advocated for zero government interference.

However, the core of the classical theory of employment is encapsulated in the Say’s law of market which assumes full employment, proper utilization of resources, perfect competition, large market size, automatic adjustment mechanism, neutrality of the role of money, laissez faire policy and the always equality of savings with investment. The theory was based on the assumption of full employment where full employment was a normal situation and any deviation from this was regarded as an abnormal situation. This was based on Say’s Law of Market. According to this, supply creates its own demand and the problem of overproduction and unemployment does not arise. Thus, there is always full employment in the economy. If there is overproduction and unemployment, the automatic forces of demand and supply in the market restore the economy to its full employment level. In the classical theory, the determination of output and employment takes place in the labour, goods and money markets of the economy. The forces of supply and demand in this market will ultimately bring full employment in the economy. In the classical analysis, output and employment in the economy are determined by the aggregate production function, demand for labour and supply of labour.

The money market is in equilibrium when the demand for money equal the supply of money and it was explained by the Irving Fisher’s quantity theory of money. It states that changes in the general price level are proportional to the quantity of money, therefore money is neutral (money and monetary policy does not matter). However, critics argued that the classical theory, to an extent, is an analysis of an ideal situation which does not exist in reality due to their numerous unrealistic assumptions. The biggest critic of the classical theory is John Maynard Keynes through his “The General Theory of Employment, Interest and Money”.

The crux of the classical theory in terms of policy is that, government intervention (be it monetary or fiscal policy) will not stabilize but distort the economic stability. Therefore, government should fold its arms and allow the economy to operate without any form of interference in order to achieve best result.

### **2.2.2 The Monetarist Theory**

This theory is championed by the monetarism high priest: Friedman (1963). In his view people adjust their private consumption on the basis of their permanent Income. Therefore, a temporary increase in income does not alter the consumption spending, and does not create multiplier effect. Further, private investment is sensitive to interest rate. The monetary policy can be effectively used to contain interest rate. Increase in money supply decreases interest rates, and since private investment is sensitive to interest rate, it therefore leads to increase in aggregate spending in the economy.

The monetary theory believes that only money matters and thus rejected the idea of using fiscal policy for stabilizing economy instead of monetary policy which is faster and less expensive.

In Friedman’s restatement of the quantity theory of money, the supply of money is independent of the demand for money. The supply of money is unstable due to the actions of monetary authorities. On the other hand, the demand for money is stable. It means that money which people want to hold in cash or bank deposits is related in a fixed way to their permanent income. He maintained that if the central bank increases the supply of money by purchasing securities,



people who sell securities will find out that their holdings of money have increased in relation to their permanent income. They will, therefore, spend their excess holdings of money partly on assets and partly on consumer goods and services. This spending will reduce their money balances and at the same time raise the nominal income.

Therefore, if the economy is operating at less than full employment level, an increase in the supply of money will raise output and employment with a rise in total expenditure. But this is only possible in the short-run. Friedman submitted that monetary policy is more potent and useful than fiscal policy in stabilizing the economy and most researchers in economics has shown that monetary policy is effective in achieving the economic stability objective of government.

### **2.3 Empirical Review**

This section of the work will appraise articles written by other researchers in the area of banking regulation and bank performance and their related areas in Nigeria and outside Nigeria.

Idolor (2023) investigated the impact of liquidity management on financial performance of deposit money bank in Nigeria using time series data from 2011 to 2020. The study analyses the data with the aid of E-views statistical package for descriptive and correlation analysis and STATA 11 after testing for the best estimator from pool OLS, fixed effect and random effect estimator based on Breusch and Pagan LM test, F-test and Hausman test. Results revealed that deposit to asset ratio has negative and statistically non-significant relationship with returns on assets of DMBs also, Cash reserve ratio has positive though not statistically significant relationship with returns on equity of DMBs in Nigeria. other results show that Loan to deposit ratio has negative and non-significant relationship with net interest margin of deposit money banks in Nigeria. It was recommended that CBN should strive to improve their regulatory capacity over all DMBs in Nigeria. CBN should direct banks to enforce attainment of professional qualifications on staff to enhance service quality.

Osakwe, *et al.*, (2022) assessed the effect of CBN regulation on the performance of DMBs. The variables studied were Return on Assets (ROA) as dependent variable and monetary policy rate, treasury bills rate, lending rate and cash reserve ratio as independent variables. The study utilized secondary data and employed Ordinary Least Square regression technique for data analysis. The results show that two variables, monetary policy rate and treasury bills rate exhibited positive relationship with return on assets of DMBs in Nigeria while lending rate and CRR had negative relationship with return on assets of DMBs. Besides, only MPR and lending rate showed significant impact on ROA while CRR and treasury bills rate exhibited non-significant relationship with the ROA of DMBs. The study recommended that monetary authority should manage the quantitative tools of monetary policy properly for it to be attractive and affordable for investors to borrow money from the bank hence promoting banks profitability, and that central bank of Nigeria should review the monetary policy regulations in a way that is flexible to ensure banks' profitability.

Hassan and Oyedele (2022) examined the effect of Monetary Policy on Financial Performance of Deposit Money banks quoted in Nigeria from 2008 to 2020. Inflation Rate, Cash Reserve Ratio, and Interest Rate were the explanatory variables while Return on Asset was the measure of financial performance. Panel data approach was adopted on a sample size of Ten (10) deposit money Banks quoted on the Nigerian stock exchange as at 31st December, 2020. Annual reports of the selected banks were the major source of data. Pooled Ordinary Least Square multiple regression technique was adopted for data analysis. It was found that Inflation Rate has a non-significant negative effect on Financial Performance, Cash Reserve

Ratio has a significant positive effect on Financial Performance while Interest Rate has a significant negative effect on Financial Performance of the banks sampled. It was concluded that monetary policy is a strong determinant of financial performance of Nigerian banks. Recommendation was that banks' management should be ready for intermittent adjustments of monetary policy tools while government should be consistent in its effort to reduce inflation which has a significant negative effect on banks' performance.

Ogundipe, *et al.*, (2022) examined the effect of regulatory requirements compliance on total assets performance of deposit money banks in Nigeria. The banking system is highly regulated with various laws, rules, and instruments prescribed by the Central Bank of Nigeria. However, incidents of non-adherence to regulatory requirements has hinders total assets performance of banks. The study adopted an ex-post-facto research design. Validated data was obtained from published financial statements of (10) deposit money banks quoted on the Nigerian Stock Exchange (NSE) were adopted for the study from 2007 to 2018. The analysis was conducted in three stages; descriptive analysis was carried out; also diagnostic tests were conducted to ensure appropriateness of the model and the choice of regression estimate to employ while multiple regression analysis was carried out to examine the effect of the regulatory requirements compliance on total assets (TA). Following the  $p$ -value of F-statistics of 0.0483, which is significant because it is less than the chosen significance level of 5%, it evidenced that regulatory requirements significantly has effects on Total Assets. Therefore, banks are expected to improve on their total assets by ensuring strict adherence to regulatory instruments in their operations towards achieving sustainable long term performance.

Obadire and Obadire (2023) studied the Impact of Bank Regulation on Bank Performance: A Novel Analysis of the Pre-Covid Era with Cross-Country Evidence. The main objective of the study was to ascertain the impact of prudential Basel III regulations on financial performance of selected listed African banks before the beginning of Covid-19. The study covered six African countries and adopted a panel of 45 listed banks from the six selected countries. Fixed Effect and Random Effect models were employed in the study. Findings revealed that capital adequacy ratio exhibited a positive effect on the financial performance of African banks whereas minimum capital requirement and liquidity exhibited a negative effect.

In Ini and Eze (2018), the effect of capital adequacy requirements on the performance of commercial banks in Nigeria was examined. Annual time series data obtained from the NDIC and CBN Annual and Bank Supervision Reports were used in the study. Ordinary Least Squares (OLS) regression technique was adopted for data analysis. The selected capital adequacy variables of the study revealed that ASF, CRWA and TQC, jointly, exhibit significant effect on Returns on Asset (ROA), the dependent variable. The results further show that capital adequacy impact positively on the financial performance of commercial banks in Nigeria. This means that capital adequacy is a strong and potent determinant of bank performance. It was recommended that the quality of assets and liabilities portfolios should be improved upon to enhance the achievement of corporate objectives.

Ighoroje and Akpokerere (2018) investigated the effect of liquidity management on bank's performance in Nigeria. the study covered the period spanning 1980 and 2017. The co-integration and error correction technique were produced from the ARDL technique of data analysis as well as Granger causality test was employed to investigate the relationship between liquidity management and banks' performance. Individually, only liquidity ratio exhibited a significant relationship with banks' performance but the overall position was that the independent variables jointly exert a significant effect on bank performance. From the findings from the study, the Central Bank of Nigeria should be effective and efficient in the management

of liquidity tools of so as to stabilize their performance and strengthen the financial sector of the economy.

### 3. METHODOLOGY

This section of the study is meant to discuss the methods adopted by the researcher in carrying out the research. The chapter embodies research design, nature and source of data, model specifications, methods of data analysis, variables of the study, data analytics techniques and decision rule.

#### 3.1 Research Design

The research design employed in this research is the ex-post facto research design. This is because, the researcher does not aim to control any of the variables under investigation and our pre-disposition is to observe occurrence over a period of time (2008 to 2022). Another justification for the research design is the desire of the researcher to use secondary data to test the hypothesis formulated. The use of secondary data and the examination of existing data over a period of time make it an appropriate design for the research topic. These are already existing data, thus, cannot be manipulated by the researcher.

Based on the nature of the research, secondary data were used. The data address the perception and views of the effect of regulatory policies on banks' performance in Nigeria.

This study used secondary data which were generated through a review of Central Bank of Nigeria Statistical Bulletin. The data obtained were time series from 2008 to 2022.

#### 3.2 Model specification

The model used in this study is based on the description of the effect of the predictor on the criterion variable of this research work. In other words, the multiple linear regression models is adopted. It is given as:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \mu \dots \dots \dots \text{equation 1.}$$

Where;

Y = Bank Performance (dependent variable)

X = Regulatory Policies (explanatory/independent variable)

Explicitly, the equation was defined as:

Bank Performance =  $f(\text{Regulatory Policies}) + \mu$

Therefore, the broad model for this study was modified as;

$$CPS_{it} = \beta_0 + \beta_1 CAPR_{it} + \beta_2 CRR_{it} + \beta_3 LR_{it} + \beta_4 MP_{it} + \mu_{it} \dots \dots \dots \text{equation 2.}$$

Where;

$LPS_{it}$  = Credit to Private Sector in period  $t$

$CAPR_{it}$  = Capital base requirement of Banks in period  $t$

$CRR$  = Cash Reserve Requirement in period  $t$

$LR_{it}$  = Liquidity ratio in period  $t$

$MP_{it}$  = Monetary Policy Rate in period  $t$

$\beta_0$  = Intercept or regression constant

$\beta_1, \dots, \beta_4$  = Regression coefficients to be estimated for period  $t$

$\mu$  = Stochastic error term.

#### 3.3 Variables of the Study

Bank performance being the dependent variable is measured by credit to private sector. Independent variables of the research are proxies for regulatory policies which include: capital base requirement, cash reserve requirement, liquidity ratio and monetary policy rate.

#### 3.4 Data Analysis Techniques

Data analysis involved the use of descriptive and inferential statistics. In addition, the data were analyzed using the regression models with the aid of EViews Version 10.0.

Regression analysis is a statistical process for estimating the relationships among variables. It can be used to assess the strength of the relationship between variables and for making predictions based on the observed input data. Regression analysis helps us to understand the relationship between a dependent (target) variable and one or more independent (explanatory) variables. The Ordinary Least Square (OLS) of multiple regression technique was used in the analysis of the study.

### 3.5 Decision rule

The study hypotheses were tested at 5% level of significance. The decision rule is to accept the null hypothesis if the probability value of the corresponding t-statistics is greater than 0.05, in other, words reject the alternative hypothesis. Otherwise, Reject the null hypothesis if the probability value of the corresponding t-statistics is less than 0.05, in other words, accept the alternative hypothesis.

## 4. RESULTS PRESENTATION, ANALYSIS AND DISCUSSION

This section of the study captures data presentation, data analysis, descriptive statistics, stability and normality tests, correlation analysis, unit root test and regression analysis,

### 4.1 Data Presentation

In this segment, data on the variables used for the study were presented. The variables were capital base requirement, cash reserve ratio, liquidity ratio, monetary policy and credit to private sector. These variables constitute the indicators of regulatory policies and banks' performance identified and used in this study. The data were obtained from the CBN Statistical Bulletin for the period ranging from 2008 and 2022 as shown in Table 4.1.

**Table 4.1:** Dataset for the variables from 2008 to 2022

Bank Regulation and Performance					
YEAR	LIQR	CRR	MPR	BCAP	CPS
2008	37.72	3	9.75	210.94	7,899.14
2009	26.39	1.3	6	219.51	9,889.58
2010	27.39	1	6.2	249.71	10,518.17
2011	42.02	8	12	220.21	9,600.02
2012	49.72	12	12	188.39	13,293.64
2013	46.23	12	12	209.62	14,461.41
2014	38.27	20	13	283.39	16,753.00
2015	42.35	20	11	236.42	18,688.42
2016	45.95	22.5	14	257.12	21,025.24
2017	54.79	22.5	14	275.11	22,459.18
2018	65.04	22.5	14	3,855.87	22,646.33
2019	104.2	22.5	13.5	4,504.31	25,676.87
2020	67.6	27.5	11.5	5,189.43	29,030.01
2021	61.2	27.5	11.5	5,602.38	32,845.67
2022	54.93	27.5	16.5	6,546.67	38,952.43

Source: CBN Statistical Bulletin

### 4.2 Data Analysis

In this subsection, the various data collected by the researcher for the study were analyzed using appropriate statistical tools in order to achieve the objectives of the study.

#### 4.2.1 Descriptive statistics of the variables

Table 4.2 shows the descriptive statistics of the variables (credit to private sector, capital base requirement, cash reserve requirement, liquidity ratio and monetary policy rate) used in the study. The descriptive statistics were mean, standard deviation, skewness, and kurtosis.

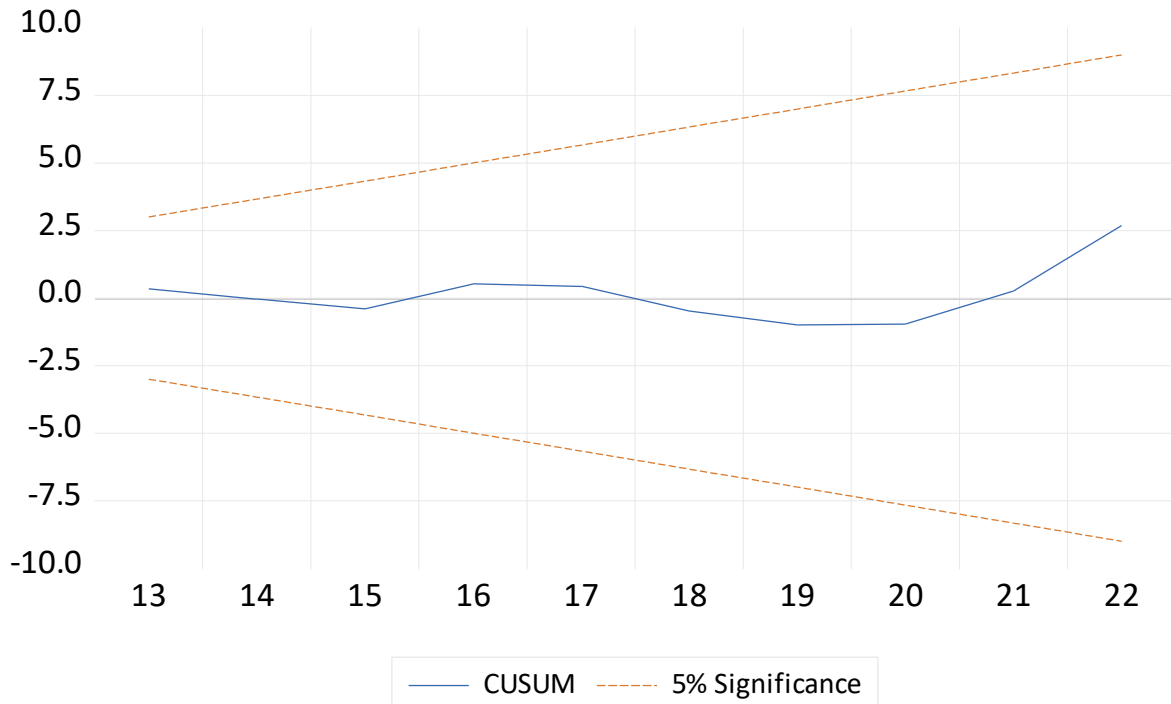
**Table 4.2 Descriptive Statistics of the Variables**

	<b>CPS</b>	<b>CRR</b>	<b>LIQR</b>	<b>CAPR</b>	<b>MPR</b>
Mean	19582.61	16.65333	50.92	1869.939	11.79667
Median	18688.42	20	46.23	257.1192	12
Maximum	38952.43	27.5	104.2	6546.67	16.5
Minimum	7899.136	1	26.39	188.3877	6
Std. Dev.	9196.634	9.626739	19.16754	2455.942	2.816816
Skewness	0.577359	-0.50939	1.325409	0.86465	-0.78192
Kurtosis	2.435785	1.812008	5.060143	1.954593	3.280623
Jarque-Bera	1.03232	1.530767	7.044388	2.552095	1.577725
Probability	0.596808	0.465156	0.029535	0.279138	0.454361
Sum	293739.1	249.8	763.8	28049.08	176.95
Sum Sq. Dev.	1.18E+09	1297.437	5143.527	84443135	111.0823
Observations	15	15	15	15	15

**Source:** Researcher's Computation using E-views 10.0 (2024)

Table 4.2 reveals that Credit to Private Sector has a mean value of ₦19582.61, maximum value of ₦38952.43 and minimum value of ₦7899.136. It also has a standard deviation value of 9196.634 indicating the extent of spread around the mean. CRR, LIQR, CAPR and MPR have mean values of 16.65333, 50.92, 1869.939 and 11.79667, respectively. While their maximum values are 27.5, 104.2, 6546.67 and 16.5, respectively. Their standard deviation values suggest the extent of deviation from their mean values. Besides, kurtosis values revealed that all the variables were positively skewed with the lowest and highest values of 1.812008 and 5.060143, respectively. Jarque-Bera probability values revealed that all the variables are normally distributed except liquidity ratio with a value of 0.029535 which is less than 0.05 level of significance.

#### 4.2.2 Stability Test of Variables

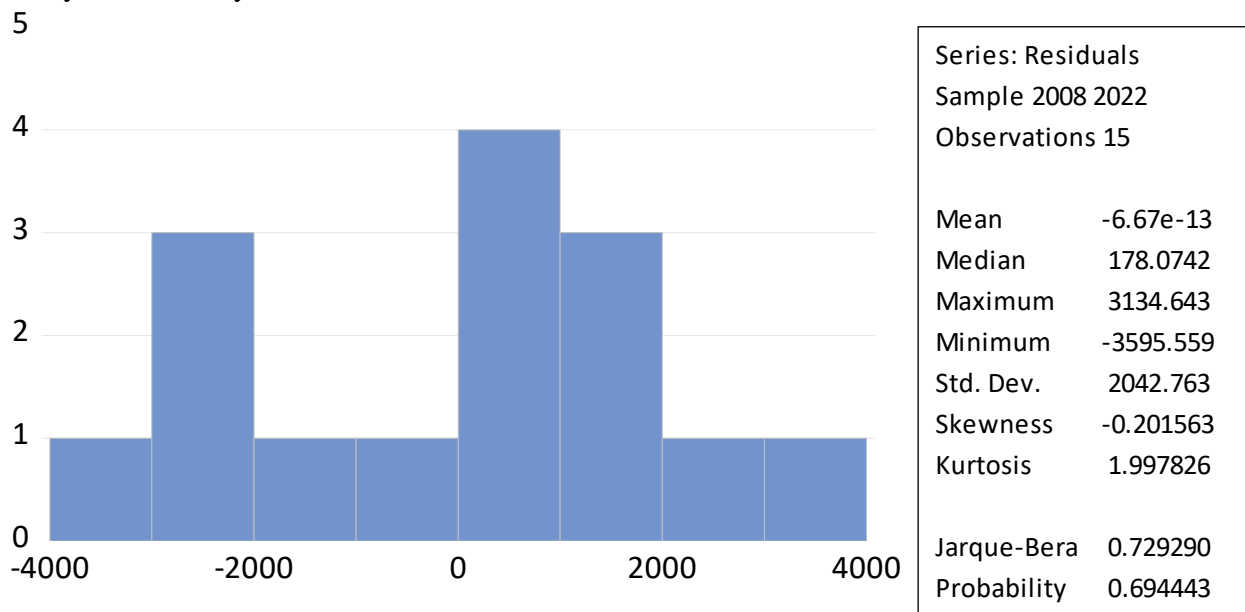


**Figure 4.1: Result of Cumulative Sum (CUSUM) test**  
 Source: Eviews 10.0 Output

Based on the direction of movement within the v-mask (the critical horizon), it can be clearly seen that the result of CUSUM test confirmed the variables used in the study are stable.

#### 4.2.3 Normality Test

As earlier confirmed by the descriptive statistics of the variables, the probability value of Jarque-Bera in the Histogram test (0.694443) also confirmed that the variables selected for the study are normally distributed.



**Figure 4.2: Results of Histogram Normality Test**  
 Source: Eviews 10.0 Output



#### 4.2.4 Correlation Analysis

**Table 4.3: Correlation Coefficients**

	CPS	CRR	LIQR	CAPR	MPR
CPS	1				
CRR	0.897537	1			
LIQR	0.612944	0.651156	1		
CAPR	0.879922	0.688459	0.670369	1	
MPR	0.647416	0.778229	0.555378	0.434761	1

**Source:** Researcher's Eviews Computation (2024)

**Table 4.4: Variance Inflation Factors (VIF)**

Variance Inflation Factors

Date: 11/01/24 Time: 20:57

Sample: 2008 2022

Included observations: 15

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	11237947	28.85453	NA
CRR	18702.75	17.47151	4.153630
LIQR	2469.019	18.61103	2.173809
CAPR	0.171395	4.016203	2.477411
MPR	147035.0	55.33293	2.795772

**Source:** Researcher's Eviews Computation (2024)

Both Table 4.3 and 4.4 revealed that the independent variables of the study are free from the issues of multicollinearity. MPR and CRR exhibited a high normal relationship with the value of 0.778229. All the variables relate positively. In addition, the results of the VIF showed that all the variables have coefficient that is less than 10.0 which is the threshold for acceptable VIF value in analyzing multicollinearity.

#### 4.2.5: Unit Root Tests

Augmented Dickey-Fuller test was conducted in order to confirm the level of stationarity of the variables used in the study. The results of the unit root test are presented in Table 4.4.

**Table 4.4: Result of Unit Root Test Based on Augmented Dickey – Fuller**

Variables	ADF value	Critical value @		Order of Integration	P-values
		1%	5%		
CPS	-5.315110	- 4.121990	- 3.144920	I(2)	0.0015
CRR	- 4.228793	- 4.057910	- 3.119910	I(1)	0.0075
LIQR	- 3.980498	- 4.057910	- 3.119910	I(1)	0.0114
CAPR	- 5.463329	- 4.121990	- 3.144920	I(2)	0.0012
MPR	- 3.672628	- 4.057910	- 3.119910	I(1)	0.0194

**Source:** Researcher's Eviews Computation (2024)

From Table 4.4, all the independent variables except bank capital requirement was stationary at first difference I(1) whereas bank capital requirement was stationary at second difference I(2). The dependent variable, credit to private sector was stationary second difference I(2). With the order of integration, the Ordinary Least Square technique of multiple regression was considered suitable in the study.

#### 4.2.6 Long Run Analysis of the Data (Regression Analysis)

Table 4.5 revealed the nature of relationships between the independent variables and the dependent variable. The results showed that CPS will remain at an average of ₦9025.378 billion should all the independent variables remain constant. It is noteworthy to state that all the independent variables exhibited positive relationship with CPS except LIQR. Besides, only CRR and CAPR exhibited statistically significant relationship with CPS in the study. The R-squared value of 0.950662 implies that about 95 per cent of changes in CPS are accounted for by the independent variables (CRR, CAPR, LIQR, and MPR). Furthermore, the F-statistic value of 48.17125 and the probability of F-statistic value of 0.000002 confirm that the overall model of the study is significant and this implies that the combination of cash reserve requirement, capital requirement, liquidity ratio and monetary policy rate have significant effect on the amount of credit to the private sector.

**Table 4.5: Regression Results of the Variables**

Dependent Variable: CPS

Sample: 2008 2022

Included observations: 15

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	9025.378	3352.305	2.692290	0.0226
CRR	555.2295	136.7580	4.059942	0.0023
LIQR	-85.44210	49.68923	-1.719530	0.1163
CAPR	2.176392	0.413999	5.257002	0.0004
MPR	134.9364	383.4515	0.351900	0.7322
R-squared	0.950662	Mean dependent var		19582.61
Adjusted R-squared	0.930927	S.D. dependent var		9196.634
S.E. of regression	2417.030	Akaike info criterion		18.67967
Sum squared resid	58420354	Schwarz criterion		18.91569
Log likelihood	-135.0975	Hannan-Quinn criter.		18.67715
F-statistic	48.17125	Durbin-Watson stat		2.585637
Prob(F-statistic)	0.000002			

**Source:** Researcher's Eviews Computation (2024)

#### 4.2.7 Breusch-Godfrey Serial Correlation LM Test

The Breusch-Godfrey Serial Correlation LM test became necessary because of the value of Durbin-Watson statistic in Table 4.5, which suggested the presence of autocorrelation among the variables. The result of the test in Table 4.6 has given the researchers confidence that the

issue of serial correlation is nothing to worry about in the study. This is proven by the probability score of 0.2163 which is above 0.05 level of significance.

**Table 4.6: Breusch-Godfrey Serial Correlation LM Test:**

F-statistic	1.865222	Prob. F(2,8)	0.2163
Obs*R-squared	4.770209	Prob. Chi-Square(2)	0.0921

**Source:** Researcher's Eviews Computation (2024)

#### 4.2.8 Discussion of findings

The results of the analyses earlier presented revealed that

- i) Cash Reserve Requirement (CRR), a policy of the Central Bank of Nigeria has a statistically significant positive effect on the credit to private sector in Nigeria. This position is not in line with existing theory and literature. Jhinghan (2004) explained that CRR is an important determinant of money supply and that an increase in CRR reduces the supply of money with commercial banks and a decrease in CRR tends to increase money supply with commercial banks. In this case, reduced money supply with commercial banks will reduce the amount of credit available to private sector. Hassan and Oyedele (2022) who studied the effect of monetary policy on financial performance of DMBs have similar findings to this, except that, their proxy for financial performance (ROA) was different from ours.
- ii) Liquidity ratio has a negative and statistically non-significant relationship with credit to private sector. This is contrary to existing theory. As banks liquidity status is increased, there should be a corresponding increase in their lending capacity. This is the intention of the regulators.
- iii) Minimum capital requirement has a positive and statistically significant relationship with credit to private sector. This in line with existing literature and regulators' expectations; mainly during recapitalization and consolidation. Michael, *et al.* (2018) corroborate this finding. Increase in capital base is meant to increase the capacity of banks to finance bigger ticket transactions and this can only be achieved through lending to private sector among other borrowers.
- iv) Monetary Policy Rate (MPR) exhibited a positive and non-significant relationship with credit to private sector. MPR is the rate at which CBN lends to other banks in the economy. MPR is the mother rate and every other rate takes it bearing from there. Increase in MPR has direct effect on other rates (lending and borrowing rates). Increase in lending rate reduces appetite for loans. It does not affect availability of loans but only affects the willingness of borrowers to access the loans at the stipulated rate. Like the cost of raw materials which determines the cost of finished products; the cost of loans to private sector determines the cost of whatever finished product the money was used for. Invariably, a positive relationship with MPR may not affect the availability of funds to the private sector but can lead to inflation. This finding aligns with that of Osakwe, *et al.* (2022).

#### 5. CONCLUSION AND RECOMMENDATIONS

Regulators have good intentions for banks whenever they bring out any policy. The policies are usually meant to lead banks to attain safety, profitability and engender economic growth. From the study it was found that a combination of cash reserve requirement, liquidity ratio, minimum capital base requirement and monetary policy rate have significant influence on

credit to private sector. CRR being a safety measure is meant to insulate banks from any unpleasant unforeseen situation and should not be abuse by banks extending credits without caution to customers. The need for capital base requirement is strengthened as it exhibited a positive and significant relationship with credit to private sector. The study was limited by the data set as the span of period covered was limited by the available data. This was so, because some variables had no data before 2008 when the evaluation started and the researchers intended to use a balanced dataset. Based on the findings from the study, it can be concluded that increase in MPR does not mean reduction in the amount of funds available for lending but portend increase in all other rates that affect lending, borrowing and investment. Increase in liquidity ratio means more money/funds are held on hand or in liquid instruments to enhance responsive service to customers. Above all, increase in capital base requirement portends strength and capacity for banks.

Since banks tend to lend more based on their CRR, CBN should increase their cash reserve requirement limit to accommodate any shocks or undesirable situation arising from banks' unguarded lending activities.

## REFERENCES

- Acharya, V., Berger, A. and Roman, R. (2020). Lending implications of U.S. bank stress tests: Costs or benefits? *Journal of Financial Intermediation*, 42, 100-837.
- Akinroluyo, B. and Dimgba, C. (2022). Banks Liquidity Ratio and Return on Equity of Nigeria Deposit Money Bank in Nigeria. *International Journal of Management & Entrepreneurship Research*, 4(1), 36-47.
- Ayodele, O. (2014). Effect of monetary policy on commercial banks' lending in Nigeria, *Review of Public Administration and Management*, 3 (5).
- Berger, A. and Bouwman, C. (2013). How does capital affect bank performance during financial crises? *Journal of Financial Economics*, 109(1), 146-176.
- Bhunja, A., Mukhuti, S. and Roy, S. (2011). Financial Performance Analysis-A Case Study. *Current Research Journal of Social Sciences*, 3(3), 269-275.
- Central Bank of Nigeria, (2016). *Annual Account and Financial Reports*, [www.cenbank.orgAbuja](http://www.cenbank.orgAbuja).
- Hassan, J. and 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
- Idolor, J. (2023). Liquidity Management and Financial Performance of Deposit Money Bank in Nigeria. *Journal of Academic Research in Economics*, 10(10), 1-24.
- Ighoroje, E. and Akpokerere, O. (2018). Liquidity Management and the Performance of Deposit Money Banks in Nigeria. *Journal of Economics and Finance*, 12(1), 20-34.

- Ini, U. and Eze, O. (2018). Effect of Capital Adequacy Requirements on the Profitability of Commercial Banks in Nigeria. *International Research Journal of Finance and Economics*, 3(6), 34-50.
- Irungu, P. (2013). The Effect of Interest Rate Spread on Financial Performance of Commercial Banks in Kenya. An MSc Research Project Submitted to the University of Nairobi.
- Jeff-Anyeneh, E., Anachedo, C., Okonkwo, J. and Udoye, N. (2023). Effects of Monetary Policy on the Financial Performance of Deposit Money Banks in Nigeria. *African Banking and Finance Review Journal*, 1(1), 54-67.
- Khan, M., Sajid, M., Waseem, M. and Shehzad, M. 2016, Capital Structure Composition Demeanour towards Corporate Financial Performance Potential. *International Journal of Innovation and Applied Studies*, 14(1), 210-217.
- Michael, E. I., Etukafia, N. I., Akpabio, E. E., and Etuk, M. I. (2018). Capital Adequacy and the Value of Banks in Nigeria: A Post-Consolidation Review, *Journal of Finance and Bank Management*, 6(2): 64-75. DOI: 10.15640/jfbm.v6n2a7.
- Ngure I. (2014). The Effect of Interest Rates on Financial Performance of Commercial Banks in Kenya. Unpublished thesis for the award of the degree of Master of Business Administration of the University of Nairobi, Kenya.
- Obadire, A. M., and Obadire, K. (2023). The Impact of Bank Regulation on Bank Performance: A Novel Analysis of the Pre-Covid Era with Cross-Country Evidence. *American Journal of Industrial and Business Management*, 13:118-139.  
<https://doi.org/10.4236/ajibm.2023.133009>
- Ogundipe, S., Cole, A. and Fasola, I. (2022). Effect of Regulatory Requirements on Total Assets Performance of Deposit Money Banks in Nigeria. *International Journal of Advances in Engineering and Management*, 4(1), 214-224.
- Ogunjimi, J. and Olorunleke, O. (2021). Monetary policy, credit risk, and bank lending in Nigeria: evidence from deposit money banks. *African Finance Journal*, 23(1), 1-18.
- Okaro, C. (2013). *Banking Laws and Regulations (Second Edition)* Aba: Fourth Dimension Publishers.
- Osakwe, C. I., Udoye, O. N. and Akunna, R. C. (2022). The Effect of Central Bank of Nigeria Regulation on the Performance of Deposit Money Banks. *International Journal of Multidisciplinary and Current Educational Research*, 4(1), 92-103.
- Repullo, R., Saurina, J. and Trucharte, C. (2020). Mitigating the procyclicality of Basel II. *Economic Policy*, 35(104), 685-729.

- Robinson, J., Kena, G., Musu-Gillette, L., Wang, X., Rathbun, A., Zhang, J. and Velez, E. (2015). The Condition of Education. *National Center for Education Statistics (NCES)*, 2015-144.
- Samhan, H. M., and AL-Khatib, M. A. Y. (2015). Determinants of financial performance of Jordan Islamic bank. *Research Journal of Finance and Accounting*, 6(8), 37-47.
- Sayedi, S. (2013). Bank specific, industrial specific and macroeconomic Determinants of banks' profitability in Nigeria. *Journal of Finance*, 4(8), 56-79.
- Watson, D. and Head, A. (2007). *Corporate Finance: Principle and Practice* (4th ed.). Harlow, England. Prentice Hall Financial Times.