



Received: 16-01-2026  
Accepted: 26-02-2026

ISSN: 2583-049X

## **Effect of Credit Risk Management on the Financial Performance of Deposit Money Banks: Empirical Evidence from Nigeria 2010-2024**

**Ogochukwu Florence Ngaikedi**

Department of Banking and Finance, Nnamdi Azikiwe University, PMB 5025, Awka, Anambra State, Nigeria

Corresponding Author: **Ogochukwu Florence Ngaikedi**

### **Abstract**

This study examined the effect of credit risk management on the financial performance of Deposit Money Banks (DMBs) in Nigeria over the period 2010 to 2024. The specific objectives were to determine how Non-Performing Loans (NPLs), Loan Loss Provisions (LLPs), and Total Loans and Advances (TLA) affect the Return on Assets (ROA) of Deposit Money Banks. Secondary data were obtained from the Central Bank of Nigeria (CBN) and Nigeria Deposit Insurance Corporation (NDIC). The study employed the **Autoregressive Distributed Lag (ARDL)** technique to evaluate both the short-run and long-run relationships among the variables. The results of the analysis revealed that Non-Performing Loans (NPLs) exerted an insignificant effect on the Return on Assets of Deposit Money Banks, while Loan Loss Provisions (LLPs) showed a significant effect on ROA. Total Loans and Advances (TLA) has no significant effect on ROA. Based on these findings, the study concludes that credit risk management has no significant effect on financial performance of Deposit Money Banks (DMBs) in Nigeria within the period studied.

Reference to the findings, first, Deposit Money Banks (DMBs) should enhance their credit assessment and loan monitoring procedures to ensure that borrowers meet the necessary creditworthiness criteria. This will help reduce loan defaults and improve overall asset quality, thereby promoting sustainable financial performance. Secondly, Deposit Money Banks (DMBs) should adopt more robust and forward-looking risk management frameworks that align with international best practices like the International Financial Reporting Standard (IFRS). This will ensure that provisions for potential loan losses are based on accurate risk assessments, reducing the strain on profitability while maintaining financial soundness. Finally, Deposit Money Banks (DMBs) should channel loans toward productive and less risky sectors of the economy and strengthen their loan recovery mechanisms. This approach will improve the efficiency of credit operations and ensure that lending activities contribute effectively to profitability and economic stability.

**Keywords:** Credit Risk Management, Financial Performance, Deposit Money Banks

### **1. Introduction**

As the main engine for financial intermediation, saving mobilization, payment facilitation, and credit distribution in contemporary economies, the banking industry is widely regarded as the foundation of economic growth. By receiving deposits from surplus units and transferring them to deficit units through loans and advances, Deposit Money Banks (DMBs) in Nigeria serve a crucial role in promoting investment, consumption, and general economic growth. Given the nation's goals for sustainable growth, financial inclusion, and resilience in the face of global financial crisis, the effectiveness and stability of these institutions are crucial to the macroeconomic environment as a whole (Akinleye, Ogunmakin, & Tosin 2020) <sup>[3]</sup>. Despite their crucial position, Nigerian banks have consistently faced challenges from a variety of risk categories that jeopardize their performance and viability. Of them, credit risk continues to be the most enduring and harmful type of risk exposure that DMBs face. Credit risk is the possibility that a counterparty or borrower may not fulfill its responsibilities according to the terms of the agreement, which could cost the lending institution money. Credit risk in the banking industry mostly arises from advances and loans given to people, businesses, and other economic actors that might stop functioning or become uncollectable as a result of failure or insolvency. Strong credit risk management procedures are crucial because the intrinsic unpredictability of borrowers' repayment patterns creates a great deal of uncertainty regarding banks' asset quality and profitability.

Episodes of economic volatility, shifting commodity prices (particularly oil), inflationary pressures, and structural flaws in

credit markets have all increased the importance of credit risk management in Nigeria. When credit exposures are not carefully managed and regulated, these variables have all contributed to higher levels of non-performing loans (NPLs), increased risk of loan losses, and diminished profits prospects for banks. The goal of credit risk management is to reduce the likelihood and severity of loan defaults by identifying, measuring, monitoring, and controlling credit risks. These practices often involve risk grading, provisioning for loan losses, collateral evaluation, portfolio diversification, credit appraisal and scoring, loan structuring and pricing, and ongoing creditworthiness monitoring. In addition to lowering the frequency of non-performing loans (NPLs), good credit risk management also improves a bank's capacity to sustain steady profits, protect capital, and absorb outside shocks that could negatively affect borrowers' ability to repay (Collins & Agada, 2024) <sup>[7]</sup>. Furthermore, excellent frameworks for managing credit risk lead to increased market reputation, stronger regulatory compliance, and increased investor confidence, all of which are critical for maintaining competitive advantage in the quickly changing financial world.

Empirical studies have shown that credit risk management and deposit money banks' financial performance are significantly correlated in Nigeria. Stronger credit risk controls are associated with better bank performance outcomes, according to Animasaun, Omotunwase, Babayanju, and Bamgboye (2025) <sup>[5]</sup> findings that credit risk management methods had a statistically significant impact on return on assets (ROA). The study's empirical findings demonstrated that banks with superior credit portfolio management had higher profitability indicators, highlighting the crucial role that credit risk management plays in influencing the financial performance of the Nigerian banking industry. Numerous empirical studies have confirmed the negative correlation between non-performing loans (NPLs) and financial performance. For example, Law-Biaduo, and Nnamdi, and Fort-Edward (2024) <sup>[12]</sup> found that high NPL levels considerably reduce banks' return on assets, demonstrating the detrimental effects of poor credit quality on performance outcomes. The claim that efficient credit risk reduction is essential for maintaining profitability in Nigerian DMBs is further supported by complementary findings by Ogunwale and Areghan (2024) <sup>[16]</sup>, which show that non-performing loans have a major detrimental impact on bank performance.

Another crucial component of credit risk management is loan loss provisions, which are the funds that banks set aside to cover possible losses from loans that default. Appropriately allocating funds for anticipated and unforeseen loan losses protects banks from unanticipated shocks and maintains capital sufficiency, both of which support financial performance. Higher loan loss provisions have been shown to improve performance by lowering profits volatility and communicating to stakeholders that risk management is being done responsibly. Capital adequacy ratios are another crucial variable in credit risk management since they show how a bank's capital base and risk-weighted assets relate to one another. Banks can maintain lending activity and absorb losses without jeopardizing their solvency when they have sufficient capital buffers. According to Natufe and Evbayiro-Osagie (2023) <sup>[14]</sup>, a strong capital position encourages confidence among investors and depositors, which can improve liquidity and

lower funding costs.

Although the significance of credit risk management for financial performance is widely acknowledged, empirical findings have occasionally differed based on the particular context, time periods studied, and analytical techniques used. As an illustration of the complex nature of risk-performance connections, some research have found that certain credit risk indicators may be statistically inconsequential in particular model specifications or time frames. Ohonba and Aigienohuwa (2023) <sup>[17]</sup> discovered that although bank size and non-performing loans had a major detrimental influence on financial performance, in some estimating scenarios, factors including capital adequacy, loan loss provisions, and liquidity ratios had no discernible impact. These subtleties highlight the necessity of continuing research into the relationships between various credit risk characteristics and performance outcomes, especially in light of changing economic conditions, regulatory changes, and technology advancements. Notable legislative and regulatory changes have also affected credit risk management procedures in Nigeria's banking industry. To encourage good risk management and financial stability, the Central Bank of Nigeria (CBN) has released guidelines on minimum capital requirements, loan classification criteria, provisioning strategies, and risk-weighting frameworks. Due to these regulatory requirements, supervisory control, and the implementation of global best practices like Basel risk management principles, DMBs are under pressure to improve their risk measurement instruments, monitoring systems, and credit evaluation systems. Banks must implement increasingly complex credit risk management frameworks that are in line with both local market realities and international standards as regulatory expectations change.

Credit risk dynamics and bank performance are influenced by external macroeconomic variables in addition to internal risk governance and regulatory factors. The likelihood of borrower defaults is frequently increased by economic downturns, currency instability, inflationary pressures, and interruptions to important Nigerian economic sectors (such as oil and gas), which puts pressure on banks' asset quality and profitability (Ozioko & Enya 2021) <sup>[21]</sup>. Credit risk management initiatives can be made more difficult by fluctuations in international financial markets, which can also impact banks' cost of capital, investor mood, and funding availability. As a result, the relationship between credit risk management and financial performance is dynamic and moulded by the intricate interactions between external economic shocks and internal governance structures. The banking industry in Nigeria has struggled in recent years with increased risk exposures due to economic uncertainty. Improved credit evaluation systems, stricter lending guidelines, automated credit scoring and monitoring tools, and diversification of loan portfolios across industries and geographical areas are just a few of the risk mitigation techniques that banks have implemented (Gana, Tijjani, & Abubakar 2022) <sup>[10]</sup>. The objectives of these tactical adjustments are to increase loan recoveries, reduce concentration risk, and improve the predictive accuracy of credit evaluations. Banks are gradually increasing the accuracy and effectiveness of their credit risk management systems with the introduction of digital technologies, such as the use of big data analytics and artificial intelligence in credit scoring. This is anticipated to improve financial

performance outcomes over the long run. This study aims to ascertain the impact of credit risk management (non-performing loans, loan loss provisions, and total loans and advances) on the financial performance (return on assets) of Deposit Money Banks in Nigeria, given the crucial role that credit risk management plays in determining bank performance.

## 2. Literature Review

### Explanation of Concepts

Credit risk management is the methodical process by which banks and other financial institutions identify, evaluate, track, and reduce the risk that counterparties or borrowers will not fulfill their contractual payback commitments. Banking operations are inherently exposed to credit risk because lending activities are deposit money institutions' main source of revenue. On the other hand, poor risk management can result in loan defaults, declining asset quality, decreased profitability, and, in the worst situations, bank bankruptcy. Therefore, a key element of solid banking practices and financial stability is credit risk management. Akinleye, Ogunmakin, and Tosin (2020) [3] assert that since loan defaults have a direct impact on profits and capital adequacy, credit risk is the biggest risk that banks must deal with. Therefore, the goal of effective credit risk management is to reduce the likelihood of default and the potential losses that may result from such defaults when they do occur. Managing credit risk entails a number of connected tasks. These consist of post-disbursement monitoring, collateral assessment, loan pricing, borrower risk rating, credit appraisal and evaluation, and credit approval processes. Before making loans, banks evaluate borrowers' creditworthiness using both qualitative and quantitative methods, including borrower risk classification systems, financial ratio analysis, and credit scoring models. Following loan disbursement, ongoing monitoring is done to make sure loan covenants are being followed and to spot early warning indicators of default (Ozioko & Enya, 2021) [21].

Financial performance reveals how well banks use their resources to make profit, keep their finances stable, and accomplish their strategic and operational goals. It shows a bank's capacity to manage risks, mobilize deposits, provide credit, and optimise shareholder profit while maintaining liquidity and solvency. Profitability, efficiency, and stability metrics from banks' financial statements are frequently used to evaluate financial performance. Return on equity (ROE) and return on assets (ROA), two profitability metrics, are frequently used to assess how well banks produce profits from their asset base and shareholders' money, respectively. While ROE represents the profits received by equity investors, ROA shows how effectively management deploys assets (Natufe & Evbayiro-Osagie, 2023) [14]. Additional metrics that shed light on operational effectiveness and income sustainability include net interest margin, earnings per share, and the cost-to-income ratio. Practices for risk management, especially credit risk management, and asset quality are intimately related to financial performance. Performance is weakened by low loan quality and a high percentage of non-performing loans since they lower interest revenue and raise provisioning costs (Ogunwale & Areghan, 2024) [16]. Sound risk management, sufficient capitalization, and effective operations greatly improve financial performance and banking sector stability, according to

empirical research on Nigerian DMBs (Animasaun, Omotunwase, Babayanju, & Bamgboye, 2025) [5].

### Theoretical Underpinning

Theoretically, this study is pursued on the premises of the Modern Portfolio Theory. The modern portfolio theory, which was first put forth by Harry Markowitz in 1952, asserts that a bank can only make money by successfully diversifying its loan portfolios and earning interest from successful loan repayments. It depends on the counterparty's capacity to optimize earnings in order to ensure the borrowing bank's credit security. Consequently, a bank will always give credit to the business or person who has the lowest default risk. Furthermore, credit risk was defined by David and Dionne (2005) [8] as the deterioration of counterparty's credit standard. A counter party or individual's declining credit score does not necessarily indicate that they will default; rather, it raises the likelihood of default, which signals the bank to focus more on loan portfolio management. As a result, banks must keep an eye on their positions and ensure that the total amount of loans given to any one or a small number of consumers is kept to a minimum. Because banks are aware of the negative effects credit concentrations can have on financial performance, they must diversify their loan portfolios in order to prevent loan concentration. In their research, David & Dionne (2005) [8] divide bank loans into four areas for loan portfolio diversification: geographic diversification, industry diversification, customer diversification, and company size diversification.

However, despite data issues still being a barrier to the traditional technique, Abayomi & Oyedijo (2012) [1] noted that several advanced institutions are actively researching quantitative ways to credit risk measurement. Additionally, the banking sector is making great strides in creating instruments that assess credit risk in the context of a portfolio. Therefore, they included both the asset-by-asset method and the portfolio approach in credit risk management. In order to determine the projected losses of a portfolio, the Asset-by-Asset Approach applies a credit risk rating, periodically assesses the credit quality of loans and other credit exposures, and aggregates the findings of this research. A solid internal credit risk rating system and loan assessment form the basis of the asset-by-asset strategy. Management can quickly spot changes in individual credits or portfolio trends with the use of a loan review and credit risk rating system. Loan identification, loan review, and credit risk rating system management can promptly strengthen credit supervision or make the required adjustments to portfolio strategies based on the findings and conclusions of this study. According to Abayomi and Oyedijo, the Portfolio Approach is the second method of managing credit risk. Although the asset-by-asset method is essential for managing credit risk, it does not offer a comprehensive understanding of portfolio credit risk, where risk is defined as the potential for actual losses to surpass projected losses. Banks are therefore increasingly looking to supplement the asset-by-asset approach with a quantitative portfolio analysis using a credit model in order to obtain a better understanding of credit risk. Banks are increasingly embracing a portfolio approach in an effort to solve the asset-by-asset approach's incapacity to adequately evaluate unexpected losses. The asset-by-asset approach's inability to recognise and quantify concentration is one of its

weaknesses.

### Empirical Studies

Osaigbovo (2025) <sup>[20]</sup> explored the relationship between credit risk management and the financial performance of deposit money banks in Nigeria over a nine-year period (2009–2017). This study was motivated by the recognition that credit risk is one of the most critical exposures influencing the performance and sustainability of banks worldwide, and failure to effectively manage it can result in severe financial distress. Descriptive statistics and correlation analysis were employed to examine the characteristics of the variables, while panel data econometric techniques were applied for the main analysis. The fixed-effect results revealed that non performing loans and bank size exert a significant negative impact on the financial performance of Nigerian banks, whereas capital adequacy, loan loss provisions, and liquidity ratio were not found to have significant effects.

Animasaun, Omotunwase, Babayanju, and Bamgboye's (2025) <sup>[5]</sup> explored the effect of credit risk management on the financial performance of listed deposit money banks in Nigeria for 2013-2022. The study adopted an ex-post facto research design and sampled ten (10) listed deposit money banks. Using Panel Ordinary Least Square (OLS) regression as a data estimation technique, the result of the study showed that credit risk management has a significant effect on return on asset.

Ugwu and Okwo (2025) <sup>[23]</sup> ascertained the effect of credit risk management on the financial performance of Deposit Money Banks in Nigeria. Specifically, it analyzes the impact of Non-Performing Loans (NPL), Loan Loss Provision (LLP), and Capital Adequacy Ratio (CAR) on Return on Assets (ROA). The study used secondary data from 2014 to 2023 and applied Panel Ordinary Least Squares (OLS) multiple regression for analysis. The findings reveal that NPL has a negative and significant effect on ROA, with a coefficient of -0.031054, a t-statistic of -2.954064, and a p-value of 0.0044. This means that an increase in NPL reduces bank profitability. LLP has a positive and significant effect on ROA, with a coefficient of 0.006245, a t-statistic of 6.092986, and a p-value of 0.0000, showing that higher loan loss provisions improve financial performance. CAR also has a positive and significant effect on ROA, with a coefficient of 0.031904, a t-statistic of 2.189893, and a p-value of 0.0321, indicating that banks with higher capital adequacy perform better. The model explains 44.44% of the variation in ROA, as shown by the R<sup>2</sup> value of 0.444412. The F-statistic of 12.99828 and its p-value of 0.000000 confirm that the overall model is statistically significant.

Ogundele and Nzama (2025) <sup>[15]</sup> 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 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.

Pamela (2025) <sup>[22]</sup> evaluated the effect of provision for bad debt on return on assets of the selected deposit money bank in Nigeria and investigated the effect of loan loss provision on return on assets of the selected deposit money banks in Nigeria. The study revealed that non performing loan in short-run result showed that the finding is negative but statistically insignificant at a confidence of 5% level while in long-run, non performing loan for the period of this study had positive and insignificant impact on return on asset. Secondly, provision for bad debt in short-run result showed that the finding is positive but statistically insignificant at a confidence of 5% level while in long-run, provision for bad debt for the period of this study had positive but insignificant impact on return on assets. Thirdly, loan loss provision in short-run result showed that the finding is positive and statistically insignificant at a confidence of 5% level in long-run, loan loss provision for the period of this study had positive but insignificant impact on return on assets.

Ogunwale and Areghan (2024) <sup>[16]</sup> determined the impact of credit risk management on the financial performance of Nigerian deposit money banks over a 10-year period from 2010 to 2020. Understanding the relationship between credit risk management and bank performance is crucial for the stability and growth of the Nigerian banking sector. The Five deposit money banks used were First Bank Plc, Zenith Bank Plc, Access Bank Plc, Guarantee Trust Bank Plc, with United Bank of Africa (UBA) Plc. Equity returns measured bank performance while credit risk was explained using non-performing credits, capital adequacy ratio, plus provision for credit loss. Fixed plus Random panel regression was used to analyze the panel data and the Hausman test selected the fixed regression for discussion. The findings revealed that capital adequacy ratio and loan loss provision had a significant positive impact on bank performance, while non-performing loans had a significant negative effect.

Ugwu and Agada (2024) <sup>[24]</sup> evaluated the effect of credit management practices on the financial performance of deposit money banks listed on the Nigerian Exchange Group (NGX) between 2014 and 2023. The study utilized correlation and ex-post facto research methodologies. Data analysis involved descriptive statistics and multiple regressions. Secondary data were sourced from the Central Bank of Nigeria's statistical bulletin and the Audited Annual Reports of the listed deposit money banks in Nigeria. The study used net interest margin (NIM) as a measure of bank performance, while credit risk, liquidity risk, and asset quality served as the independent variables. Firm size was also included as a control variable. The research findings indicate that credit risk has a non-significant negative correlation with financial performance. Additionally, liquidity risk shows a significant negative correlation with financial performance, whereas asset quality demonstrates a non-significant negative correlation with the financial performance of listed deposit money banks in Nigeria.

Asuquo and Chukwuemeka (2024) <sup>[6]</sup> examined the effect of credit risk management on the financial performance of Zenith Bank Nigeria Plc Akwa Ibom State for the period of 2011-2020. Secondary data were sourced from annual reports and financial statement of Zenith Bank Nigeria Plc. The study employed ordinary least square regression

technique in analyzing the data extracted with the aid of E-View Econometric tool. The R-squared which measures the overall goodness of fit of the regression shows the value of 84.5%, while the Durbin Waston statistic with value of 2.808450 shows that there is relative auto correlation among the considered variables and the overall regression is statistically significant. The result shows that risk control and risk diversification have significant positive effects on financial performance, while risk appraisal has a negative and insignificant effect on financial performance of Zenith bank Plc Akwa Ibom State.

Law-Biadio, and Nnamdi, and Fort-Edward (2024) <sup>[12]</sup> examined credit management and performance of selected Deposit Money Banks in Nigeria. The time series data was sourced from the audited financial statements of the banks. Non Performing Loans (NPLs), Loan-to-Deposit Ratio (LDR), Liquidity Ratio (LQR), and Capital Adequacy Ratio (CAR) were used as a proxy of credit management. In contrast, return on equity (ROE) was used to measure performance. The stationarity of the time series was tested using the LLC, IPS, and ADF PP tests. Using the panel regression of fixed effects and random effects techniques, the study found that credit management had a positive and significant effect on MDB performance in MDBs under the reviewed period. From the indicators, the liquidity ratio (LQR) was found to have a positive but insignificant effect on ROE. The findings also revealed that NPL has a positive but insignificant effect on ROE. The study further found that the capital adequacy ratio (CAR) negatively but significantly affected ROE. Loan to deposit ratio (LDR) was found to have a negative and insignificant effect on ROE.

Fadun and Silwimba (2023) <sup>[9]</sup> evaluated the impacts of credit risk management on the financial performance of commercial banks, using five (5) first-tier banks in Nigeria as a case study. Fifteen (15) years of panel data (2005 to 2019), extracted from the audited financial reports of five first-tier listed banks, was used for the study. All the banks used are Deposit Money Banks (DMBs) listed on the Nigerian Stock Exchange. This study used Non-performing loans (NPL) and the expected credit loss impairment provisions (ECL) as credit risk management indicators and Return on assets (ROA) as the financial performance indicator. The long-run co-integration results revealed that NPL negatively and significantly affects ROA in Nigeria, and ECL positively and substantially affects ROA in Nigeria.

Kayode (2023) <sup>[11]</sup> established the degree to which risk management has impacted profitability of commercial banks with the aim of contributing to improving the financial performance improvement. This study used secondary data from listed banks extracted from Central Bank of Nigeria list of financial institutions. The study was 2012 to 2021. The sample size of fourteen commercial banks in Nigeria was utilized for the study. Data were analyzed using descriptive, Pearson correlation, and Multiple linear regression (ANOVA) r statistical analysis. Findings were that the Pearson results posted significant relationships among credit risk, operational risk as measures of risks with profitability measures of net interest margin except the liquidity risk. The linear regression result indicated that Credit risk has significant effect on Net interest margin. However, there is no significant effect of liquidity and operation risk on net interest margin of commercial banks in Nigeria.

Ohonba and Aigienohuwa (2023) <sup>[17]</sup> determined the effect of credit management on the financial performance of deposit money banks in Nigeria. The specific objectives of the study are to determine the effect of non-performing loan ratio and capital adequacy ratio on the return on assets of listed commercial banks. Ex post facto research was adopted for the study. A sample of ten banks was used in this study from thirteen banks in Nigeria. Data were extracted from annual accounts of the sampled banks in Nigeria from 2012 to 2022. OLS regression analysis is suitable because it is adjudged to be an objective measure in examining the effect of independent variables. The study found that non-performing loan ratio has a significant negative effect on the return on assets of banks in Nigeria while capital adequacy ratio was insignificant on the return on assets on the banks in Nigeria.

Natufe and Ikavbo Evbayiro-Osagie (2023) <sup>[14]</sup> studied credit risk management and return on equity of Nigerian deposit money banks (DMBs) twelve (12) years (2010–2021) post-adoption of the common accounting year end as mandated by the Central Bank of Nigeria (CBN) in 2009. The data set comprises independent variables of capital adequacy ratio (CAR), liquidity ratio (LQR), loan-to-deposit ratio (LDR), risk asset ratio (RAR), non-performing loans ratio (NPLR), loan loss provision ratio (LLP), and size (SZ). The dependent variable is the return on equity (ROE). Using a panel data regression analysis, the study found that CAR, RAR, NPLR, and SZ are the significant determinants of ROE. It was also found that Nigerian DMBs now significantly rely on offshore borrowings in Eurobonds to create risk assets to overcome CBN's constriction on using local depositors' funds to create risk assets. Furthermore, we found that shareholders of DMBs with international banking licenses in Nigeria within the study period were not significantly more compensated for their risk exposure than investors in risk-free assets (treasury bills).

Abdullahi and Tela (2022) <sup>[2]</sup> looked at how risk management affects Nigeria's publicly listed deposit money institutions' financial performance (DMBs). The 10 commercial banks in Nigeria with licenses are being researched. The data used spans 12 years from 2009 to 2020 and is secondary data. The Hausman test was chosen because it suggests that a random effect model should be employed for the analysis of the panel data utilized in this study. It was determined that there is a statistically significant association between net interest margin (NIM), credit risk management (CRM), liquidity risk management (LRM), and interest rate risk management (INTRM) using the ordinary least square random effect regression model. More specifically, credit and interest rate risk management have a significant negative impact on the profitability of Nigeria's listed deposit money banks, suggesting that an increase in risk management variables will result in a decline in the financial performance of Nigeria's listed deposit money banks.

Gana, Tijjani, and Abubakar (2022) <sup>[10]</sup> assessed the effect of credit risk on financial performance of listed money deposit banks in Nigeria. The study utilized return on equity (ROE) as proxy for financial performance, while credit risk was represented by non performing loan ratio (NPLR), loan loss provision (LLP), capital adequacy ratio (CAR) and; loans and advances to total deposit (LATD). The study adopts correlation research design and utilized secondary data extracted from the published accounts of the 14 listed

money deposit banks in Nigeria from 2011 - 2020. Multiple regression was used for data analysis and results revealed LLP and CAR as having a direct and significant relationship with ROE, while NPLR and LATD have an insignificant effect on ROE.

Akomeah, Agumeh, and Frimpong (2020) [4] examined the effect of credit risk management on the performance of selected listed commercial banks in Ghana. The study used secondary data collected from seven (7) banks listed on the Ghana Stock Exchange for a period of ten (10) years covering 2007-2016 with a total of seventy (70) observations. The credit risk management variables (independent variables) used were non-performing loans, loan loss provision, capital adequacy, with bank size (as controlling variable) while the financial performance of commercial banks (as dependent variable) was measured using return on asset. The data was examined using standard descriptive statistics and fixed effect model for hypothesis testing. Based on the test conducted on the data collected and the analyses of the results, this study found a significant relationship between the credit risk management variables (NPL, CAR and SIZE) and the profitability of listed banks in Ghana.

Omorokunwa and Ogbeide (2020) [18] investigated the effect of credit risk management on the profitability of quoted deposit money bank in the Nigerian capital market. The panel regression system was applied in the estimation of the panel data from 2006 to 2018 covering 12 banks in Nigeria. The return on the asset was used as a proxy for bank performance (dependent variable) and the bank non performing loan ratio, bank loan to deposit ratio as well as bank leverage were used as the independent variables. The result of the empirical tests showed a significant relationship between credit management and bank performance. The bank non-performing loan ratio had an indirect (negative) relationship with the performance of the banks. On the other hand, a bank loan to deposit ratio had a direct impact on the performance of banks in Nigeria.

Osakwe, Ananwude, and Nduka (2019) [19] ascertained the effect of credit Risk Management in Efficiency in the Banking Industry of an Emerging Economy in Africa with special reference to the Nigerian economy. The finding from this study using data from 1999 to 2018 sourced from the Central Bank of Nigeria (CBN) and Nigeria Deposit Insurance Corporation (NDIC) revealed that credit risk management has significant effect on efficiency of the Nigeria banking industry.

Yimka, Taofeek, Abimbola, and Olusegun (2015) [25] looked at the role of credit risk management in value creation process among commercial banks in Nigeria. The study reviews the concepts, theories, legal acts and standards relating to the credit risk management and then develops a conceptual model with four antecedents to credit risk. The study analyzes the impact of these antecedents such as antecedents are loan and advance loss provision, total loan and advances, non performing loan and total asset on accounting Return on Equity (ROE) and Return on Asset (ROA). The panel data come from 10 commercial banks listed on Nigeria Stock Exchange (NSE) between 2006 and 2010. The results reveal that credit risk management has significant effect on financial performance of commercial banks.

Nasiru (2015) [13] analyzed the effect of credit risk management on the financial performance of listed banks in

Nigeria for the period 2002-2013. Return on asset and return on equity were used as dependent variables; default rate, loan loss provisions and capital adequacy ratio were used as independent variables, while bank size, bank age and natural logarithm of total loan were used as control variables. The study utilized the annual report and accounts of the sampled banks and analyzed the data generated using descriptive statistics, correlation statistics and panel data regression technique of pooled OLS, fixed effect and random effect. It was found that default rate and loan loss provisioning and capital adequacy ratio has a positive and statistically significant effect on financial performance. The study did not establish any statistically significant effect of bank size and bank age on financial performance. However, a negative and statistically significant effect was established between natural logarithm of total loan on financial performance. The findings revealed the critical weakness and gap in the credit risk management system that accounted for high level of non-performing loan and poor loan quality in the Nigerian banking industry.

### 3. Methodology

Multiple regression analysis and time series analysis were used in this investigation. The study was conducted using the ex-post facto research design. Because the study used secondary data, the ex-post facto research design was utilized. The study employed secondary data in analyzing the effect of credit risk management on financial performance of deposit money banks in Nigeria. This study carefully sourced data from the Central Bank of Nigeria (CBN) and Nigeria Deposit Insurance Corporation (NDIC) from 2010 to 2024. The Autoregressive Distributed Lag (ARDL) approach was followed in estimating the model. This study adapted and modified the model of Osakwe, Ananwude, and Nduka (2019) [19], which original model is stated as thus:

$$BER_t = f(NPLTAR, TLTD, CAR, NLTA) \quad (3.1)$$

Where:

BER = Banking Industry Efficiency Ratio  
 NPLTAR = Non-Performing Loans to Total Assets Ratio  
 TLTD = Total Loans to Total Deposits Ratio  
 CAR = Capital Adequacy Ratio  
 NLTA = Natural Log of Total Assets

Reference to Equ. 3.1, the model for this study to align with the objective is expressed in Equ. 3.2 as:

$$ROA_t = \beta_0 + \beta_1 NPLS_t + \beta_2 LLPS_t + \beta_3 TLA_t + \mu_t \quad (3.2)$$

Where:

ROA = Return on Assets  
 NPLS = Non Performing Loans  
 LLPS = Loan Loss Provision  
 TLA = Total Loan and Advances  
 $\beta_0$  = Constant parameter  
 $\beta_1, \beta_2, \beta_3$  = Estimation parameters  
 $\mu$  = Error term

### 4. Data Analysis and Results

The descriptive summary of the data are shown in Table 4.1. The mean value of Return on Asset (ROA), Non-Performing Loans (NPLs), Loan Loss Provisions (LLPs) and Total Loans and Advances (TLA) are 1.492143, 4.084214,

7.081429 and 21.61364, while the median are 1.285000, 1.520000, 4.945000 and 16.13000 respectively. The maximum values of the variables are 3.910000, 36.07000, 15.04000 and 71.67000 for ROA, NPLs, LLPs and TLA respectively. The minimum values are 0.020000 for ROA, 0.350000 for NPLs, 2.810000 for LLPs and 7.270000 for TLA. The variables' standard deviations are 1.134563 for ROA, 9.241241 for NPLs, 4.445141 for LLPs and 17.35246 for TLA.

**Table 4.1:** Descriptive Statistics Summary of Data

	ROA	NPLs	LLPs	TLA
Mean	1.492143	4.084214	7.081429	21.61364
Median	1.285000	1.520000	4.945000	16.13000
Maximum	3.910000	36.07000	15.04000	71.67000
Minimum	0.020000	0.350000	2.810000	7.270000
Std. Dev.	1.134563	9.241241	4.445141	17.35246
Skewness	0.454590	3.284446	0.901216	1.981447
Kurtosis	2.462877	11.89777	2.142903	6.109869
Jarque-Bera	0.650480	71.35370	2.323638	14.80256
Probability	0.722354	0.000000	0.312916	0.000610
Sum	20.89000	57.17900	99.14000	302.5910
Sum Sq. Dev.	16.73404	1110.207	256.8706	3914.402
Observations	15	15	15	15

Source: Computer analysis using E-views 12.0

The OLS regression estimation usually require data to be stationary, however in cases where data are not stationary, some models have been developed to address such occurrence. One of such models is the ARDL modeling technique. The ARDL modeling techniques is based on the fundamentals that data are stationary at I(0) and I(1) or a combination of both. To ensure the data were free from stationarity defect, the stationarity test was checked using the Augmented Dickey-Fuller (ADF). The results in Table 4.2 indicate that most of the variables: Return on Assets (ROA), Non-Performing Loans (NPLs), and Total Loans and Advances (TLA) are stationary at level I(0), as their ADF test statistics are significant at the 5% level, meaning their p-values are less than 0.05. This implies that these variables do not contain unit roots and their statistical properties such as mean and variance remain constant over time. However, Loan Loss Provisions (LLPs) became stationary only after first differencing, indicating that it is integrated of order one, I(1). Overall, the mixture of I(0) and I(1) series justifies the use of the Autoregressive Distributed Lag (ARDL) approach for subsequent regression analysis, as it can accommodate variables integrated at different orders (but not beyond I(1)).

**Table 4.2:** Augmented Dickey-Fuller Test for Unit Root

Variables	ADF Tests: Level		ADF Tests:1 <sup>st</sup> Diff		ADF Tests:2 <sup>nd</sup> Diff		Order of Integration
	ADF Test Statistic	p-values	ADF Test Statistic	p-values	ADF Test Statistic	p-values	
ROA	-4.004730	0.0110	-8.759166	0.0000	-12.36013	0.0000	I(0)
NPLs	-3.518779	0.0253	-11.08544	0.0000	-28.85944	0.0001	I(0)
LLPs	-2.417103	0.1560	-3.290858	0.0394	-3.462528	0.0318	I(1)
TLA	-5.409273	0.0011	-12.79391	0.0000	-15.52035	0.0000	I(0)

Source: Computer analysis using E-views 12.0

The ARDL Bounds test for co-integration assesses whether a long-run equilibrium relationship exists between a dependent variable and a set of independent variables, even when the variables are integrated at different orders. The result of the ARDL Bounds Test presented in Table 4.3 reveals that the computed F-statistic value of 4.422094 exceeds the upper critical bound value of 3.67 at the 5% significance level. This indicates that the null hypothesis of no long-run relationship among the variables: Return on Assets (ROA), Non-Performing Loans (NPLs), Loan Loss Provisions (LLPs), and Total Loans and Advances (TLA) is rejected. Therefore, it can be concluded that a long-run co-integrating relationship exists among the variables in the model. This suggests that despite short-run fluctuations, the financial performance of deposit money banks (measured by ROA) and the selected credit risk indicators move together in the long run, implying a stable equilibrium relationship over time.

**Table 4.3:** The ARDL Bounds Test to Co-integration Results

Test	F-Statistic	Lower Bound I(0)	Upper Bound I(1)	Result
F-Bounds	4.422094	10% = 2.4 / 3.20% = 2.79 / 3.67	ROA vs. NPLs, LLPs, TLA	Co-integration

Source: Computer analysis using E-views 12.0

The R-squared value (0.879334) in Table 4.4 indicates that approximately 87.9% of the variation in Nigeria's deposit money banks ROA can be explained by changes in Non-Performing Loans (NPLs), Loan Loss Provisions (LLPs) and Total Loans and Advances (TLA), which suggests a very strong explanatory power of the model. The F-statistic (6.072764) and its probability value (0.033287) indicate that the overall model is statistically significant at the 5% level, meaning the independent variables collectively have a significant influence on ROA. The Durbin-Watson statistic (1.824477) absorbs the model estimated autocorrelation issue. The constant term in the regression model, also known as the intercept, represents the baseline value of the Return on Assets (ROA) in Nigeria when all explanatory variables-Non-Performing Loans (NPLs), Loan Loss Provisions (LLPs) and Total Loans and Advances (TLA) are held at zero. In this case, the constant has a value of -0.669581, implying that if there is no Non-Performing Loans (NPLs), Loan Loss Provisions (LLPs) and Total Loans and Advances (TLA), the ROA would be expected to decrease by approximately 0.669. This value serves as a benchmark or starting point in predicting the ROA before factoring in the influence of credit risk.

**Table 4.4:** ROA ← NPLS + LLPS + TLA

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ROA(-1)	0.589666	0.198448	2.971390	0.0311
ROA(-2)	0.509629	0.146345	3.482387	0.0176
NPLs	0.475437	0.197891	2.402517	0.0614
LLPs	-0.202382	0.053483	-3.784042	0.0128
TLA	-0.073120	0.068592	-1.066022	0.3352
TLA(-1)	0.161106	0.124899	1.289893	0.2535
C	-0.669581	1.061425	-0.630832	0.5559
R-squared	0.879334	Mean dependent var		1.411667
Adjusted R-squared	0.734534	S.D. dependent var		0.889411
S.E. of regression	0.458254	Akaike info criterion		1.568414
Sum squared resid	1.049986	Schwarz criterion		1.851276
Log likelihood	-2.410483	Hannan-Quinn criter.		1.463688
F-statistic	6.072764	Durbin-Watson stat		2.824477
Prob (F-statistic)	0.033287			

Source: Computer analysis using E-views 12.0

### Discussion of Findings

The result of the analysis indicates that Non-Performing Loans has positive and no significant effect on return on assets of Deposit Money Banks in Nigeria. The result indicating that Non-Performing Loans (NPLs) have a positive but insignificant effect on the Return on Assets (ROA) of Deposit Money Banks in Nigeria suggests that although an increase in NPLs appears to correspond with a rise in profitability, the relationship is statistically weak and not strong enough to influence overall bank performance. This result can occur because Nigerian banks frequently use collateral restrictions, high lending interest rates, or successful loan recovery techniques to reduce credit risk and lessen the negative effects of bad loans. Furthermore, the adverse effect of non-performing loans (NPLs) on profitability would have been lessened by the Central Bank of Nigeria's (CBN) regulatory actions and the implementation of risk management frameworks. Therefore, even if non-performing loans (NPLs) represent a certain amount of credit risk, their impact on ROA throughout the research period was insufficient to materially change banks' financial performance.

Loan Loss Provisions has negative and significant effect on return on assets of deposit money banks in Nigeria. The analysis showing that Loan Loss Provisions (LLPs) have a negative and significant effect on the Return on Assets (ROA) of Deposit Money Banks in Nigeria implies that increases in provisions for potential loan defaults directly reduce bank profitability. This is because LLPs represent funds set aside to cover expected losses from non-performing loans, which are deducted from earnings and thus lower the overall return on assets. The significant relationship suggests that credit risk management challenges such as poor loan appraisal, weak monitoring, and high default rates substantially affect banks' financial performance. It also indicates that Nigerian banks operate in a credit environment where loan quality problems have a measurable and adverse impact on profitability, reinforcing the importance of effective credit risk assessment and prudent provisioning policies to sustain financial stability and enhance performance.

Total Loans and Advances have negative and no significant effect on return on assets of Deposit Money Banks in Nigeria. The analysis revealing that Total Loans and Advances (TLA) have a negative and insignificant effect on the Return on Assets (ROA) of Deposit Money Banks in Nigeria suggests that although an increase in loans and

advances is expected to enhance profitability through higher interest income, this has not translated into improved financial performance during the study period. The negative relationship indicates that a large portion of the loans extended may have been inefficiently allocated or poorly managed, leading to higher default risks and reduced returns. The insignificance of the effect further implies that factors such as loan recovery challenges, weak credit appraisal systems, or macroeconomic instability may have undermined the expected benefits of increased lending. This outcome highlights the need for Nigerian banks to strengthen their credit evaluation and monitoring mechanisms to ensure that credit expansion translates into sustainable profitability.

### 5. Conclusion and Recommendations

This study examined the effect of credit risk management variables: non-performing loans, loan loss provisions, and total loans and advances on the financial performance of Deposit Money Banks (DMBs) in Nigeria, measured by return on assets. The regression analysis revealed that non-performing loans had a positive but insignificant effect on return on assets; loan loss provisions exhibited a negative and significant effect on return on assets. Total loans and advances, however, showed a negative and insignificant effect on return on assets. The study concludes that credit risk management has no significant effect on financial performance of Deposit Money Banks (DMBs) in Nigeria within the period studied.

Reference to the findings, first, Deposit Money Banks (DMBs) should enhance their credit assessment and loan monitoring procedures to ensure that borrowers meet the necessary creditworthiness criteria. This will help reduce loan defaults and improve overall asset quality, thereby promoting sustainable financial performance. Secondly, Deposit Money Banks (DMBs) should adopt more robust and forward-looking risk management frameworks that align with international best practices such as International Financial Reporting Standard (IFRS). This will ensure that provisions for potential loan losses are based on accurate risk assessments, reducing the strain on profitability while maintaining financial soundness. Finally, Deposit Money Banks (DMBs) should channel loans toward productive and less risky sectors of the economy and strengthen their loan recovery mechanisms. This approach will improve the efficiency of credit operations and ensure that lending activities contribute effectively to profitability and economic stability.

### 6. References

1. Abayomi SA, Oyedijo A. Strategic Importance of Credit Risk Management to Shareholders' Wealth-Sustenance in Nigerian Banks: An Empirical Analysis. *Journal of Economica*. 2012; 8(1):131-148.
2. Abdullahi BM, Tela UM. Impact of Risk Management on the Financial Performance of Listed Deposit Money Banks (DMBS) in Nigeria. *Journal of Economics, Finance and Management Studies*. 2022; 5(11):3226-3236.
3. Akinleye GT, Ogunmakin AA, Tosin AK. Impact of Credit Risk Management on the Financial Performance of Selected Deposit Money Banks in Nigeria. *Journal of Accounting and Finance*. 2020; 20(5):5-15.
4. Akomeah J, Agumeh R, Frimpong S. Credit Risk

- Management and Financial Performance of Listed Banks in Ghana. *Research Journal of Finance and Accounting*. 2020; 11(6):39-48.
5. Animasaun RO, Omotunwase OM, Babayanju AGA, Bamgboye AA. Effect of Credit Risk Management on Financial Performance of Listed Deposit Money Banks in Nigeria. *International Journal of Research in Social Science and Humanities*. 2025; 6(1):1-12.
  6. Asuquo MV, Chukwuemeka OD. Credit Risk Management and Financial Performance of Banks in Nigeria (A Study of Zenith Bank Plc Akwa Ibom State). *Journal of Business and African Economy*. 2024; 10(1):98-109.
  7. Collins C, Agada EA. Credit Management and Financial Performance: Evidence from Deposit Money Banks in Nigeria. *GPH-International Journal of Business Management*. 2024; 7(5):56-71.
  8. David C, Dionne C. Bank's Loan Portfolio Diversification. Unpublished Masters Thesis in Industrial and Financial Economy, School of Economics and Commercial Law, University of Gothenburg, 2005.
  9. Fadun OS, Silwimba P. Does Credit Risk Management Impact the Financial Performance of Commercial Banks? *International Journal of Business Ecosystem & Strategy*. 2023; 5(2):55-66.
  10. Gana U, Tijjani MS, Abubakar S. Effect of Credit Risk on the Financial Performance of Listed Deposit Money Banks in Nigeria. *Gusau International Journal of Management and Social Sciences*. 2022; 5(1):17.
  11. Kayode YS. Risk Management and Financial Performance of Commercial Banks in Nigeria. *International Journal of Research and Innovations in Social Sciences*. 2023; 7(12):908-918.
  12. Law-Biadio IE, Nnamdi KC, Fort-Edward UU. Credit Risk Management and Performance of Selected Deposit Money Banks in Nigeria. *Asian Journal of Economics, Business and Accounting*. 2024; 24(12):277-287.
  13. Nasiru M. The Effect of Credit Risk Management on the Financial Performance of Banks in Nigeria (Master's Thesis, Bayero University, Kano), 2015.
  14. Natufe OK, Evbayiro-Osagie EI. Credit Risk Management and the Financial Performance of Deposit Money Banks: Some New Evidence. *Journal of Risk and Financial Management*. 2023; 16(7):1-23.
  15. Ogundele OS, Nzama L. Risk Management Practices and Financial Performance: Analyzing Credit and Liquidity Risk Management and Disclosures by Nigerian Banks. *Journal of Risk and Financial Management*. 2025; 18(4):1-15.
  16. Ogunwale O, Areghan I. Impact of Credit Risk Management on the Performance of Nigerian Deposit Money Banks: An Analysis from 2010 to 2020. *Asian Journal of Advanced Research and Reports*. 2024; 18(10):28-41.
  17. Ohonba N, Aigienohuwa O. Credit Management and Financial Performance of Deposit Money Banks in Nigeria. *Journal of the Management Sciences*. 2023; 60(4):209-223.
  18. Omorokunwa OG, Ogbeide EA. Credit Risk Management and Deposit Money Bank Performance in Nigeria. *Proceedings of the 7th Annual International Academic Conference on Accounting and Finance Disruptive Technology: Accounting Practices, Financial and Sustainability Reporting*, 2020.
  19. Osakwe CI, Ananwude AC, Nduka JA. Credit Risk Management and Efficiency in the Banking Industry of an Emerging Economy in Africa: Evidence from Nigerian. *Research Journal of Economics*. 2019; 3(2):1-7.
  20. Osaigbovo I. Credit Risk Management and Financial Performance of Deposit Money Banks in Nigeria. *African Development Finance Journal*. 2025; 8(10):48-78.
  21. Ozioko JN, Enya AA. Credit Risk Management and Deposit Money Banks' Performance in Nigeria. *Journal of Economics and Allied Research*. 2021; 6(3):89-100.
  22. Pamela UC. Effect of Credit Risk Management on the Financial Performance of selected deposit money banks in Nigeria. *Journal of Management Science & Entrepreneurship*. 2025; 7(7):109-131.
  23. Ugwu P, Okwo IM. Effect of Credit Risk Management on the Financial Performance of Deposit Money Banks in Nigeria. *European Journal of Accounting, Auditing and Finance Research*. 2025; 13(9):83-95.
  24. Ugwu CU, Agada AE. Credit Management and Financial Performance: Evidence from Deposit Money Banks in Nigeria. *International Journal of Business Management*. 2024; 7(5):56-71.
  25. Yimka AS, Taofeek A, Abimbola C, Olusegun A. Credit Risk Management and Financial Performance of selected Commercial Banks in Nigeria. *Journal of Economic & Financial Studies*. 2015; 3(1):1-9.