Innovations

# The Impact of Credit Risk Management on the Financial Performance of Commercial Banks in Nigeria

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***Abstract:*** *This study investigates the impact of credit risk management on the financial performance of commercial banks in Nigeria, using panel data from listed deposit money banks between 2008 and 2023. Return on Assets (ROA) and Return on Equity (ROE) were employed as performance indicators, while credit risk (non-performing loan ratio), loan-to-total asset ratio, capital adequacy ratio, exchange rate, and interest rate served as explanatory variables. The Hausman specification tests confirmed the appropriateness of the Random Effects model. Findings from the regression analysis reveal that credit risk exerts a significant negative influence on both ROA and ROE, highlighting the detrimental effect of non-performing loans on profitability. In contrast, loan-to-total asset ratio and capital adequacy ratio exhibit positive and significant impacts, underscoring the importance of lending activities and capital buffers in enhancing financial performance. However, macroeconomic factors such as exchange rate and interest rate were found to be statistically insignificant, suggesting that internal risk management practices are more critical than external shocks in driving profitability. The study concludes that effective credit risk management and strong capitalization are vital for sustaining bank performance. It recommends strengthening loan appraisal frameworks, enhancing capital adequacy compliance, and improving risk disclosure practices to foster financial stability.*

***Keywords:*** *Credit risk management, Capital adequacy, Loan-to-asset ratio, Bank performance, Nigeria*

**JEL Classification**: G21, G32

## 1. Introduction

Banks are financial institutions that accept and keep money and other valuables for individuals and organizations. The traditional role of a bank is to keep and lend money, which makes up the bulk of their assets. Most commercial banks' primary functions include the creation of funds, payment channels, savings, business financing (trades), credit extension, safekeeping of valuables, and brokerage

services, among other things. Basically, banks obtain funds from individuals and organisations that have "savings" in various types of accounts opened for them (Akhanolu, et al, 2021). They use these deposits to make loans or provide credit to those in need, with some interest charged.

It is also important to mention that banks are also business organisations, whose main aim is also profit maximization. In fact, just like every other business organisation, the goal of any commercial bank is to make a profit in order to maintain its stability and to grow. One of the ways of making this profit and growing it is by offering credit facilities (loans). As a matter of fact, loans are the dominant assets at most banks, as they generate the largest share of operating income for the banks. Through credit facilities, commercial banks are able to make extra funds through the deposit multiplier effect, which forms part of the main sources of income for the banks, though it also exposes them to a lot of risks (Kargi, 2011; Achimugu et al, 2021). This is to say that loan facilities also expose banks to high risks (Gunarathne & Buddhika, 2025).

Banks and other financial institutions are susceptible to a number of risks, including those associated with interest rates, liquidity, markets, foreign exchange, currency fluctuations, commodities, operations, and credit (Cooperman, Mills & Gardner, 2000). Moreover, because they are managed by humans, financial institutions face a number of challenges. These include, but are not limited to, lax credit principles for borrowers and counterparties, inefficient portfolio risk management, and insufficient attention to economic or other changes that could adversely affect the credit standing of a bank's counterparties (Enoch, Digil, & Arabo, 2021).

Banks and other financial institutions are vulnerable to credit risk, which must be managed effectively to prevent losses. According to the Statement of Accounting Standards, the task of managing a bank's capital assets and loan reserves is credit risk management. Therefore, effective risk management is necessary to lessen the possibility of loss in bank earnings and raise the value of their capital on the capital market. Any bank's loan portfolio cannot function without proper credit risk management (Isedu & Erhabor, 2021). Bank failure is heavily influenced by credit choices and risk assets, making credit risk management a leading indicator of the soundness of a bank's credit portfolio.

Many commercial banks in Nigeria have failed, which has had a negative impact on the country's economy. The decline in global oil prices and the sharp depreciation and devaluation of the Naira against world currencies have put stress on Nigeria's banking sector (BGL Banking Report, 2010). In reality, banks were hampered in their ability to lend to the domestic economy due to the low quality of their loan assets,

which had a negative impact on the efficiency of those institutions. Records show that bad loans in Nigerian deposit banks reached as high as 35% between 1999 and 2019, despite the fact that a department responsible for managing the banks' risks, including credit risks, was established in each deposit money bank (Adeyinka & Henry, 2024)).

Poor and incompetent credit risk management strategies are blamed for the high bad loan rate in Nigerian banks (Ogundele & Nzama,2025). Reasons for this may include, but are not limited to, improper follow-up, inadequate collaterals, or no collaterals at all, and sloppy loan processing. As a result, in July 2010, the Federal Government of Nigeria established "Asset Management Corporation of Nigeria" (AMCON) by an Act of the National Assembly to provide a long-term solution to the reoccurring issues of credit risk mismanagement that have plagued Nigerian banks.

Despite the giant move to curtail the credit risk issues in Nigeria, the rate of bad loans continues to increase unabated. In 2017, about 1.5 percent of the Nigerian population was said to owe banks about N5 trillion, and it was a herculean task for the banks to recover these debts as a result of legal technicalities deployed by the debtors' lawyers (AMCON, 2017). Although financial risk is inherent in every financial institution, when the institution implements the right financial risk management strategies, the risks are minimized, and such institutions are more likely to achieve their objectives (Muteti, 2014).The soundness of a country's banking system has a significant impact on the country, as its failure can interrupt economic growth; consequently, the manner in which credit risks are managed by commercial banks can reveal a great deal about the business structure and economy of the country. In light of this, the present study intends to examine the effect of credit risk management on the financial performance of Nigerian commercial banks.

The remaining of this paper is structured as follows. Section 2 reviews of related literature and empirical literature. Section 3 deals with material and methods which include descriptive statistics and the estimation of the model. Section 4 discusses the empirical findings and their interpretations, and last section concludes the paper with policy suggestions

## 2. Review of Related Literature

Credit risk is the most important risk that banks confront, and the success of their business depends on precise evaluation and efficient management of this risk to a much greater extent than the risk posed by any other factor (Gieseche, 2004). Since the default of a few key clients can result in massive losses that could ultimately lead to insolvency, credit risk is of the utmost importance (Bessis, 2002). Banks have adopted certain preventive steps like training their workers, adopting improved

credit standards, and assessing the credit rating of the consumers seeking for loans because Dolde (1993) pointed out that many banks are sensitive to numerous dangers. Credit risk arises from a number of factors, including those listed by Kithinji (2010): inadequate institutional capacity; inappropriate credit policies; interest rate volatility; ineffective management; inappropriate laws; inadequate capital and liquidity; direct lending; massive bank licencing; sloppy loan underwriting; sloppy credit assessment; sloppy lending practises; government interference; and inadequate central bank supervision. Dias (2015) argues that managers are a potential risk factor by analysing the "rise and fall" of the Credit Default Swap market from an agency's perspective. Although credit risk is directly proportional to a creditor's propensity and capacity to make payments, a bank's risk profile might increase due to a lack of knowledge about its borrowers, inadequate credit policies, sloppy credit evaluation, and sloppy lending practises (Waemustafa & Sukri, 2015).

## Theoretical Issues

### The Anticipated Income Theory

H. V. Prochnow formulated the theory of expected income in 1945. According to this theory, the bank plans the repayment of the term loan using the borrower's anticipated income, regardless of the specifics of the borrower's business. In times of economic downturn, when loan applications to banks are low, banks are left with an abundance of liquid assets and fewer profits to distribute. Because of this theory, financial institutions are inspired to be more generous with their long-term loans. According to the theory, financial institutions should be able to offer revolving credit, in which both principal and interest payments are made on a regular basis over a lengthy period of time. The bank's liquidity needs will be met on a consistent basis thanks to the customer's repayment schedule (Mohammad, Prajanti, & Setyadharma, 2020). The central tenet of this theory is that financial institutions should lend money to borrowers not based on their current income but on their expected future earnings.

### Credit Risk Theory

Credit risk theory, often known as a theory of default or default model, was developed by Robert Merton in 1974, as stated by Adegbie and Otitolaiye (2020). Based on this idea, Robert offered a methodology for evaluating a company's credit risk by viewing its equity as a call option on its assets. Theorists have proposed two primary methodologies for modelling credit risk: the structural approach and the intensity-based approach (also known as reduced form approach). Clifford V. Rossi, building on the work of Robert C. Merton, developed three crucial methods for

gauging credit risk: credit spreads, credit portfolio management, and loss distribution generated via Monte Carlo simulation (Adegbie & Otitolaiye, 2020). A borrower's ability to repay a loan is dependent on the results of a credit check, which may need the purchase of mortgage insurance or other forms of collateral or guarantees from third parties in order to mitigate the lender's risk. The interest rate that debtors are expected to pay typically rises in direct proportion to the level of risk involved in carrying the loan (Owojori, Akintoye & Adidu, 2011).

**Empirical Issues**

Oluwaseun, Igbekoyi and Akinadewo (2025) examined the effect of risk management on the financial sustainability of listed Deposit Money Banks (DMBs) in Nigeria. Expo-facto research design was used. The population of the study are 12 listed DMBs on Nigeria Exchange Group (NGX) as at 31st December, 2022. The population form the sample size of the study using census sampling technique. Data was obtained from the firms' audited financial report from 2008-2022. Panel Corrected Standard Error (PCSE) was used to analyse the data collected. The study found that liquidity risk has an insignificant negative effect, and credit risk has an insignificant positive effect while capital adequacy risk has a significant positive effect on the financial sustainability of listed DMBs in Nigeria. Ogundele and Nzama (2025) examined the effect of risk-management practices and disclosures on the financial performance of Nigerian commercial banks. The population of the study comprised 13 Nigerian commercial banks, of which 12 were purposively chosen, subject to data availability. The data explored in this study originate from World Development Indicators and the annual reports and accounts of the selected Nigerian commercial banks from 2012 to 2023. The data analysis technique used was panel regression analysis, which was further extended to the generalized method of moments in a bid to account for potential endogeneity. The study made use of EViews 12 software to analyse the data. The results reveal that liquidity risk disclosure and firm size had significant and positive effects on financial performance, while credit risk disclosure, credit risk, firm age, and leverage had significant and negative effects.

Ramalan, Kurfi and Mata (2025) proposed a framework on the moderating effect of inflationary trend on the relationship between financial risk and the financial performance of Nigeria listed deposit money banks. Literature has shown that financial risk parameters are very essential factors that adversely affect corporate firm financial performance. However, the main objective of this study is to propose a framework on the moderating effect of inflationary trends on the relationship between financial risk variables and financial performance of listed deposit money banks in Nigeria. The independent variable used in this study is financial risk proxy

by credit risk, liquidity risk, market risk, operational risk and leverage risk. The moderating variable is inflationary trend measured as ratio of consumer price index (CPI) calculated as annual percentage changes in inflation rate and the dependent variable is financial performance measured by return on assets (ROA) and Tobin's q. Therefore, based on the reviewed literatures a moderator is introduced to propose a framework for the study resulting from inconsistency in findings of previous studies. The study proposed capital asset pricing model as underpinning theory. As such, the study recommended for empirical investigation on the proposed research framework.

Odigie and Adim (2024) examined the relationship between risk management and performance of deposit money banks in Nigeria as moderated by environmental turbulence. The study adopted the cross-sectional research survey design. Primary data was generated through structured questionnaire while the population of study was the 24 deposit money banks in Nigeria. The entire population of 24 deposit money banks were adopted as a census. The hypotheses were tested using the Spearman's Rank Order Correlation Coefficient. The tests were carried out at a 0.05 significance level. Findings revealed that there is a significant relationship between risk management and performance of deposit money banks in Nigeria. Therefore, the study concludes that the adoption of risk management practice positively enhances the performance of deposit money banks in Nigeria.

Odinaka, Ogochukwu and Chinedu (2024) examine the effect of financial risk on liquidity performance of Deposit Money Banks (DMBs) in Nigeria, with capital adequacy as a moderator. The study specifically examined the mediating role of capital adequacy on the effect of operational risk, market risk and credit risk on liquidity performance. The study adopted the ex-post facto research design; as the goal was not to manipulate any variable but rather to establish effect and mediation. The population comprised listed Deposit Money Banks and the sample restricted to a purposive sample of ten (10) banks whose annual reports were accessible for the period of 13 years from 2010-2022 which was the time scope of this study. The data were analysed using structural equation model. The study found that capital adequacy does not significantly mediate the effect of operational, market and credit risks on liquidity performance. Gunarathne and Buddhika (2025) analyze the impact of risk management on the performance of commercial banks in Sri Lanka, using return on assets and net interest margin as proxies. The study looks at different aspects of risk management, such as credit risk, liquidity risk, bank capital, and operational risk as well as how they affect a bank's profitability. Panel regression analysis is used in the study to investigate the impact of risk management on commercial banks in Sri Lanka. The study included 10 Sri Lankan commercial Banks

listed in the Colombo Stock Exchange (CSE). According to the study's findings, credit risk, bank capital, operational risk had a statistically significant impact on Return on Assets (ROA) and operational risk had a statistically significant impact on Net Interest Margin (NIM).

Obalola and Azeez (2024) examined the influence of risk financing on the financial performance of banking institutions in Nigeria. Risk financing was examined through the lens of risk transfer proxy as insurance, risk hedging, and risk diversification while performance was measured using profitability (Return on Asset), liquidity (liquidity ratio), and shareholder's value (Return on Equity). The study adopted an ex post facto research design. The focused on deposit money banks licensed with international authorization by the Central Bank of Nigeria due to their wide range of expertise and experience. These banks are 8 in number and they were all observed in the study. Panel data was drawn from the financial statements of the selected banks for the period of 12 years (2012 – 2022). The Autoregressive Distributive Lag (ADRL) regression analysis was employed to analyze the data after the test for stationarity using the Panel Unit root test methods indicated a mix of stationarity. The study presented a long-run and short-run effect of all three risk financing mechanisms on the financial performance of selected banks in Nigeria. It was observed from the study among others that the risk transfer mechanism using insurance has a negative long-run influence on the financial performance of banks in Nigeria and recommends that alternative means of risk financing should be explored.

Bello, Isah and Salihi (2024) assessed the influence of financial risk on profitability of listed Nigerian Deposit money banks (DMBs). Profitability was proxied with return on assets (ROA), whereas financial risk as a predictor is measured with Liquidity Risk (LQR), Interest Rate Risk (IRR) and Operational Risk (OPR). The population of the study is all fourteen (14) Nigerian DMBs as at 31St December 2022 out of which twelve (12) DMBs were used for the analysis. Correlational research design was used, and data were generated from secondary sources, basically from the annual reports and accounts of twelve listed deposit money banks from 2013 to 2022. Descriptive statistics, correlation analysis as well as panel corrected standard error regression were utilized as tools of analysis for the study. The findings reveal that Liquidity risk and Operational risk has a positive and significant relationship with profitability measured by ROA of listed deposit money banks in Nigeria, while interest rate risk has a positive and insignificant relationship with profitability of listed deposit money banks in Nigeria. The positive and significant effect of liquidity risk on profitability means that listed DMBs are able to meet their obligations as at when due. Also, the result of operational risk on profitability indicates that increase

in operational risk decreases profitability of listed DMBs. The positive effect of interest risk on profitability means that increase in interest rate increase profitability.

Newstyle, Isele and Tekerebo (2024) evaluated the effect of financial risk management on financial performance of listed deposit money banks in Nigeria. Specifically, the study evaluated the effect of credit risk management, liquidity risk management, credit risk management and operational risk management on return on average assets of listed deposit money banks in Nigeria, and finally, evaluate the extent to which firm size moderate the relationship between total financial risk management and returns on average assets of listed deposit money banks in Nigeria. The study adopted an ex-post facto research design. The population of the study was fourteen (14) listed deposits money banks in the Nigerian Exchange Group and nine (9) was used as sample size employing purposive sampling technique. The data used in the study was sourced from annual reports and statement of accounts of the selected firms between 2013 and 2022. The study adopted descriptive statistics, unit root test, diagnostics test, Hausman test and Panel Least Square of multiple regression techniques with the help of Eview 10 and Statistical Package for Social Science (SPSS v 20) for the purpose of Moderated Multiple Regression (MMR) technique. The study result disclosed that the effect of market risk management on return on average assets of listed deposit money banks in Nigeria is not significant, the effect of liquidity risk management on return on average assets of listed deposit money banks in Nigeria is not significant, the effect of credit risk management on return on average assets of listed deposit money banks in Nigeria is significant, the effect of operation risk management on return on average assets of listed deposit money banks in Nigeria is significant, and the moderating effect of firm size on the relationship between total financial risk management and returns on average assets of listed deposit money banks in Nigeria is not significant.

Adeyinka and Henry (2024) investigated the relationship between risk management and financial performance of deposit money banks in Nigeria. The researcher developed four specific objectives, four research questions and four hypotheses that guided the study. The study employed ex-post-facto research design. This design is selected and implemented due to the researcher's lack of control over the various elements of the design. The data for this study is preexisting, therefore it is utilized for a secondary data analysis. The study's population comprised twenty-two (22) designated deposit money banks in Nigeria. This study employed the judgmental sampling technique. The sample size is made up of two (2) DMBs which includes United Bank for Africa Plc, Fidelity. The data for this study were obtained from the

published financial statements of the chosen publicly traded deposit money banks in Nigeria. This study employed an estimated technique that involved the use of descriptive statistics and Ordinary Least Squares (OLS) regression analysis. The E-view-9 software was utilized to carry out the analysis. The study specifically concluded that loan loss provision is not statistically significant and does not appear to have a significant effect on operating income.

Ololade, Salawu and Olatunji (2023) examines the effect of risk management on the performance of deposit money banks in Nigeria. A sample of eight (8) deposit money banks with international authorization are purposively selected out of 12 deposit money banks due to data availability. Panel data analysis techniques were adopted to analyze the secondary data that were obtained from the annual reports of banks. Findings based on the disaggregated model results reveal that both liquidity and capital risk variables exert a negative but insignificant effect on performance. However, credit risk drives performance of the internationally authorized banks positively and significantly. Furthermore, Management quality (MQ) is the only control variable that has a significant influence on the performance of the selected deposit money banks. The study concludes that credit risk and management quality significantly and positively drive performance among the financial entities.

Olufemi and Sunmisola (2022) examined the risk and stability of the Nigerian deposit money institutions. The study, which is a quasi-experimental one, examines how an independent variable that participants already had before the study's start influences a dependent variable, hence the ex post facto design was adopted. As of December 31, 2019, the population will consist of all Deposit Money Banks that have been listed on the Nigerian Stock Exchange throughout the last ten years (2010-2019). Ten Deposit Money Banks that were listed on the Nigerian Stock Exchange as of December 31, 2019, make up the sample size for this study, which was chosen at random and comprised of those ten institutions. Panel data with statistical information were employed in the study (STATA, 17). The proposed analysis was carried out utilizing STATA as it is the best system-based tool for evaluating panel data (version 17). Panel data regression analysis was also used in the study to evaluate the research hypotheses. According to the study, credit risk and liquidity risk have a substantial impact on the financial performance (ROE) of Nigeria's deposit money institutions. The results of the study indicate that financial risk adversely affects the financial performance of Nigerian deposit money institutions.

Isedu and Erhabor (2021) investigated the effects financial risks on the performance of deposit money banks in Nigeria. More specifically, changes in financial performance were examined on the basis of the relative effect of credit risk, liquidity risk, market risk, operational risk and bank size. The study specifically focused on

18 deposit money banks listed on the floor of the Nigerian Stock Market for a period of 19 years both statistical and econometric techniques were applied in the analysis of the data used in the study. Panel data analysis technique was used in the estimation of the specified model. The fixed effects being the best performing effect in the relationships was adopted in the empirical analysis. The findings of this study revealed that the combined effects of financial risks do not influence banks' performance negatively. More specifically, the results from the empirical analysis revealed that financial risk proxy by Credit risk does not have any significant relationship with financial performance of deposit money banks in Nigeria. Liquidity risk is a significant determinant of deposit money banks' performance in Nigeria in the period under investigation. The effect of market risk, interest rate risk and Operational risk did not in any way affect bank performance significantly in Nigeria.

Abubakar, Amuche and Mohammed (2021) examined the moderating effect of bank size on the relationship between operational risk and performance of listed deposit money banks (DMBs) in Nigeria. Data were collected from audited financial reports of selected thirteen (13) listed DMBs in Nigeria over the period of 2014 to 2020. Panel data approach was employed and fixed effects estimate was used for hypothesis testing after the Hausman test was run. The variables used are Banks performance measured by net interest margin, operational risk proxied by cost to income ratio, with Bank size as moderator. The study found that cost income ratio has significant negative effect on profitability of listed DMBs in Nigeria measured by net interest margin at 1% level of significance. However, the study recommends that DMBs should estimate the probability of an operational loss event occurring and the possible effect on bank financial performance on a quarterly basis, as well as implement appropriate internal reporting practices and procedures that are aligned with the scope of operational risk identified by supervisors and the banking industry as a whole

Achimugu, Ocheni, Adediran and Abdullahi (2021) examines the effect of financial risk on profitability performance of deposit money banks in Nigeria. The population comprise 22 deposit money banks and sample size of 14 deposit money banks in Nigeria. The proxies comprise of credit risk, interest rate risk, liquidity risk and return on asset of the sampled banks in Nigeria. The hypotheses were tested using panel random effect regression model after conducting some diagnostic tests such as Pearson correlation and Shapiro-Wilk normality test to accurately estimate the model. The results show that credit risk (CR), interest rate risk (IRR) and liquidity risk (LR) have significant effects on return on assets of deposit money banks in Nigeria.

Olaoye, Ogbebor and Okusami (2020) examined the effect of financial risks on performance of Deposit Money Banks DMBs) using the identified explanatory variables of financial risks, viz: Credit risks, Insolvency risks, Liquidity risks and Market risks covering a period of 12 years (2007- 2018). The methodology of the study makes use of ex-post facto research design. While the population of the study were nineteen deposit money banks, the study sample comprised ten (10) DMBs. The panel regression models estimated using Unobserved Effects Model (UEM), while the result of the Hausman test indicated between fixed effect model and random effect model at 5% inference. The study findings showed that Credit Risk was negative and statistically significant to deposit money banks' performance [β = - 13.0495; Pval = 0.013]. The result also shows that Liquidity Risk is inversely and insignificantly related to banks' profitability [β = - 0.156; Pval = 0.6703] and Insolvency Risk (INSRK) have negative signs that are statistically insignificant to banks profitability [β = - 0.016; Pval = 0.745]. Market Risk has insignificant and positive effect on Profitability (NPBIT) [β = 0.038; Pval = 0.5720] at 0.05 level. Also, Credit Risk (CR) was found to be negative and statistically significant at Economic Value Added [β = - 7.0789; Pval = 0.006]. On the contrary, the result also shows that Liquidity Risk (LIQR) [β = 0.0264; Pval = 0.961] and Market Risk [β = 0.0369; Pval = 0.747] have positive signs that are statistically insignificant to Economic Value Added. On its part, Credit Risk (CR) established a negative and significant effect on Return on Assets [β = - 0.9647; Pval = 0.0421]. Liquidity Risk [β = - 0.0018; Pval = 0.8471] and Insolvency Risk [β = 0.0008; Pval = 0.7719] have negative and positive signs that are statistically insignificant to Return on Assets

## 3. Methodology

The research design adopted in this study was the ex post facto. This study relied on panel data obtained from the quoted commercial banks in Nigeria, between 2014-2023. A sample of 10 DMB were chosen on purpose, out of the 12 DMB, based mainly on availability of complete data. Also, they have been chosen because the banks have a large customer base and are active players on the Nigerian Stock Exchange (NSE).

The study used the panel data technique to analyse the data. Specifically, the descriptive of the variables was found, thereafter, a table of matrix was used to determine the network of relationship that exits among the study variables. Meanwhile, to determine the relationship between credit risk management and the financial performance of banks, a regression analysis was done. All the analysis was carried out with the aid Eviews

However, for the estimation technique, financial performance of banks was measured using return on average assets (ROA), return on average equity (ROE) while three major credit risk indicators were used to determine the CRM – Non-

performing loans ratio (NPLR), loans to deposit ratio (LDR), capital adequacy ratio (CAR), and total loan to total asset ratio (LTAR). The moderating variables are some macroeconomic variables such as inflation, and exchange rate

**Model Specification**

The model specifications of this study are as follows:
FP = f(CRM); where.
Financial performance (FP) = (ROA and ROE)
CRM = (NPLR, LTAR, CAR, EXR, & ITR)
The model is expressed mathematically in form of:
ROA = f (NPLR, LTAR, CAR, EXR & INF)

$$ROA_{it} = \alpha o + \beta_1 NPLR_{it} + \beta_2 LTAR_{it} + \beta_3 CAR_{it} + \beta_4 EXR_{it} + \beta_5 ITR_{it} \text{ -------- (1)}$$

ROE = f (NPLR, LTAR, CAR, EXR & INF)

$$ROE_{it} = \alpha o + \beta_1 NPLR_{it} + \beta_2 LTAR_{it} + \beta_3 CAR_{it} + \beta_4 EXR_{it} + \beta_5 ITR_{it} \text{ -------- (2)}$$

Where;
ROA = Return on asset
ROE = Return on equity
NPLR = Non-performing loans to total loans ratio
LTAR = Loan to Total Asset Ratio
CAR = Capital adequacy ratio
EXR = Exchange rate
ITR = Interest rate

**4. Analysis and Discussion**

**Table 1: Descriptive Statistics**

| | ROE | ROA | NPLR | LTAR | CAR | EXR | ITR |
|---|---|---|---|---|---|---|---|
| Mean | 7.41 | 1.67 | 7.27 | 67.43 | 14.15 | 214.31 | 11.81 |
| Max | 110.69 | 9.54 | 86.85 | 294.12 | 34.32 | 745.9 | 15.5 |
| Min | -394.32 | -9.53 | 0 | 3.55 | 0.58 | 150.3 | 8.05 |
| SD | 41.87 | 2.25 | 11.32 | 28.56 | 7.19 | 67.13 | 2.75 |
| Obs | 120 | 120 | 120 | 120 | 120 | 120 | 120 |

**Source: Researcher's Computations (2025)**

The descriptive statistics in Table 1 provide insights into the distribution and variability of the variables used in examining the effect of credit risk management on the financial performance of commercial banks in Nigeria. Return on Equity (ROE) and Return on Assets (ROA), which measure financial performance, show mean values of 7.41% and 1.67%, respectively. However, the wide standard deviations (41.87 for ROE and 2.25 for ROA) and extreme values (ROE minimum of –394.32 and maximum of 110.69) indicate substantial volatility in profitability across banks, suggesting heterogeneous performance levels within the sector.

For the credit risk indicators, the Non-Performing Loan Ratio (NPLR) has a mean of 7.27% with a high standard deviation of 11.32, pointing to varying degrees of asset quality problems among banks. Similarly, the Loan-to-Total Asset Ratio (LTAR)

averages 67.43%, reflecting a relatively high dependence on loans in asset portfolios, though the spread (SD = 28.56) shows that some banks are more exposed to credit risk than others. Capital Adequacy Ratio (CAR) averages 14.15%, which is close to the regulatory benchmark, yet the range from 0.58% to 34.32% highlights disparities in capital strength and risk absorption capacity.

Macroeconomic indicators such as exchange rate (EXR) and interest rate (ITR) reveal external pressures. The exchange rate has a mean of ₦214.31/$ with high volatility (SD = 67.13), underscoring persistent currency instability that may affect loan repayment and asset quality. Interest rate averages 11.81% with moderate variability (SD = 2.75), reflecting monetary policy fluctuations during the study period. Overall, the descriptive statistics demonstrate that Nigerian commercial banks face considerable variability in financial outcomes, credit risk exposure, and macroeconomic conditions, which collectively shape the dynamics between risk management practices and financial performance.

**Correlation Analysis**

**Table 2 Correlation Matrix**

| | **ROE** | **NPLR** | **LTAR** | **CAR** | **EXR** | **ITR** |
|---|---|---|---|---|---|---|
| ROA | 1 | | | | | |
| NPLR | -0.193 | 1 | | | | |
| LTAR | 0.213 | 0.047 | 1 | | | |
| CAR | -0.493 | -0.055 | -0.092 | 1 | | |
| EXR | 0.231 | -0.003 | 0.171 | 0.157 | 1 | |
| ITR | 0.411 | 0.268 | -0.017 | -0.043 | -0.177 | 1 |
| | **ROA** | **NPLR** | **LTAR** | **CAR** | **EXR** | **ITR** |
| ROE | 1 | | | | | |
| NPLR | -0.119 | 1 | | | | |
| LTAR | 0.289 | 0.047 | 1 | | | |
| CAR | 0.165 | -0.055 | -0.092 | 1 | | |
| EXR | 0.187 | -0.003 | 0.171 | 0.157 | 1 | |
| ITR | -0.226 | 0.268 | -0.017 | -0.043 | -0.177 | 1 |

**Source: Researcher's Computations (2025)**

The correlation analysis in Table 2 reveals important insights into the relationships among financial performance indicators and credit risk management variables in Nigerian commercial banks. For Return on Equity (ROE), a negative correlation is observed with the Non-Performing Loan Ratio (NPLR) (r = –0.193), suggesting that higher levels of non-performing loans erode shareholder returns. ROE also shows a strong negative association with Capital Adequacy Ratio (CAR) (r = –0.493), implying that banks maintaining higher capital buffers may sacrifice profitability in the short term. Conversely, ROE is positively correlated with Loan-to-Total Asset Ratio (LTAR) (r

= 0.213), exchange rate (EXR) (r = 0.231), and interest rate (ITR) (r = 0.411). These results suggest that banks more reliant on loan portfolios, or those operating in higher interest rate environments, tend to record stronger equity returns, though these may also reflect heightened exposure to macroeconomic risks.

For Return on Assets (ROA), the relationships are more nuanced. ROA is negatively correlated with NPLR (r = –0.119) and ITR (r = –0.226), indicating that poor asset quality and higher borrowing costs undermine overall asset profitability. However, ROA maintains positive correlations with LTAR (r = 0.289), CAR (r = 0.165), and EXR (r = 0.187). This implies that prudent capital buffers and moderate loan exposure support asset efficiency, while exchange rate variations may provide marginal benefits, possibly through foreign exchange income.

Thus, the correlation matrix underscores the dual influence of internal risk management practices and external macroeconomic factors on bank performance, with credit quality and capital adequacy emerging as critical determinants.

**Regression Analysis**

$ROA_{it} = \alpha o + \beta_1 NPLR_{it} + \beta_2 LTAR_{it} + \beta_3 CAR_{it} + \beta_4 EXR_{it} + \beta_5 ITR_{it}$ -------- (1)

**Table 3: Hausman Test**

| Test cross-section random effects | | | |
|---|---|---|---|
| Test Summary | Chi-Sq. Statistic | Chi-Sq. d.f. | Prob. |
| Cross-section random | 5.674 | 5 | 0.329 |

**Source: Researcher's Computations (2025)**

The Hausman test result in Table 3 shows a Chi-square statistic of 5.674 with 5 degrees of freedom and a probability value of 0.329, which is greater than the 5% significance threshold. This indicates that the null hypothesis of no systematic difference between random and fixed effects cannot be rejected. Consequently, the Random Effects model is appropriate for explaining the determinants of Return on Assets (ROA) among Nigerian commercial banks.

**Table 4: Random Effect Regression**

| Dependent Variable: ROA | | | | |
|---|---|---|---|---|
| Method: Panel EGLS (Cross-section random effects) | | | | |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
| C | 0.330 | 1.493 | 0.221 | 0.826 |
| NPLR | -0.261 | 0.090 | -2.897 | 0.005 |
| LTAR | 0.053 | 0.014 | 3.740 | 0.000 |
| CAR | 0.022 | 0.003 | 6.395 | 0.000 |
| ITR | -0.035 | 0.056 | -0.627 | 0.532 |
| EXR | 0.147 | 0.194 | 0.757 | 0.451 |
| | Effects Specification | | | |

| | | | |
|---|---|---|---|
| R-squared | 0.385 | Mean dependent var | 0.761 |
| Adjusted R-squared | 0.358 | S.D. dependent var | 1.991 |
| F-statistic | 14.279 | Durbin-Watson stat | 2.170 |
| Prob(F-statistic) | 0.000 | | |

**Source: Researcher's Computations (2025)**

The regression results in Table 4 reveal several noteworthy relationships. Non-Performing Loan Ratio (NPLR) exerts a negative and statistically significant effect on ROA ($\beta = -0.261$, $p < 0.01$), highlighting that higher levels of impaired loans reduce asset profitability by eroding income streams. In contrast, Loan-to-Total Asset Ratio (LTAR) has a positive and significant effect ($\beta = 0.053$, $p < 0.01$), suggesting that increased reliance on lending activities contributes positively to asset returns, provided that loan quality is effectively managed. Capital Adequacy Ratio (CAR) is also positive and highly significant ($\beta = 0.022$, $p < 0.01$), indicating that well-capitalized banks are better positioned to absorb risks and leverage stability into improved financial performance.

On the other hand, interest rate (ITR) and exchange rate (EXR) both exhibit statistically insignificant effects ($p = 0.532$ and $p = 0.451$, respectively), implying that macroeconomic variables did not directly influence bank profitability during the study period. The overall model fit is moderate, with an R-squared of 0.385, suggesting that approximately 39% of the variation in ROA is explained by the predictors. The F-statistic is significant ($p = 0.000$), confirming the joint explanatory power of the model, while the Durbin-Watson statistic (2.170) indicates no serious autocorrelation problem

Model 2: $ROE_{it} = \alpha o + \beta_1 NPLR_{it} + \beta_2 LTAR_{it} + \beta_3 CAR_{it} + \beta_4 EXR_{it} + \beta_5 ITR_{it}$ -------- (2)

**Table 5: Hausman Test**

| Test cross-section random effects | | | |
|---|---|---|---|
| Test Summary | Chi-Sq. Statistic | Chi-Sq. d.f. | Prob. |
| Cross-section random | 3.867 | 5 | 0.456 |

**Source: Researcher's Computations (2025)**

The Hausman specification test in Table 5 reports a Chi-square statistic of 3.867 with 5 degrees of freedom and a probability value of 0.456, which exceeds the conventional 5% threshold. This outcome implies no systematic difference between fixed and random effects, thereby validating the choice of the Random Effects model for explaining variations in Return on Equity (ROE) among Nigerian commercial banks.

**Table 6: Random Effect Regression for Model 2**

| Cross-section random effects test equation: | | | | |
|---|---|---|---|---|
| Dependent Variable: ROE | | | | |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
| C | 31.455 | 18.008 | 1.747 | 0.084 |
| NPLR | -21.568 | 1.053 | -20.474 | 0.000 |
| LTAR | 0.059 | 0.167 | 2.350 | 0.013 |
| CAR | 0.064 | 0.041 | 2.066 | 0.042 |
| ITR | 0.098 | 0.651 | 0.151 | 0.880 |
| EXR | -1.251 | 2.415 | -0.518 | 0.606 |
| | Effects Specification | | | |
| R-squared | 0.555 | Mean dependent Variable | | 7.405 |
| Adjusted R-squared | 0.510 | S.D. dependent Variable | | 41.867 |
| F-statistic | 32.698 | Durbin-Watson stat | | 1.853 |
| Prob(F-statistic) | 0.000 | | | |

**Source: Researcher's Computations (2025)**

As shown in Table 6, Non-Performing Loan Ratio (NPLR) has a strong negative and highly significant influence on ROE ($\beta = -21.568$, $p < 0.01$). This underscores the critical role of credit quality in shaping shareholder returns; higher levels of loan defaults substantially erode equity profitability. Conversely, Loan-to-Total Asset Ratio (LTAR) exerts a positive and significant impact ($\beta = 0.059$, $p < 0.05$), suggesting that an increased share of loans in banks' asset portfolios enhances equity returns, provided risk is well-managed. Capital Adequacy Ratio (CAR) is also positive and significant ($\beta = 0.064$, $p < 0.05$), indicating that banks with stronger capital buffers not only maintain solvency but can also generate higher returns for equity holders.

By contrast, interest rate (ITR) and exchange rate (EXR) are both statistically insignificant ($p = 0.880$ and 0.606, respectively), suggesting that macroeconomic shocks during the study period did not exert direct measurable effects on ROE. The model demonstrates a good fit, with an R-squared of 0.555 indicating that approximately 56% of the variation in ROE is explained by the predictors. The F-statistic is significant at the 1% level ($p = 0.000$), confirming joint explanatory power, while the Durbin-Watson statistic of 1.853 indicates no serious autocorrelation problem.

**Discussion of Findings**

The findings from the regression analyses demonstrate that credit risk, proxied by the non-performing loan ratio (NPLR), has a consistent and significant negative effect on financial performance, measured by both ROA and ROE. This aligns with Ogundele and Nzama (2025), who found that rising non-performing loans significantly undermine bank profitability. Similarly, Olaoye, Ogbebor and Okusami (2020) reported that credit risk had a negative and statistically significant effect on the performance of Nigerian banks. These outcomes reinforce the view that poor loan quality erodes profitability by increasing loan loss provisions and constraining income generation. Conversely, studies such as Oluwaseun, Igbekoyi and Akinadewo (2025) observed an insignificant positive link between credit risk and financial sustainability, highlighting that the relationship may depend on moderating factors like bank size, risk disclosure, and macroeconomic stability.

The study further reveals that Loan-to-Total Asset Ratio (LTAR) significantly and positively influences both ROA and ROE, suggesting that lending remains the most vital driver of banking profitability. This corroborates Bello, Isah and Salihi (2024), who emphasized the positive role of liquidity and lending practices in enhancing profitability. However, Ramalan, Kurfi and Mata (2025) cautioned that inflationary pressures could moderate such relationships, making lending activities riskier under volatile macroeconomic conditions. Similarly, Newstyle, Isele and Tekerebo (2024) found that while credit and operational risks significantly affect performance, liquidity risk management showed no significant impact, suggesting that lending strategies must be accompanied by robust monitoring systems to sustain performance.

Capital adequacy (CAR) is found to exert a strong positive and significant effect on financial performance, a result that aligns with Oluwaseun, Igbekoyi and Akinadewo (2025), who concluded that capital adequacy enhances banks' long-term sustainability. This finding is also consistent with Gunarathne and Buddhika (2025), who identified capital as a key determinant of profitability in Sri Lankan banks, highlighting the universal importance of capital buffers in shielding banks against shocks. However, Odinaka, Ogochukwu and Chinedu (2024) provided a contrasting perspective, showing that capital adequacy does not significantly mediate the effect of financial risks on liquidity performance. This suggests that while capital adequacy directly supports profitability, its moderating role across other risk dimensions may be less pronounced.

Furthermore, the results reveal that macroeconomic variables such as interest rate (ITR) and exchange rate (EXR) exert no significant effect on financial performance. This finding is consistent with Isedu and Erhabor (2021), who found that interest rate and market risk did not significantly affect bank profitability in Nigeria. Likewise, Obalola and Azeez (2024) highlighted that risk transfer mechanisms such as

insurance may even weaken long-run performance, suggesting that external shocks are less influential compared to internal risk management practices. However, Olufemi and Sunmisola (2022) observed that both credit and liquidity risks significantly influenced ROE, underscoring that the interaction of financial risks with macroeconomic instability could vary across time horizons. Overall, the findings affirm that effective credit risk management and robust capitalization remain the most decisive levers for improving bank profitability, while macroeconomic fluctuations play a secondary role in the Nigerian context

## 5 Conclusion and Policy Implication

This study examined the impact of credit risk management on the financial performance of commercial banks in Nigeria using panel data regression techniques. The findings provide compelling evidence that credit risk, measured by non-performing loans, exerts a negative and significant effect on both return on assets (ROA) and return on equity (ROE). This outcome reaffirms that rising loan defaults continue to undermine profitability in the Nigerian banking sector. Conversely, loan-to-total asset ratio (LTAR) and capital adequacy ratio (CAR) were found to positively and significantly influence financial performance, suggesting that effective lending activities and strong capital buffers are vital in sustaining bank profitability. On the other hand, macroeconomic factors such as interest rate and exchange rate were statistically insignificant, indicating that internal risk management practices are more critical determinants of bank performance than external economic shocks.

From a policy perspective, the findings carry important implications for both regulators and bank managers. First, the Central Bank of Nigeria (CBN) should strengthen credit appraisal and monitoring frameworks, ensuring that banks adopt stringent loan assessment practices to reduce the incidence of non-performing loans. This will directly improve asset quality and enhance profitability. Second, commercial banks should balance their loan portfolios with robust risk management practices, as higher LTAR values, though positive for profitability, could expose them to systemic risks if not properly monitored. Third, the strong role of capital adequacy implies that regulatory capital requirements should not only be enforced but also periodically reviewed to reflect evolving risks in the banking sector.

Moreover, the insignificance of macroeconomic variables in the models suggests that banks must prioritize internal governance and operational efficiency over reliance on favorable external conditions. This finding supports earlier calls for Nigerian banks to develop institution-specific strategies for credit risk management rather than adopting one-size-fits-all approaches. Lastly, policymakers should encourage greater transparency and disclosure in risk reporting, as this can boost investor confidence and strengthen financial stability.

Thus, the study underscores that sustainable performance in Nigerian commercial banks hinges on effective credit risk management and strong capitalization. While external macroeconomic fluctuations remain relevant, it is the internal resilience and governance of banks that ultimately determine their ability to generate value and maintain stability in an increasingly volatile financial environment.

**References:**


1. *Abubakar, M. B., Amuche, P. A., & Mohammed, Y. I. (2021). Operational risk and performance of listed deposit money banks in Nigeria: The Moderating Effect of Bank Size. Lapai Journal of Economics, 5(1), 1-11.*
2. *Achimugu, A., Ocheni, S. I., Adediran, S. A., & Abdullahi, S. R. (2021). Effect of financial risk on profitability performance of quoted deposit money banks in Nigeria. International Journal of Public Administration and Management Research, 6(2), 100-118.*
3. *Adegbie, F.F. & Otitolaiye, E.M. (2020). Credit risk and financial performance: an empirical study of deposit money banks in Nigeria. European Journal of Accounting, Auditing and Finance Research, 8(2), 38-58*
4. *Adeyinka, I. G., & Henry, E. C. (2024). Risk Management and Financial Performance of Deposit Money Banks in Nigeria. Gospodarka i Innowacje., 44, 217-226.*
5. *Akhanolu, I. A., Ehimare, O. A., Mathias, C. M., Deborah, K. T., & Yvonne, O. K. (2020). The Impact of Credit Risk Management and Macroeconomic Variables on Bank Performance in Nigeria. WSEAS Transactions on Business and Economics, 17, 956-955.*
6. *Azende, T., (2012). Risk Management and Insurance of Small and Medium Scale Enterprises (SMEs) in Nigeria. International Journal of Finance and Accounting, 1(1), 8-17.*
7. *Bello, M. M., Isah, N., & Salihi, A. A. (2024). Impact of Financial Risk on Profitability: Evidence from Nigerian Deposit Money Banks. FUDMA Journal of Accounting and Finance Research [FUJAFR], 2(4), 49-59.*
8. *Bessis, J. (2002). Risk management in banking (2nd ed). Chichester, UK: John Wiley & Sons*
9. *Charles, O. & Kenneth U. O. (2013). Effect of credit risk management and capital adequacy on the market performance of commercial banks in Nigeria. J. Emerging Issues Econs. Finance Bank, 2(3). www.globalbizresearch.com.*
10. *Cooperman, E., Mills D. & Gardner, J. (2000). Managing financial institutions: An asset/liability approach. Orlando: The Dryden Press, Harcout College Publishers*
11. *Danjuma, I., Kola, I. A., Magaji, B. Y. & Kumshe, H. M. (2016). Credit risk management and customer satisfaction in tier-one deposits money banks: Evidence from Nigeria. International Journal of Economics and Financial Issues, 6(3), 225-230*

12. *Dias, R. (2015). The role of managerial risk-taking in the 'rise and fall' of the CDS market. Accounting and Finance, 57(1), 117-145*
13. *Dolde, W. (1993). Use of foreign exchange and interest rate risk management in large firms. Univ Conn Sch Bus Adm Working Paper, 93–042*
14. *Ebrahim, A. Khalil A., Kargbo, M. & Xiangpei, H. (2015) Casual relationship model between financial sector development and economic growth in Yemen. International Journal of Research, 2(3), 3-9.*
15. *Enoch, E. Y., Digil, A. M. & Arabo, U. A. (2021). A comparative evaluation of the effects of credit risk control on the profitability of micro-finance bank. European Journal of Business and Management Research, 6(6), 67-74*
16. *GL Banking Report. (2010). Getting banks to lend again the banker's magazine of July 2012. London: The Financial Times Ltd.*
17. *Gunarathne, L. M. N. P., & Buddhika, H. J. R. (2025). Impact of Risk Management on the Profitability of Licensed Commercial Banks in Sri Lanka. Sri Lankan Journal of Banking and Finance, 7(2).*
18. *Hosna, A., Manzura, B., & Juanjuan, S. (2009). Credit risk management and profitability in commercial banks in Sweden. rapport nr.: Master's degree Project 2009: 36.*
19. *Isedu, M., & Erhabor, O. J. (2021). Does financial risks has effects on the performance of deposit money banks in nigeria. Saudi journal of business and management studies, 6(3), 71-85.*
20. *Iwedi, M. & Onuegbu, O. (2014). Credit risk and performance of selected deposits money banks in Nigeria: An empirical investigation. European Journal of Humanities and Social Sciences, 31(1), 1684-1694.*
21. *Kargi, H. S. (2011). Credit risk and the performance of Nigerian banks. Ahmadu Bello University, Zaria.*
22. *Kithinji, A.M. (2010). Credit risk management and profitability of commercial banks in 48 Kenya, (Unpublished MBA Project), School of Business, University of Nairobi, Kenya*
23. *Lawal, A. A., Abiola, B. I., & Ikhu-Omoregbe, S. (2017). Effect of credit risk management on performance of listed Nigerian deposit money banks. ICAN Journal of Accounting & Finance, 6(1), 167-195*
24. *Magnifique, U. (2013). The effect of credit risk management on the financial performance of commercial banks in Rwanda. MBA Master of Business Administration, School of Business, University of Nairobi.*
25. *Mayowa, G. A & Ehi, P.O (2019). Investigates the relationship between credit risk management and the performance of Deposit Money Banks (DMBs) in Nigeria. African Review of Economics and Finance 11(1), 157-175.*
26. *Mohammad, S.S., Prajanti, S.D.W. & Setyadharma, A. (2020). The analysis of financial banks in Libya and their role in providing liquidity. Journal of Economic Education, 10(1), 1–13*

27. *Newstyle, D., Isele, L. E., & Tekerebo, I. J. (2024). Financial Risk Management And Financial Performance Of Listed Deposit Money Banks In Nigeria. BW Academic Journal, 5(4), 45-64.*
28. *Ng, A. C., & Rezaee, Z. (2015). Business sustainability performance and cost of equity capital. Journal of Corporate Finance, 34, 128–49*
29. *Njoku, O. P., Ezeudu, I.J. & Ifeanyichukwu, E.L. (2017). The impact of credit risk management on deposit money banks performance in Nigeria. Nigerian Journal of Management Sciences, 6(1), 175-186*
30. *Obalola, M. A., & Azeez, F. (2024). Risk financing and performance of selected deposit money banks in nigeria. International Review of Economics and Management, 12(2), 196-217.*
31. *Odigie, I. W. O., & Adim, C. V. (2024). Risk Management and Performance of Deposit Money Banks in Nigeria. Asian Journal of Economics, Business and Accounting, 24(9).*
32. *Odinaka Frank, I., Gloria Ogochukwu, O., & Chinedu Jonathan, N. (2024). Financial Risk, Capital Adequacy and Liquidity Performance of Deposit Money Banks in Nigeria. International Journal of Trend in Scientific Research and Development, 8(1), 175-186.*
33. *Ogundele, O. S., & Nzama, L. (2025). Risk Management Practices and Financial Performance: Analysing Credit and Liquidity Risk Management and Disclosures by Nigerian Banks. Journal of Risk and Financial Management, 18(4), 198.*
34. *Okoye, V., & Eze, O. R. (2013). Effect of bank lending rate on the performance of Nigerian deposit money banks. International Journal of Business and Management Review, 1(1), 34-43.*
35. *Olalere, O.E. & Ahmad, W.O. (2015). The empirical effects of credit risk on profitability of commercial banks: Evidence from Nigeria. International Journal of Science and Research, 5(1), 1645-1650.*
36. *Olaoye, S. A., Ogbebor, P. I., & Okusami, Y. A. (2020). Financial risk and financial performance of deposit money banks listed in Nigeria. International Journal of Business and Management Review 8 (4), 78, 100.*
37. *Olokoyo, F. O. (2011). Determinants of commercial banks' lending behaviour in Nigeria. International Journal of Financial Research, 2(2), 61-72*
38. *Ololade, B. M., Salawu, R. O., & Olatunji, O. O. (2023). Risk management and performance of deposit money banks in Nigeria: a re-examination. Banks and Bank Systems, 18(2), 113.*
39. *Olufemi, A., & Sunmisola, I. (2022). Financial risk and financial performance of deposit money banks in Nigeria. Journal of Economics and International Finance, 14(4), 112-119.*
40. *Oluwaseun, T. A., Igbekoyi, O. E., & Akinadewo, I. S. (2025). How Does Risk Management Influence Financial Sustainability of Listed Deposit Money Banks in Nigeria?. African Journal of Business and Economic Development | ISSN, 2782, 7658.*

41. *Owojori, A., Akintoye, I. & Adidu F. (2011). The challenge of risk management in Nigerian banks in the post consolidation era. Journal of Accounting & Taxation, 3(2), 23-31*
42. *Ramalan, J., Kurfi, A. K., & Mata, B. A. K. (2025). Financial risk, inflationary trend and financial performance of listed deposit money banks in Nigeria: a proposed framework. FUDMA Journal of Accounting and Finance Research [FUJAFR], 3(1), 79-91.*
43. *Rehman, Z.U., Muhammad, N., Sarwar, B. & Raz, M.A. (2019). Impact of risk management strategies on the credit risk faced by commercial banks of Balochistan. Financial Innovation, 5(44), 1-13*
44. *Serwadda, I. (2018). Impact of credit risk management systems on the financial performance of commercial banks in Uganda. Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis.*
45. *Waemustafa, W. & Sukri, S. (2015). Bank specific and macroeconomics dynamic determinants of credit risk in Islamic banks and conventional banks. International Journal of Economics and Financial Issues, 5(2), 476-481*
46. *Yusoff, N.I. (2009) A Preliminary study on credit risk management strategies of selected financial institution in Malaysia. Journal Financial Management, 6(28), 45–65*