

Innovations

Credit Risk Exposure and Financial Performance of Deposit Money Bank: Evidence from Empirical Review

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Abstract: *This study examined the effect of credit risk exposure on the performance of selected quoted deposit money banks in developed and developing economies with reliance on previous literatures. It is pertinent to note that there is a lack of sound credit risk management which is a major limiting factor to the sustainability of the financial performance of deposit money bank not only in Nigeria but anywhere in the world. Some researchers have examined the impact of credit risk exposure on banks' financial performance in different areas. The study reviewed empirical evidence from developed, developing and Nigeria economies, and found that majority of the findings revealed that credit risk is negatively and significantly affect the bank's performance measured by return on assets (ROA), and few studies revealed that there is a positive relationship between credit risk and performance of deposit money banks. This study concludes that there is need to departs from current literature that evaluated the causality between credit risk and profitability by using common financial performance metrics such as ROE, ROE, NIM etc as dependent variables and Total loan to total deposit, non-performing loans to total loan, loss written of ratio etc as independent variables. The introduction of bank lending rate as a control variable is a departure from the norms of the earlier extant studies on credit risk and financial performance of deposit money bank.*

Introduction

Commercial banks are pivotal in developing economies such as Egypt, Algeria, Ghana and Nigeria. Bank lending is critical to the economy since it allows the government, individuals and corporation organizations to finance its agricultural, industrial, and commercial activities (Alobari, Naenwi, Zukbee, & Miebaka, 2018).

Banking can be aptly described as a high-risk business and as such a lot of attention is directed at risk management in banking. The need for such emphasis on risk management becomes even more urgent as banks grapple with larger volumes of non-performing assets. This thinking is shared by Ademola (2022), who described banking as a risky business which involves a significant amount of risk-taking especially in developing nations with weak economies. According to Osayi, Ezuem and Daniel (2019), and Idowu and Awoyemi (2014), the risks connected with DMBs include solvency risk, market risk, foreign exchange risk, and liquidity risk. Credit risk is the greatest risk of all these risks (Ghenimi, Chaibi, & Omri, 2017).

The banking system provides financial services that involve intrinsic and extrinsic risk. The risk in the banking sector cannot be eliminated nor avoided; rather, the risk can be managed by controlling the degree and direction of how the risk affects the way banks are performing (Fatogun, & Akintoye, 2022). Risk is becoming a critical factor for every bank around the world. Banks play a predominant role in credit expansion and granting credit facilities. Banks are generally facing various kinds of risks. Among these, credit risk and capital adequacy risk make a severe threat to financial performance (Gwamna, Miko, & Abdullahi, 2022).

According to Mhlanga, (2021), "the debtor" within the credit market is in a weak position because it does not have much more precise information on the financing project". When economic agents do not have the same level of information in any economic transaction, information asymmetry will arise. In a credit relationship, the bank has an information asymmetry problem that results from the difficulty of credit risk assessment due to insufficient information about the borrower. If the bank has the ability to collect and treat sufficient information when loan applications are accepted, credit risk is minimized but in most cases the borrower will deliberately conceal useful information which will prevent the bank to appropriately appraise the borrower, hence this will enhance credit risk. The higher the asymmetrical information in an institution the higher the transaction cost, (Nestle et al., 2019).

The bank needs relevant information about the borrower both at the time of accepting a loan application and after the credit has been granted. Through relevant information, the bank can effectively appraise the loan application and control the actions taken by the borrower. So, the bank, in search of information, is confronted with the issue of information asymmetry (Adeniran, Jadah & Mohammed, 2020). Information asymmetry generates two main problems: adverse selection and moral hazard. Due to the existing information asymmetry between the bank and the borrower, the phenomenon of adverse selection or anti-selection is manifested before signing the loan agreement. After signing the loan agreement and granting the credit, information asymmetry becomes a source of moral hazard to the bank (Tsindeliani & Mikheeva, 2022).

Ekinci and Poyraz (2019), the purpose of the article is to investigate the effect of credit risk on bank performance. The dataset includes 26 deposit banks that operated in Turkey between 2005 and 2017. The secondary data was gathered from the Banks Association of Turkey's statistical report. In order to analyze banks based on their ownership structure, data from three panels are measured: state-owned banks, privately held banks, and multinational banks. Non-performing loans (NPLs) were utilized as credit risk metrics, while financial performance measurements such as Return on Asset (ROA) and Return on Equity (ROE) were used as metrics. The findings of the estimation revealed a negative association between credit risk and both ROA and ROE. From 2005 to 2017, this study found a link between credit risk management and Turkish deposit bank profitability.

Tan (2016) examine the impacts of risk and competition on bank profitability in China. The study investigates Chinese banking industry (state-owned, joint-stock and city commercial banks) over the period 2003-2011 under a one-step Generalized Method of Moments (GMM) system estimator. The results do not show any robust finding with regards to the impacts of competition and risk on bank profitability, while it is found that Chinese bank profitability is affected by taxation, overhead cost, labour productivity and inflation.

Saleh and Abu(2020) examined empirical evidence from a growing country to examine the impact of credit risk, liquidity risk, and bank capital on Jordanian bank profitability over 9year period (2010-2018). The author uses GMM methods of standard estimate approaches for panel data analysis, as well as fixed and random effect regression models, and is based on econometric panel data. Credit risk, liquidity risk, and bank capital variables all have an impact on bank profitability, according to the research.

Umar, et. al. (2021), studied on Carbon neutrality, bank lending and credit risk: Evidence from Eurozone and concluded that the development of a green financial intermediation channel is imperative to achieve zero-carbon economies. In this study, the researcher assesses the impact of carbon-neutral lending on the credit risk in the Eurozone. They employ quarterly data for a sample of 344 lending institutions of 19 member states spanning over ten years from 2011 to 2020. Using two specific credit risk measures, the findings show that the exposure to carbon-neutral lending is negatively related to the default risk. The results remain consistent for the various size sorts, depicting that regardless of the bank size, the impact of green financing on the credit risk is the same. They attributed the credit risk reduction to the lower volatility of the borrowers' earnings and cash flows emanating from their sustainable business model. As a consequence of lower credit risk, financial institutions can benefit from lower loan loss provisions and economic capital requirements. This incentive is vital to increase the carbon neutral credit and contribute towards pro-environmental goals.

Shahzad (2019) conduct a comparative work on the influence of credit risk management adoption and strategy was carried out between United Arab Emirate and United Kingdom in relation to the respective commercial bank's performance. Information on these banks was obtained using primary data where three major variables were identified: credit risk management strategies, factors influencing risk management and commercial bank profitability. The SPSS software and excel were employed to analysis the data where the logistics regression, descriptive statistics, diagnostic tests, graphical representation, and thematic analysis (Adeniran, Stephens & Akinsehinwa, 2020) result showed significant differences in the credit risk management strategies, credit risk assessment and organizational profitability adoption between the financial institutions.

This research contributed to the limited literature on credit risk management in conventional versus Islamic banks, and the research findings present a novel comparative analysis of the differences between UK commercial banks and Emirati financial institutions and two key differences were identified. First, the results showed that Emiratis banks prioritized financial statement analysis and credit score analysis in their credit risk management, while UK banks prioritized credit portfolio models and exposure limits. Second, in respect to organizational profitability, the Emirati banks implementing creditworthiness analysis and internal ratings to measure their potential credit risks achieve higher returns on equity, compared to those in the UK who use stress testing and exposure limits.

Ghenimi, et al., (2017), considered the impact of liquidity risk and credit risk on bank stability: Evidence from the MENA region. The study was necessitated because of the global financial crisis which has induced a series of failures of most conventional banks in the region. The study investigates the main sources of banks failure in the region. The researcher examines the correlation between credit risk and liquidity risk, as well as its impact on bank stability, using a sample of 49 banks operating in the MENA region from 2006 to 2013. According to the findings of the study, credit risk and liquidity risk do not have a statistically significant reciprocal concurrent or time-lag association. The result revealed that these risks have an impact on bank stability on their own, and their interplay contributes to bank instability.

Farooq et al. (2019) investigate on "the causes of non-performing loans: the experience of gulf cooperation council countries". The study investigates the significant factors determining the Non-Performing Loans in the banking sector of this region taking into consideration bank specific as well as macroeconomic factors. The two step Generalized Method of Moments approach to study the relationship among the variables was used to examine the determinants of Non-Performing Loans in this region for a period from 2009 to 2015. Four different models employed as a result of the examination of the theories were used to observe and analyse the

determinants of these non-performing loans. According to the findings of the model generated from the bad management hypothesis, non-performing loans are a serious issue requiring due attention, and bank profitability measured by Return on Average Assets has significant and negative effect on Non-Performing Loans.

Credit Risk Exposure and Financial Performance of Deposit Money Bank: Evidence from Other Developing Economies

Naji and Shabib (2023) investigate Credit Risk Management and Its Impact on Commercial Bank Performance in Pakistan: A Penal Var Approach. The goal of this research is to investigate the impact of default or credit risk management on bank financial performance, as well as how CRM components interact with one another. The VAR technique was utilized to analyze punitive data. A total of sixteen private commercial banks have been considered. Data was collected between 2012 and 2021. Granger causality and impulse response have also been discovered and investigated. For analysis, the E-view software was utilized. Granger causality results show that practically all variables affect or explain each other. LTDR and ROE have a bidirectional association ship. In variance breakdown analysis, all variables are mostly influenced by themselves or by shocks and impacts of other variables. Finally, a short-term link has been discovered or detected using VECM.

Chaudhary and Kumar, (2023) examine the effect of credit risk on the performance of Indian banks. In this study, the researchers examine the effect of credit risk on banks' performance, measured with Net Nonperforming Assets (NNPA) as an explanatory variable, and Return on Assets (ROA) and Return on Equity (ROE) as dependent variables, while controlling other factors such as the size of the bank, loan advances, long-term capital, deposit, assets management, business per employee, and profit and loss per employee of banks. This study uses the data from the top 36 commercial Indian banks, in which half of the banks are from the public sector and the rest from the private sector, spanning the period 2010-2019. To assess that the results are not affected by endogeneity issues, they apply dynamic panel data techniques. The results from the study showed a adverse and significant effect of NNPA on both the bank performance measures.

Ghosh and Mondal (2022) the work examines the role of credit risk management and its impact on the financial performance of commercial banks in India. For the study, secondary financial data are collected from published financial statements of 20 commercial banks, consisting of 12 public sector commercial banks and eight private sector commercial banks, covering six years, from 2013 to 2019. Risk of commercial banks is measured through nonperforming loan ratio, capital adequacy ratio, loan loss provision ratio, cost per loan ratio, and leverages of sample banks. Financial performance of banks is measured through three alternative measures of profitability, namely return on assets, return on equity, and net interest margin.

Pooled data are used for panel regression analysis. Empirical study results revealed mixed and varied indications about credit risk management and its effect on the financial performance of commercial banks. The study results indicate that profitability of the banks is falling due to increasing bad debts. However, the capital adequacy ratio enhances the profitability of public sector banks more than the private sector commercial banks.

Devi (2022) assess credit risk management and performances of banks in India: The CAMELS Rating Model. The model is an acronym of Capital adequacy, Asset quality, Management Efficiency, Earning, Liquidity, and Sensitivity. A total of 10 private banks in India were chosen for the study for a period of nine years. The dependent variable used for the study was the financial performance of the banks measured by Return on Equity (ROE) whereas the independent variables were the CAMELS component. A standard multiple regression was used to determine the association between the CAMELS components and performance measure (ROE). The study revealed that earnings were a highly significant factor influencing bank performance in India, with a percentage change in earnings resulting in a 61.9% increase in bank performance as evaluated by the ROE. Capital adequacy, asset quality, and liquidity were discovered to have a considerable impact on Indian bank performance. Management effectiveness and sensitivity, on the other hand, have a negligible impact on the performance of Indian banks.

Bahari and Sarita,(2022)Examine the impact of credit risk management on foreign exchange banks' financial performance. The objective of the work is to describe the impact of financial credit risk management (NPL) on bank financial performance (Return on assets (ROA) and Return on Equity (ROE)).The research sample was 39 foreign exchange banks consisting of 4 government-owned banks (State-Owned Enterprises / BUMN) namely Bank BNI, Bank BRI, Bank Mandiri, and Bank BTN. The rest are private banks operating in Indonesia. Among these foreign exchange banks are some international corporate banks. Government foreign exchange banks that reported financial performance in the last 7 years, namely the 2016-2020 period. Data analyses were done using descriptive techniques and ordinary least squares regression. The results of the study obtained a t-count value between NPL and ROA of 2.783 greater than the t-table value ($1.9822 < 2.783$) which means that there is an influence between the two. The results of the t-test subsequently obtained a significance level of 0.006, smaller than 0.05 or $t\text{-sig} < 0.05$ which means significant. Thus, the constructed hypothesis that NPLs have a positive and statistical effect on ROE is accepted. Then the t-test between the NPL against the ROE obtained a t-count value of 4.298, which means that it is greater than the t-table value ($1.9822 < 2.783$) so that there is an influence between the NPL and the ROE. The results of the t-test also obtained a significance value of 0.000 smaller than 0.05 or a $t\text{-sig} < 0.05$ which means significant. This means that the constructed hypothesis that NPLs have a

positive and significant effect on ROE is accepted. It was obtained that NPLs have a positive and significant effect on ROA and ROE.

Kamal and Golder, (2022) examines the effect of credit risk management on the financial performance of banks listed on the Dhaka Stock Exchange for the period from 2011 to 2018. The equity multiplier ratio (EMR), capital adequacy ratio (CAR), non-performing loan (NPL) ratio, interest coverage ratio (ICR), and provision for credit losses to total credit (PCLTC) are proxies for credit risk management. The study characterizes banks' financial performance from three perspectives: bank management, as indicated by return on equity (ROE); the market, as indicated by Tobin's Q (TQ); and shareholder value, as indicated by economic value added (EVA-In). The study sample comprises 29 of the 30 listed banks, and the two-step system generalized method of moments (GMM) model is used to test the hypotheses. This study finds mixed results, i.e., none of the credit risk variables used in this study, with the exception of ICR, affect the sampled banks' performance equally from each of the three perspectives. Particularly, the results show that ICR has a significant positive impact on all measures of banks' financial performance, whereas PCLTC has no impact on any measure of financial performance. The EMR has a significant positive impact on ROE but does not affect TQ and EVA-In. CAR has been shown to improve ROE and TQ while having an insignificant effect on EVA-In. The NPL ratio has a negative effect on ROE but does not affect TQ and EVA-In.

Jackson and Tamuke (2022) examines the relationship between credit risks and commercial bank performance in Sierra Leone using data collected from the Bank of Sierra Leone (BSL) on relevant Financial Soundness Indicators such as Return on Assets (ROA), Bank Liquidity, Non-Performing Loans (NPL), and Credit from 2008Q1 to 2018Q4. Evidence from (unbalanced) panel data estimates under the fixed effects model indicates that high NPLs contribute to the banking system's fragility. It also shows that a low productive base in the domestic sector affects the situation of high NPLs in the banking system. The study indicated the need for collaboration between the monetary policy research arm and the financial stability departments in order to monitor risk in the financial system, which affected the entire banking sector around 2015-2017 that resulted in strict regulation adopted by the BSL to salvage the two state-owned commercial banks.

Tassew and Hailu, (2019) examine the effect of risk management on financial performance of commercial banks in Ethiopia. Quantitative research approach was applied using secondary data for all the seventeen (17) Ethiopian Commercial Banks covering the period of 2013 to 2017. The collected data was reviewed by using panel random effect regression model. The result of the study shows that credit risk, liquidity risk, operating risk and market risks have significant negative effect on financial performance of commercial banks in Ethiopia. Whereas bank size as control variable has positive impact on financial performance of commercial banks.

The study concludes that credit, liquidity, operation, and market risks have significant impact on financial performance of commercial banks in Ethiopia.

Yeasin (2022) analyse the impact of credit risk management on financial performance of banks. The study applied a deductive research strategy with targeting 6 commercial banks in Bangladesh, all with data spanning ten years between 2010 to 2019 with secondary data by employing panel regression analysis model. Four elements influencing the financial performance of commercial banks in Bangladesh were chosen and investigated. Non-performing loans (NPL), capital adequacy ratio (CAR), and loan to deposit ratio (LDR) are used to gauge credit risk in the study, while return on assets (ROA) is utilized to quantify bank performance. Non-performing loans (NPLs) and capital adequacy ratios (CARs) have a negative and statistically significant impact on commercial banks' financial performance, according to a panel data regression analysis. Whereas the loan-to-deposit ratio (LDR) had a positive and statistically significant impact on the financial performance of commercial banks. As a result, credit risk has a negative impact on the financial performance of commercial banks.

Abbas et al. (2014). This study looked at the impact of credit risk on the performance of Pakistan's banking sector. Fixed effect regression research using panel data from 2006 to 2011 indicated that credit risk, as assessed by the ratio of nonperforming loans to total loan and loan loss provision to nonperforming loan, has a negative impact on the performance variables ROA and ROE. As a result, the more a bank is exposed to credit risk, the worse its performance becomes. The effect of increasing the total loan to total deposit ratio considerably boosts bank profitability.

Roselyne et al. (2022) examine the influence of credit risk on financial performance of tier IV commercial banks in Kenya. The study was guided by scientific theory of management, Transaction cost theory and Contingency theory. This study employed longitudinal research design. The target population was 13 tier IV commercial banks in Kenya as of 2022 from Central bank of Kenya website. A secondary data collection sheet assisted in tabulating secondary data from audited financial statements which were downloaded from the Central Bank of Kenya website. Panel Data analysis techniques were employed to establish relationships through STATA. Findings reveal that Pearson's product moment correlation coefficient depicted $r = -0.4306$, p-value of 0.0000 which is significant for credit risk. The regression model had a p-value of 0.0000, indicating that it was significant and reliable. An R^2 of 0.3799 was produced by the random effect model indicating that financial imperative contributes 37.99% to financial performance of tier IV commercial banks. The regression coefficients were -0.13 with a p-value $0.004 < 0.05$, credit risk (CR) and financial performance (ROE) at 5% level of significance. These results indicate that credit risk had a substantial influence on financial performance.

Mahmood and Ahmed (2022) look on the role of risk management methods in influencing the financial performance of Iraqi private banks. They also looked into the association between risk variables and risk management techniques, as well as how risk management methods affect financial performance in Iraqi private banks. Individuals now working in private banks in Iraq comprised the study's population, and the unit of analysis was individual employees in private Iraq banks across multiple departments. The quantitative method was used to collect data from current employees of Iraqi private banks. A relatively qualitative strategy was used to gain additional information that could not be collected using a quantitative method to support the study conclusions. Overall, the study hypotheses confirm the significance of risk management approaches and play a role in mediating the correlation between risk-related parameters and financial performance.

Aldahdooh (2022) examine the effect of credit risk management on financial performance within the commercial banking sector in Palestine. Several financial indicators were secondarily relied upon through the financial review of the financial statements of the study sample. The study model consisted of 10 commercial banks, which represent all commercial banks operating in Palestine, during the period of 2016-2020. Essentially, a comprehensive survey for the credit risk management process was developed and relied upon, responses were obtained from all banks in Palestine, and the results of 71 questionnaires were statistically analyzed. Based on that, the results of the financial and statistical analytics indicated that there is a significant positive effect of credit risk management on the financial performance within the commercial banking sector in Palestine.

Annah (2022) assess the impact of financial risks on financial performance of commercial banks in Uganda taking a research work of Centenary bank Kabale branch. Descriptive research design was adopted in this research. Both primary and secondary data were used in this research. Information was collected from 78 staff of Centenary Bank using structured questionnaire. The staff were sampled from a population of 97 staff. Correlation and regression studies were performed to assess the impact of credit risk, liquidity risk, and operational risk on commercial bank financial performance. This study's findings revealed a significant relationship between credit risk management and bank financial performance. The data also revealed a significant relationship between liquidity risk and the bank's financial performance.

Maryanti et al. (2022) Examine the relationship between risk management techniques and financial performance of a bank. Secondary data was gathered from the annual reports of eight Muscat Stock Exchange (MSX)-listed banks. The data acquired in this study is analyzed using Structural Equation Modelling (SEM) and Partial Least Square PLS Software. The findings demonstrated that risk management had a favorable impact on risk avoidance. According to the research, risk

management has a substantial association with return on assets (ROA). This finding suggests that management has a major impact on bank performance (ROA). Furthermore, the studies revealed that risk management had no meaningful relationship with return on equity (ROE).

Tirwa, et al. (2022) examine Implications of Liquidity Risk and Credit Risk on the Bank of Bhutan's Financial Performance (BOB). Return on Equity (ROE) and Return on Asset (ROA) were employed as dependent variables in this study to assess BOB's economic health while liquidity risk and credit risk were used as independent variables which are measured using CAMEL model for the study. The study is based on data from secondary sources i.e., annual financial report furnished by BoB for 10 years (2010-2019), where descriptive research is generated based on quantitative analysis. The study's findings demonstrated that the independent factors (liquidity risk and credit risk) had a significant influence on BOB's financial performance, as evaluated by proxy variables ROE and ROA. The research also revealed that, unlike credit risk, liquidity risk has a substantial influence on the ROA.

Huy et al. (2021), studied on enhancing risk management culture for sustainable growth of Asia commercial bank-ACB in Vietnam under mixed effects of macro factors. The study concluded that for sustainable growth, macro policy makers will need to look at risk management in the banking industry and impacts of macro factors on market risk in order to adjust policies and build risk management culture in banking system. They further posited that what the country needs is to adjust in trade balance, risk free rate and other policies? This is one of the reasons for conducting the study. The paper measures the Beta CAPM in famous models under impacts of both macro internal and external variables during low inflation time 2015-2020 in the country. The evidence is the fundamental role of risk management in commercial bank has been increasing with new perspectives in management, corporate governance and risk management models. The study estimates the effects in risk measurement of one of the big, listed Vietnam commercial bank, Asia commercial bank (ACB) during the low inflation period 2015-2020 with semi-annual data. Through using analysis, synthesis statistics methods, and dialectical materialism method, combined with econometric model with 9 macro variables. It figures out that CPI has a positive correlation with Beta CAPM of ACB, while Risk free rate (Rf) and lending rate have negative correlation with Beta CAPM of the bank. It implies that an increase in inflation, together with a decrease in Rf and lending rate will increase market risk. Then, one of its major findings is the suggestion of macro and risk management policies for bank and relevant government agencies.

Singh, Basuki and Setiawan, (2021), examined the effect of Non-Performing Loan (NPL) of Nepalese conventional banks. The population of this study is major deposit banks in Nepal and the data obtained for this research was from the period 2015–2019. This research used secondary data and it is collected from each bank's annual

report and GDP and Inflation taken from the World Bank database. The method used for data analysis in this study is multiple regression analysis. The study used NPL as a dependent variable and Return on Asset (ROA), Capital Adequacy Ratio (CAR), Bank Size, GDP growth, and Inflation as independent/explanatory variables. The results of this research show that ROA, Bank Size, GDP, and Inflation have a significant effect on NPL, but CAR does not have a significant effect on the NPL of banks. In other words, the GDP effect on NPL in this study shows a positive and significant effect while most studies show a negative effect. It demonstrates that when GDP growth increases, there is a significant increase in the growth of Nepalese banks even though there were no significant changes in income growth. Therefore, GDP growth has a positive and significant effect on the NPL of commercial banks.

Rehman et al. (2019) studied the effect of risk management strategies on the credit risk faced by commercial banks of Balochistan in Pakistan, which aimed at eliminating or mitigating credit risk. A qualitative research design was adopted using a questionnaire and response was obtained from 250 employees on four specific areas which were: diversification, hedging, capital adequacy ratio, corporate governance, and credit risk to perform multiple regression analysis for this study. It was concluded that adequate training and courses should be given to the bank's employees on asset management risk, risk control and credit utilization for better performance of the bank.

Ali and Oudat, (2020) evaluate the financial risk and performance of Bahrain's quoted commercial and investment banks. The research work investigates the impact of financial risk on the performance of Bahrain's listed banks, as well as the relative importance of the most common categories of risk. From 2014 to 2018, the study looked at 11 of Bahrain's 18 banks. Data was taken from the Bahrain Stock Exchange Database based on its availability. Alternatively, the most frequent statistic, ROA, was employed to assess bank performance and risk. Capital risk, exchange rate risk, liquidity risk, and operating risk are the four types of financial risk that have been used. Regression research demonstrates that the association between bank performance, exchange rate risk, liquidity risk, and operating risk is insignificant. Regression analysis shows that there is an insignificant association between bank performance, exchange rate risk, liquidity risk and operating risk. The findings also revealed an important positive association between bank performance and capital risk. In addition, the findings established that capital risk is the most significant form of risk.

Odawo et al., (2019) claim that credit risk is described as the possibility of a contractual party failing to fulfil its commitments in line with the accepted conditions. A credit risk is a possible loss caused by a borrower's inability to pay its obligations in accordance with approved conditions and to service the loan plus interest charged (Nwude & Okeke 2018; Okere et al., 2018). However, there have been

complaints regarding failure to meet obligations, insufficient controls, and a high proportion of defaulters, among other things. As a result, the study intended to evaluate the extent to which credit risk affects banks' financial results in terms of return on equity (Nonperforming loan ratio, loan loss provision ratio).

Yüksel (2017) investigate the determining factor of the credit risk in developing countries after economic crisis: A case of Turkish banking sector. The objective of the research work is to define the determinants of the credit risk of the banks in developing countries after the economic crisis. Within this scope, the banking sector of Turkey was tried to analyse. In the study, 23 deposit banks of Turkey were analysed. Furthermore, annual data of 24 Turkish deposit banks for the period between 2004 and 2014 was tested by probit model. Related data were provided from the Banks Association of Turkey, OECD and World Bank. With respect to credit risk, the non-performing loans ratio was used as a dependent variable. On the other hand, nine explanatory variables were included in the model to define the determinants of non-performing loans. As a result, it was determined that decrease in industry production index is the most important element of the surge in non-performing loans in Turkey.

Syed (2017) examines the effect of credit risk management as it affected the bank performance in Pakistan. Data was extracted from the official website of the banking sector survey, pooled regression were used, to find the relation between the credit management and the banking sector. The result on ROA on the capital, adequacy ratio, non-performing loan ratio, loan loss provision ratio, were significantly related while liquidity ratio, loan and advances and size of the banks were positively related with ROE. Hence, it was on the pooled panel regression that credit risk management negatively influence the performance of the banking sector in Pakistan.

Alshatti (2015) resolved that the credit risk management pointers studied have a significant impact on Jordanian commercial banks' financial performance. The study's goal is to examine the impact of credit risk management on Jordanian commercial banks' financial performance from 2005 to 2013. Jordanian commercial banks as a total were represented by thirteen commercial banks. To assess this link, two mathematical models were developed. The study discovered that credit risk management has an impact on the financial performance of Jordanian commercial banks as measured by ROA and ROE. According to the findings, the researcher advises banks to improve their credit risk management to produce money. Non-performing loans/gross loans, provision for facilities, provision for bad debts, and the leverage ratio should all be considered when analyzing credit risk management by banks.

Kaaya and Pastory (2013) conducted a study on Tanzanian credit risk and commercial bank performance, according to their research: A Panel Data Analysis verified that the credit risk indicators produced a negative relationship, showing that

the higher the credit risk, the worse the bank performance. The study, which lasted from 2000 to 2010, sought to determine the relationship between credit risk and bank performance as measured by return on assets. To develop the relationship between credit risk indicators and bank performance, a regression model was used. The credit risk indicators demonstrated a negative association, showing that the greater the credit risk, the poorer the bank performance. R square and adjusted R square values from the regression model were 70% and 64%, respectively.

Ahmadyan (2018) investigates the impact of credit risk management on the profitability and survival of Iranian banks. For this reason, model was estimated using the panel data approach using bank financial statements from 2005 to 2016. The study's findings revealed a significant association between risk management and profitability, as well as bank survivability. Inappropriate credit risk management decreases bank profitability and survival.

Bhattarai (2016) investigates how credit risk affects the performance of Nepalese banks. The descriptive and causal comparative research designs were used in the study. The regression model was used to analyse pooled data from 14 commercial banks from 2010 to 2015. According to the regression results, the 'non-performing loan ratio' has a negative effect on bank performance, whereas the 'cost per loan assets' has a positive effect. Bank size, in addition to credit risk indicators, has a beneficial effect on bank performance. The capital adequacy ratio and cash reserve are not acknowledged as variables influencing bank performance. The study discovered a link between bank performance and credit risk indicators.

Credit Risk Exposure and Financial Performance of Deposit Money Bank: Evidence from Nigeria Economy

Blessing and Ebere (2023) examines the role of corporate heterogeneity in the correlation between credit risk management and bank performance. The research paper sought to determine the role of corporate (board) heterogeneity in the correlation between credit risk management and bank's financial performance in Nigeria. In this research work, the ex post facto research design was adopted, and data collected through the process of contents analysis from a sample of 10 deposit money banks for a period of ten (10) years from 2010 to 2019. Two panels least squares models were specified to determine the extent of the effect of corporate heterogeneity on the relationship between the dependent and independent variables. Findings of the research show that corporate (board) heterogeneity plays an important role in moderating the relationship between credit risk management activities of banks and their financial performance. This is considering that the coefficient of determination (R^2) for the moderating role is significantly larger 40.42% compared to 27.02% when excluded. This implies that a heterogeneous board of directors are sensitive and play a crucial role in assessing banks' credit risk

exposures. Thus, it is recommended that banks ensure that their boards of directors are adequately diversified. Secondly, the inclusion of more independent board members is also recommended. Regulators of the industry can also be instrumental in ensuring that banks constitute heterogeneous boards of directors by making policies in that direction.

Maccarthy and Jibrin (2023) examine financial assets and performance of deposit money banks in Nigeria. Two research questions and two null hypotheses were formulated to guide the study. Secondary data adopted from United Bank for Africa Plc Annual Report - 31 December 2018 were employed for the period under review. The findings were subjected to linear regression using SPSS ver. 22 which showed that there is a positive and significant relationship between cash equivalents and return on investment of deposit money bank. It also indicated that there is positive and significant cash equivalents and return on equity of deposit money bank and those financial assets have significant relationship with performance of deposit money banks in Nigeria.

Shittu and Abdulkadir (2023) investigate the effect of the cost per loan asset ratio on the relationship between credit risk and the financial performance of Nigerian publicly traded deposit money banks. The goal of this research is to investigate how the cost per loan asset ratio (CLAR) influences the relationship between credit risk and return on asset (ROA) in Nigerian deposit money banks (DMBs). Through panel data analysis and GLS regression models, the research explores the relationship in question. As of December 31st, 2018, the population consisted of all fifteen (15) listed DMBs on the Nigerian stock exchange, while the adjusted population was eleven (11). The findings revealed that the delinquent loan ratio (NPLR) and capital adequacy ratio (CAR) had a significant positive moderating association, whereas the loan loss provision ratio (LLPR) and asset quality ratio (AQR) had a negative but statistically significant relationship. Furthermore, despite being statistically insignificant, the cost per loan asset ratio was found to have an inverse moderating influence on the relationship between the loan and advance ratio (LADR) and the bank's probability.

Olufemi and Sunmisola, (2022) investigated Nigerian deposit money institutions' financial risk and performance. In the quasi-experimental study, the ex post facto design was used to assess how an independent variable that participants already had before to the start of the investigation influences a dependent variable. The population will consist of all Deposit Money Banks that have been listed on the Nigerian Exchange Group throughout the last ten years (2010-2019) as of December 31, 2019. The sample size for this study is made up of 10 Deposit Money Banks that were listed on the Nigerian Exchange Group as of December 31, 2019. These ten institutions were chosen at random. In the study, panel data including statistical information were used. STATA (version 17) was used to conduct the suggested

study, Which system-based technique is best for analyzing panel data? In the study, panel data regression analysis was also performed to evaluate research hypotheses. Credit risk and liquidity risk, according to the study, have a significant effect on the financial performance (ROE) of Nigeria's deposit money institutions. According to the study's result, financial risk has a negative impact on the financial performance of Nigerian deposit money institutions.

Ademola (2022) examine Credit risk management: Implications for Nigerian deposit money banks' performance. It especially examined how credit risk management proxies such as loan loss provision (LLPR), non-performing loans (NPLR), and capital adequacy ratio (CAR) affected the profitability of deposit money banks (DMBs) as measured by return on assets (ROA). Five (5) DMBs were chosen at random, and secondary data was extracted from the audited annual reports of the selected institutions from 2011 to 2020. For the analysis, both descriptive and inferential statistics were used. The outcome demonstrated that NPLR and LLPR had a negative and statistically significant effect on DMB performance, implying that a rise in NPLR and LLPR will have a negative impact on bank performance. CAR, on the other hand, has a positive and significant impact on banks' performance. This implies that higher CAR enhances the performance of banks.

Odigbo et al. (2022) The paper is aimed at determining the effect of Enterprise Risk Management (ERM) on financial performance of deposit money banks in Nigeria. The main objective of the research is to determine the effect of ERM on earnings per share (EPS) and to ascertain the effect of ERM on the market value (using Tobin Q) of the selected banks. Tobin Q predicts the future profitability of capital investment, by comparing the market value of an entity's assets and its replacement value. A descriptive research design was applied for the research after considering the total populace of all the thirty-one listed deposit money banks in Nigeria. Information was obtained via secondary sources from five (5) public financial statements of the listed deposit money banks for a period of six years ranging from 2015 -2020 and analyzed using percentages and ratios. Multiple regressions were employed in data analysis and testing the hypotheses; in determining if there is a significant impact of Enterprise Risk Management on Earnings per Share and Tobin Q of listed deposit money banks in Nigeria. The study discovered that there is a positive and significant association between ERM and sustainable financial performance (TQ & EPS) of quoted banks in Nigeria. As a result of this outcome, the study recommends that financial institutions in the country should employ robust Enterprise Risk Management practices as these are likely to greatly influence their financial performance in one way or the other and that regulators of financial institutions should encourage a centralized approach to enterprise risk management control mechanisms to enable banks to take a proactive approach to risk management which will in turn boost bank performances.

Adamu (2022) investigate the impact of credit risk management on the profitability of Nigerian deposit money institutions using data from 2011 to 2020. The researcher used published financial statements of banks as research design and panel regression techniques were used for analysis. Non-performing loans, loan to deposit ratio, loan loss provision, and capital adequacy ratio were used to assess credit risk management, while return on asset was used to assess profitability. Non-performing loans have a negative significant impact on profitability, loan to deposit ratio has a negative insignificant impact on profitability, loan loss provision has a positive significant impact on profitability, and capital adequacy ratio has a negative significant impact on profitability, according to the study. According to the paper, credit risk management has a significant impact on the profitability of Nigerian commercial banks.

Gana and Abubakar,(2022) examines the influence of credit risk on the financial performance of Nigeria's listed money deposit banks. Return on equity (ROE) was used as a proxy for financial performance in the study, 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 applies a correlation research design and secondary data gathered from the public accounts of Nigeria's 14 listed money deposit banks from 2011 to 2020. Multiple regression was utilized to evaluate the data, and the outcome showed that LLP and CAR have a direct and substantial link with ROE, whereas NPLR and LATD had an insignificant effect on ROE. As a result, the study suggests, among other things, that the quoted money deposit should increase the loan loss provision reserves to enable them to give additional loans and absorb credit losses if they arise.

Abdullahi and Tela, (2022) investigate the effect of risk management on the financial performance of Nigerian listed deposit money banks (DMBS). Ten (10) licensed commercial banks in Nigeria are being investigated. Secondary data spanning 12 years, from 2009 to 2020, was used. The Hausman test was used because it shows that a random effect model should be used to evaluate the panel data in this investigation. Applying the ordinary least square random effect regression model, it was determined that there is a statistically significant relationship between net interest margin (NIM), credit risk management (CRM), liquidity risk management (LRM), and interest rate risk management (INTRM). Credit and interest rate risk management, in particular, have a major negative effect on the profitability of Nigeria's quoted deposits, money banks, indicating that an increase in risk management variables will result in a decrease in the financial performance of Nigeria's listed deposit money banks.

Balogun, (2022) conducted a study using CAMEL ratios to evaluate the impact of credit risk management on the financial performance of selected commercial banks in Nigeria from 2011 to 2020. The name CAMEL stands for Capital adequacy ratio

(CAR), Asset quality ratio (AQR), Management ratio (MR), Earnings ratio (ER), and Liquidity ratio (LR), and these ratios were obtained from the Bank Focus database. The quantitative analysis was the most appropriate research design for this study, and the SPSS 25 (Statistical Package for Social Science) was adopted to evaluate the CAMEL ratios on a sample of six (6) commercial banks over a ten-year period. The output from this software, which was descriptive, correlation, and regression analysis methodology, was interpreted to satisfy the hypothesis test for this study. According to the findings of this study, earnings ratio, liquidity ratio, and management ratio all had a favorable influence on the bank's financial performance (CAR), but earnings ratio (ROA) had the most significant influence, while AQR had a negative and low influence on CAR when the connection was taken into account. However, based on the respective analysis, this work discovers that CAMEL can be applied as a proxy to determine commercial bank financial performance, meaning that credit risk management has a significant impact on commercial bank financial performance.

Okeke et al., (2022) evaluates the impact of operational risk management on earnings of deposit money banks in Nigeria. The predictive variables and measures of operational risk management are security/legal expenses, insurance premium, audit fee and directors' remunerations while the dependent variable and proxy for banks' earnings is earnings per share. The sample consists of nine (9) deposit money banks listed on Nigeria Exchange Group during the period from 2012 to 2021. Purposive sampling was used since the nine deposit money institutions that declared their security/legal fees were purposefully chosen for the study. Descriptive statistics, Pearson's correlation matrix, and panel data regression analysis were used to investigate time series data retrieved from the selected banks' annual reports and financial statements. According to the findings, the effects of security/legal expenses and insurance premiums on earnings per share are positive but statistically insignificant, and the effects of audit fee and directors' remunerations are negative but statistically insignificant.

Mohammed et al. (2022) assesses the financial risk and performance of Nigerian listed deposit money banks: the moderating effect of the risk management committee. Financial risk is represented by default risk, liquidity risk, capital risk, and market risk, while performance is represented by net interest income. The population comprises of all 15 listed deposit money institutions in the Nigeria Exchange Group as of December 31, 2020. A sample of thirteen banks was used in an ex post facto study design. The data was examined using STATA, and the findings demonstrate that the risk management committee considerably moderated the relationship between credit risks, liquidity risk, and performance, despite having no influence on the other hypothesis variables.

Balogun (2022) examined the effect of credit risk management on the financial health of Nigerian deposit money banks, particularly evaluating the association between credit risk management and financial stability and deciding on the level of credit risk measures to be put in place to ensure the financial stability of Nigerian deposit money banks. Audited financial statements of banks was used in this study. The target population consisted of 22 deposit money banks as of November 30th, 2018, of which 10 were chosen for the study. The selected deposit money institutions' audited and published financial statements provided the data. Statutory auditors validated the data. The data was analyzed using descriptive and inferential statistics (multiple regression). Asset quality, as measured by non-performing loan to gross loan ratio (NLPR), total risk asset to total asset ratio (TRAR), loan loss provision to total loan ratio (LLPR), and total loan to total deposit ratio (TLDR), all had a significant effect on the Financial Stability variables of Debt-to-Shareholders Fund $F(99) = 11.17$, $\text{Adj. } R^2 = 0.2419$, $p < 0.10$, Capital Adequacy Ratio $F(99)$. According to the report, CRM influences on the financial stability of Nigerian listed banks.

Gwamna and Abdullahi, (2022) Risk and financial performance of Nigerian listed deposit money banks (DMBs) were investigated during a ten-year period from 2011 to 2020. The study used a correlation research strategy with a sample size of 13 listed deposit money banks listed on the floor of the Nigerian Exchange Group as of December 31, 2020. Secondary data for the sampled banks was gathered from the banks' yearly audited financial reports. The data was examined using the multiple regression model where in the generalized least square result revealed a positive and significant impact between credit risk and capital adequacy risk on the financial performance of the banks in Nigeria for the period. The study revealed that the risk has a great potential to financial performance of DMBs in Nigeria.

Hambolu et al. (2022) investigate the effect of credit risk on the profitability of Nigerian commercial banks. The analysis relied solely on data received from Nigerian banks between 2008 and 2018. A sample of eleven (11) Nigerian banks was observed for the statistical test. A panel data analysis was used to assess the causation of possible credit risk indicators in a few Nigerian banks. The findings demonstrated a positive and significant relationship between the loan loss provision to total assets ratio and the profitability of Nigerian commercial banks. In Nigeria, commercial bank profitability is also negatively and insignificantly related to the ratio of loans and advances to total deposits, as well as negatively and insignificantly related to the capital adequacy ratio. The study also discovered that the ratio of non-performing loans to total assets and commercial bank profitability in Nigeria are negatively and strongly associated. Finally, the link between bank size and profitability of Nigerian commercial banks was found to be positive but inconsequential.

Tomi, et al. (2022) examine the effect of risk management on the profitability of a Nigerian deposit money bank. For a period of seven years, fourteen commercial banking organizations were chosen at random. The goals are to investigate the impact of loans and advances on the profitability of Nigerian deposit money banks and to study the impact of non-performing loans on the profitability of Nigerian banks. The researcher analyzed data from CBN annual reports and bank supervision reports using secondary sources. The collected data was analyzed using descriptive and inferential statistical methods, which were carried out using the SPSS version 26 software. Based on the findings, it was discovered that the regression coefficients indicate that the coefficient of Average Collection Period (NPL) is negative with (-.000) and has significant effect on ROTA ($p > .05$) of the sampled banks for the period of study. The result of regression also discovered a negative association between NPL and ROTA which is significant ($p < .05$) for the sampled banks during the period of study.

Olasunkanmi (2022) examines the impact of credit risk on the financial performance of Nigerian-traded deposit money banks (DMBs). This study used expo-facto research design. The population of this study comprises of the twenty-three (23) quoted deposit money that were active as of December 31, 2019, for the years 2014-2019. Secondary data was obtained from these banks' annual reports and accounts. The time series and cross-sectional data were analyzed using the multiple regression technique. The data show that the non-performing loan to return on asset ratio, liquidity rate, currency rate, and interest rate all have a substantial beneficial effect on the return on asset (financial performance) of Nigeria's listed deposit money banks, among other things.

Fatogun and Akintoye (2022), examine the risk management and performance of selected deposit money banks. On the Nigerian Exchange Group. The annual reports of the selected deposit money banks served as the study's data source from 2006 to 2020. Bank performance as a risk-dependent variable was represented by (ROA), and risk management as a risk-influencing variable was proxied by liquidity ratio, debt to equity ratio, and capital adequacy ratio. The study employed Ordinary Least Squares regression (OLS) for data analysis. It was revealed that the liquidity ratio and capital adequacy ratio had a considerable favorable impact on the performance of the selected deposit money institutions. On the contrary, the debt-to-equity ratio has little impact on a bank's profitability.

Ibrahim et al. (2020), Determine the impact of credit risk management on the financial performance of Nigerian deposit money banks from 2009 to 2018. Credit risk management was proxied by loan-loss provisioning, capital adequacy ratio, and default rate, whilst bank performance was proxied by return on assets. The information came from the Central Bank of Nigeria's annual reports and accounts. Using an ex post facto technique, the study's regression results showed that loan-loss

provisioning and capital adequacy ratio have a positive and substantial effect on deposit money bank return on assets, whereas default rate has a negative and insignificant effect. The study does, however, indicate that credit risk management has a favorable and significant impact on financial success.

Bello and Umar (2019) The study assessed the extent to which credit quality affects the financial performance of Deposit Money Banks (DMBs) in Nigeria, using secondary data for the period 2009-2018 for a sample of ten DMBs selected from a population of fifteen quoted DMBs. The study employed multiple OLS and GLS regression analysis for estimation. Credit quality represented by Non-Performing Loans Ratio (NPLR) and Loan Loss Provision Ratio (LLPR) is the independent variable. The dependent variable, which is financial performance, is represented by Return on Assets (ROA), while lending rate is used to control market variability. The study found that NPLR negatively and LLPR positively significantly affected ROA over the period of study. Therefore, the study failed to accept null hypothesis one, thus concludes that, credit quality does not significantly affect ROA of DMBs in Nigeria. Thus, the study recommends that banks should evolve robust mechanisms to ascertain credit worthiness of borrowers, the viability of their business and loan monitoring processes of the banks.

Domma et al. (2017) investigates the impact of non-performing loans on the bank performance in Nigeria. The approach used is a clear departure from previous studies as it made use of earning ratio of the banks precisely return on asset and profit after tax measures on bank performance. The independent variables used are non-performing loans, loan and advances, total deposits and lending rates. Auto-regressive distributed lags ARDL and Vector auto-regression VAR are applied. The results show that all the variables show significant long and short run relationships with ROA but not with PAT. The relationship between PAT and NPL with other variables are analysed via VAR since co integration could not be established. The VAR result indicates that PAT as measure of bank performance is more responsive to changes in total deposits more than any other variable including the NPL. It is concluded that ROA appears to be a better measure of bank performance when studying effects of NPL as it shows that it has significant negative impact on ROA, but the PAT does not show any significant response to NPL.

Eze and Ogbulu (2016) empirically evaluate the correlation between asset quality management and financial performance of deposit money bank in Nigeria. The paper adopted the ECM and co-integration technique using annual aggregate data sourced from CBN and NDIC publication in the period 1990 – 2013. In this study, the researcher affirmed that the selected measures of asset quality have substantial effect on all the three indicators of banks performance namely - return on equity, return on assets and return on shareholder funds. In addition, they concluded that the result of the impulse response and variance decomposition own shock from

performance indicators like ROA, ROTA, ROSF account for a greater percentage proportion of the forecast errors of the variables within the ten-year period.

Udeke (2014) posited that in spite of the 1952 Banking Ordinance, the Nigerian banking sector has experienced a number of distresses in the industry: with non-performing loans becoming the precursor to eventual bank failures in Nigeria. Non-performing loans are those loan facilities which borrowers often have difficulties repaying as at when due. Ndubuisi and Amedu (2018) used Fidelity Bank Nigeria PLC as a case study to investigate the correlation between credit risk management and bank performance in Nigeria. The Pearson Correlation Coefficient was used in the statistical analysis for the study. The study's findings indicate a weak meaningful association between credit risk management and bank performance in Nigeria. The research indicates that there is no substantial correlation between credit risk management and bank performance in Nigeria, while there are indications of feeble negative relationships that should be examined further given the sensitive nature of the banking sector. The report also suggests that depositing money institutions develop a solid and competent risk management unit that follows the best practices in risk management.

Taiwo et al. (2017) conducted research on credit risk management to determine the implications on the bank performance and lending growth on the Nigeria's Deposit Money Banks (DBN) for a period of 17 years (1998-2014). The multi linear regression model was adopted to analyse the time series data. The findings discovered that the credit risk management of the bank has not significant impact on the growth of loan and advance in the Nigeria's Deposit Money Banks (DBM) also it further established that a good credit management can improve the investors and savers confidence leading to growth in fund for loan and advance thereby increasing profitability of the banks.

Adesugba and Bambale (2016) investigate the association between credit risk management and performance in Nigerian financial institutions. The study lasted five years (2010-2015) to accomplish this. Ten banks were selected as a representative sample of all commercial banks in Nigeria. The audited annual financial statements of the selected banks for the years in question were used to collect data for the study. Most research conducted under this study shows a significant relationship between credit risk management and performance using Return on Assets (ROA) and Return on Equity (ROE) in Sub-Saharan countries. The independent variable which is credit risk management measures the Non-Performing Loan Ratio (NPLR) and Loan to Deposit Ratio (LTDR) while the dependent variable which is performance Adesugba and Bambale (2016) investigate the association between credit risk management and performance in Nigerian deposit money institutions. The study lasted five years (2010-2015) to accomplish this. Ten commercial banks were chosen as a representative sample of all Nigerian commercial banks. Data for

the study was gathered from the audited financial statements of the selected banks for the years in question. The majority of the research for this study demonstrates a substantial association between credit risk management and performance in Sub-Saharan African countries measured by Return on Assets (ROA) and Return on Equity (ROE). The independent variable, credit risk management, measures the Non-Performing Loan Ratio (NPLR) and Loan to Deposit Ratio (LTDR), whereas the dependent variable, performance, measures the Return on Equity (ROE) and Return on Assets (ROA). Descriptive statistics and statistical analysis using panel linear regression model was used in the estimation of regression equation for determining the correlation of both variable in Nigerian banks.

Onipe, et al, (2015), empirically examined the relationship between current assets management and financial performance: evidence from listed deposit money banks in Nigeria, the researchers used an OLS model to compute the effect of CAM on financial performance. While for model validation purposes, five-year data analysis was conducted. The study samples utilize data from 2010 – 2014 belonging to 16 deposit money banks operating in financial services sector as listed by the Nigeria Exchange Group. The result of their finding suggested a positive relationship between cash and bank balances, financial services used for trading, loans and advances and returns on assets. Another study on the other hand suggests a association between derivative assets, loans and advances to banks have a negative effect on return on assets.

Taiwo and Abayomi (2015) examined how credit management is used to increase profitability. According to evidence from the Nigerian banking sector, expanding non-performing credit portfolios have significantly effect on financial turmoil in the banking sector. Banks collect deposits and lends to customers but when customers fail to meet their obligations problems such as non-performing loans arise. This work evaluates the effect of credit risk management on bank profitability of some selected commercial banks in Nigeria was studied using an econometric analysis method on annual time series data from ten banks from 2006 to 2012. The Levin, Lin, and Chu unit root test results from 2012 reveal that all variables were non-stationary at the level. Credit risk management has a significant impact on the profitability of Nigerian banks, according to the Panel Least Square (PLS) estimate. As a result, managers must exercise prudence in designing a credit policy that will not have a detrimental impact on profitability, and they must also understand how credit policy influences how their banks operate to maintain appropriate deposit utilization. This conclusion has important policy implications.

Ndubuisi and Amedu (2018) investigated the association between credit risk management and bank performance in Nigeria using Fidelity Bank Nigeria PLC as a case study. The Pearson Correlation Coefficient was employed in the study's statistical analysis. The study's findings indicate that there is a limited relevant

association between credit risk management and bank performance in Nigeria. According to the study, there is no substantial association between credit risk management and bank performance in Nigeria, and deposit money institutions are advised to develop solid competent risk management units that must comply to best risk management standards.

Adegbite and Dada (2018) assessed the effect of risk asset and liquidity management on the long-term performance of Nigerian deposit money banks. Ex-post factors and survey study methodologies were applied in the research. This study's population consisted of Deposit Money Banks functioning in the financial institutions, while the samples included three banks as well as the Central Bank of Nigeria as sample representatives. Primary data were utilized to acquire respondents' perspectives, while secondary data were used to examine the managers' activities. The Statistical Package for Social Sciences was used to conduct the analyses, which included both descriptive statistics and regression analysis. All analyses were performed at the 0.05 level of significance, and four hypotheses were examined. DMB credit risk management measures (capital adequacy ratio, non-performing loan ratio, and loan loss provision ratio) and performance (return on assets) were found to have a direct and statistically significant association. However, there is a considerable inverse relationship between liquidity ratio and DMB performance, indicating that surplus cash that is not adequately handled as a credit facility would eventually result in a fall in DMB financial performance.

Ehi and Mayowa (2019) used the Generalized Method of Moments (GMM) and Granger causality methods to evaluate the influence of credit risk management on the performance of Nigerian Deposit Money Banks (DMBs) from 2006 to 2016. DMB credit risk management indicators (capital adequacy ratio, nonperforming loan ratio, and loan loss provision ratio) and performance (return on assets) were found to have a direct and statistically significant link. However, there is a considerable opposite relationship between liquidity ratio and DMB performance, indicating that surplus cash that is not adequately handled as a credit facility would ultimately lead to a decline in DMB financial performance.

Gadzo, Kportorgbi and Gatsi, 2019, The structural equation model (SEM) was used to investigate the influence of credit and operational risk on universal banks' financial performance. Data were obtained without missing variables from all 24 universal banks in Ghana, and using the PLSSEM, the results revealed that credit risk had a negative effect on financial performance, contrary to the empirical study but consistent with the lemon theory's information asymmetry premise. It was also shown that operational risk has a detrimental impact on the financial performance of Ghana's universal banks. Furthermore, the study revealed that bank-specific characteristics (asset quality, bank leverage, cost-to-income ratio, and liquidity)

have a beneficial impact on credit risk, operational risk, and the financial performance of universal banks.

Kayode, et al., (2015), researchers discovered that total loan has a favorable and significant effect on bank performance when they investigated credit risk and bank performance in Nigeria. This research investigates how credit risk affects bank performance in Nigeria. From 2000 to 2013, the random effect model framework was utilized to estimate a panel of six banks. According to their findings, credit risk is significantly and negatively associated with bank performance as measured by return on assets (ROA). This means that increased credit risk exposure has an impact on bank profitability.

Uwuigbe et al. (2015) conduct a thorough examination of Nigeria's listed banks' credit management and bank performance. The research investigated how credit management influences bank performance in Nigeria. To achieve the study's aims, the audited corporate annual financial statements of listed banks from 2007 to 2011 were examined. Furthermore, ten (10) of the aforementioned banks were selected and analyzed for the study utilizing the purposive sample method. However, in order to test the hypotheses under consideration, the study employed both descriptive statistics and econometric analysis, estimating the regression equation with panel linear regression. While the ratio of non-performing loans and bad debt had a substantial negative influence on bank performance in Nigeria, the association between secured and unsecured loan ratio and bank performance was not significant, according to the study's findings. As a result, the study advises bank management to develop or construct a solid lending framework, proper credit administration procedures, and an effective and efficient machinery to monitor lending function compliance with specified norms. Regression analysis using periodic and cross-sectional data. According to the study's findings, while the ratio of non-performing loans and bad debt had a significant negative influence on bank performance in Nigeria, the relationship between secured and unsecured loan ratio and bank performance was not significant. As a result, the study recommends that bank management create or build a sound lending framework, appropriate credit administration procedures, and an effective and efficient machinery to monitor lending function compliance with defined norms.

Oyewo (2014), empirically analysed risk asset management and banks' performance: an empirical examination using evidence of Nigeria banking industry. Correlation and heteroskedasticity correlation regression model were used to analyse the data which cover a period of 5 years. The author concluded that there is a significant relationship between risk asset management and firm performance using measures like liquidity, profitability and going concern. In conclusion, the researcher recommended the development of customized performance indicators that signal loans with potential delinquency.

Soyemi, et al. (2014) used secondary data collected from text analysis of selected banks' annual reports and accounts was used to study risk management approaches and financial performance in Nigerian deposit money institutions. This research evaluated the risk management techniques employed by Nigerian deposit money institutions in order to correlate these practices with their financial performance in the fiscal year 2012. The cross-sectional data is then analyzed using descriptive statistics to depict patterns and robust standard errors in OLS regression to see if there is a significant relationship between banks' risk management practices (credit, liquidity, operating, and capital risk practices) and financial performance. The findings were broadly consistent with earlier research, with estimated independent factors accounting for significant variability in financial performance [ROA-92% (71.78); ROE-84%] in both models.

Nwude and Okeke (2018), the five largest Nigerian deposit money banks by asset base were used to evaluate the impact of credit risk management on their performance. The dataset for the period 2000-2014 was developed using an ex-post facto research design using the annual reports and financial statements of the selected deposit money institutions. The ordinary square regression model was used to test three hypotheses. According to statistics, credit risk management has a favorable and significant impact on depositing money banks' total loans and advances, return on asset, and return on equity.

Oduro et al. (2019) used two Stage Least Square models on Ghanaian bank data and found that an increase in bank credit risk had a negative impact on company financial performance. The significant credit risk and market risk exposure of banks has resulted in a number of bank failures, with some being merged or facing extinction (Olusanmi, Uwuigbe, & Uwuigbe, 2015; Okere, Muideen, & Ogunlowore 2018; Oduro, Asiedu, & Gadzo 2019). Banks are vulnerable to market risk due to their balance sheet and trading activity involving interest rates or currency rates (Paulinus & Jones, 2017). According to Bikker and Vervliet (2017), these risks may pose a significant danger to banks' market existence, hence effective risk management is essential for all banks. The industry is highly regulated due to its volatile operations.

According to Ozili (2017), loan default is a disaster that has harmed bank profitability to the point of depleting shareholder dividends while also affecting capital mobilization and discouraging investors from investing in banks with large non-performing loan portfolios. At the same time, market risks have a negative impact on the price of an investment (investment portfolio or trading portfolio) due to a decline in market risk variables. Stock prices, interest rates, foreign exchange rates, and commodity values are examples of basic risk market factors (Tassew & Hailu, 2019). The study, however, used two variables to assess the impact of market risks: interest rate risk and foreign exchange risk.

Adeusi et al. (2014) observed that risk management challenges in the banking sector have a greater effect not just on bank performance but also on national economic growth and overall company development. The dangers that can lead to underperformance are the drive for risk management at the bank. The objective of this research work is to investigate the association between risk management strategies and bank financial performance in Nigeria. A 4-year progressive annual report and financial statements from ten banks, as well as a panel data estimation technique, were used to collect secondary data. The findings indicated an inverse relationship between bank financial performance and dubious loans, and the capital asset ratio was found to be both positive and significant. According to research, the higher the proportion of bank-managed funds, the better the performance. The study shows that there is a significant relationship between bank performance and risk management.

Idowu and Awoyemi (2014) Examine the impact of credit risk management on the performance of Nigerian commercial banks. Credit risk management in banks has risen in importance not only as a result of the current financial crisis, but also as a crucial concept that defines the existence, growth, and profitability of banks. The goal of this research was to examine the effect of credit risk management on the performance of Nigerian commercial banks. Financial records from seven commercial banking institutions were examined over a seven-year period (2005-2011). The model was estimated using the panel regression methodology. The model used Return on Equity (ROE) and Return on Asset (ROA) as performance indicators, while Non-Performing Loans (NPL) and Capital Adequacy Ratio (CAR) as risk indicators.

Iwedi and Onuegbu (2014) An empirical review conducted over a 15-year period (1997-2011) into the effect of credit risk and bank performance in Nigeria concluded that an increase in loan and advances increases bank performance through interest income generated from loan and advances for five financial institutions selected from the twenty existing deposit money banks in Nigeria using judgmental sampling techniques. The sample banks' yearly financial reports were used to collect data. The data set is made up of time series and cross-sectional data that were combined into a panel data set and analyzed using panel data regression techniques. The findings indicate a relationship between the non-performing loan to loan and advance ratio (LogNPL) and bank performance (LogROA). The banks in the study had a relatively low level of non-performing loans in their loan portfolio, which did not meet our pre-determined expectations. The loan and advances to total deposit ratio (LogLA) and bank performance (LogROA) have a significant positive association. Increased loan and advance volume improve bank performance by increasing loan and advance interest revenue.

Junaidu and Sanusi (2014) investigate the impact of credit risk management (CRM) on Nigerian bank profitability to ascertain the extent to which default rate (DR), cost per loan asset (CLA), and capital adequacy ratio (CAR) influence return on asset (ROA) as a measure of bank profitability. Data was acquired from secondary sources between 2002 and 2011, primarily annual reports and accounts of publicly traded banks. As analysis techniques in the study, descriptive statistics, correlation, and random effect generalized least square (GLS) regression approaches were used. CRM has a significant positive effect on Nigerian bank profitability, as measured by the coefficient of determinations "R2 value," which indicates within and between values of 40.89% and 58.35% (both stunning), while the overall R2 is 43.91%, indicating that the variables considered in the model account for approximately 44% of the change in the dependent variable, that is, profitability. To reduce the high frequency of non-performing loans and their negative impact on profitability, bank management should be more scientific (apply risk evaluation methodology) in their credit risk assessment and loan portfolio management, according to the research.

Tamiru (2013) evaluate the impact of ALM on bank's profitability in the Ethiopian financial market. The SCA model was used to estimate the profitability which is measured by ROA as a function of balance sheet and macroeconomic explanatory variables. For this purpose, eight banks over the time period from 2005 to 2010 were selected. According to the model, the rate of return on earning assets is positive and varies across assets, whereas the rate of cost on liabilities is negative and varies between liabilities. The results of the pooled OLS regression analysis revealed that all assets, except fixed assets, primarily loans and advances, have a positive effect on profitability, whereas all liabilities, primarily savings and fixed deposits, as well as other liabilities and credit balances, have a significant and negative effect on commercial bank profitability. In terms of macroeconomic variables, the real GDP growth rate has a negative impact on commercial bank profitability. As a result, the study recommended that commercial banks should focus on increasing public awareness to mobilize more saving and fixed deposits and this will enhance their performance in provision of loans and advance to customers.

Agu and Basil (2013) in their research of credit management and bad debts in Nigerian commercial banks-Implications for Development investigates the causes of problematic and questionable debts in Nigerian commercial banks. To establish the reasons for bad loans, both employed for primary and secondary data collection tools. The data from 1993 to 2011 were validated using analysis of variance (ANOVA) and the Auto-regression Model. It was discovered that the constant rise in interest rates is a significant and statistically significant factor of bad debts in Nigeria.

Epure and Lafuente (2012) investigated bank performance in the presence of risk in the Costa Rican banking industry between 1998 and 2007. The paper used DEA-based frontier approaches based on economic production theory. The research

demonstrated that regulatory improvements boost performance, and that risk causes bank performance disparities. Non-performing loans have a negative impact on efficiency and return on assets, whereas capital adequacy has a positive impact on net interest margin.

Kolapo et al. (2012) conducted an empirical assessment of the quantitative influence of credit risk on commercial bank performance in Nigeria over an 11-year period (2000-2010) in their work *Credit risk and commercial bank performance in Nigeria: A Panel Model Approach*. Five commercial banking organizations were chosen at random over an eleven-year period. The credit risk indicators non-performing loan to loan and advances (NPL/LA), total loan and advances to total deposit (LA/TD), and loan loss provision to classified loans (LLP/CL) were used to calculate profit. The determinants of the profit function were estimated using panel model analysis.

Muhammad (2012) investigated the impact of credit risk on the profitability of Nigerian banks. Financial ratios are used to evaluate the performance of banks and credit risk. Secondary sources were used to acquire the data, which included the financial statement and accounts of the tested institutions from 2004 to 2008. The descriptive, correlation, and regression approaches were used in the analysis. Credit risk management, according to the data, has a significant impact on the financial performance of Nigerian banks.

Kargi (2011) examined the influence of credit risk on Nigerian bank profitability was examined. From 2004 to 2008, financial ratios were collected and evaluated as indicators of bank performance and credit risk from annual reports and accounts of sample banks using descriptive, correlation, and regression methodologies. According to the data, credit risk management has a significant impact on the profitability of Nigerian banks. It concluded that loan and advance amounts, non-performing loans, and deposits all exhibited a negative association with bank profitability, exposing institutions to significant risk of illiquidity and distress.

Samuel (2015) investigates the impact of credit risk on commercial bank performance. The study is important because it analyzes how credit risk impacts bank profitability and is driven by the negative impact of categorized assets on bank capitalization. Secondary data sources were used to back up the claims. Annual reports and relevant literature are examples of secondary data sources. The findings indicate that the loan and advances ratio to total deposit has a negative association with profitability, while this link is not significant at the 5% level of significance, and that the non-performing loan ratio has a negative relationship with profitability at the 5% level of significance. This study discovered a strong association between bank performance (in terms of profitability) and credit risk management.

Risk exposure in the banking business is increasing on a daily basis as a result of the increasingly unpredictable economic situation. Despite banks' rising significance in the country's growth, the institutions' governing authorities confront several risks.

Risk management is widely regarded as the key to a financial institution's success or failure. The study investigates the impact of financial risk on the performance of Bahrain's quoted banks, as well as the comparative status of the most common categories of risk. From 2014 to 2018, the study looked at 11 of Bahrain's 18 banks. Data was taken from the Bahrain Stock Exchange Database based on its availability. Alternatively, the most commonly used statistic, ROA, was employed to assess bank performance and risk. Capital risk, exchange rate risk, liquidity risk, and operating risk are the four types of financial risk that have been used. Regression research demonstrates that the association between bank performance, exchange rate risk, liquidity risk, and operating risk is insignificant. The results also revealed a significant positive link between bank performance and capital risk. Furthermore, the findings show that capital risk is the most significant type of risk. The study recommends that attention be given to operational risk, which is primarily related to uncertainty about a financial company's revenues due to computer system breakdowns, errors, employee abuse, or risk of loss due to unplanned operating expenses.

The summary of previous studies is shown in Table 1.

Table 1: Summary of Empirical Review

S/N	Author/Date	Period	Methodology	Findings
1	Blessing & Ebere, (2023).	2010-2019	Two panel least squares models	The study's findings indicate that corporate (board) heterogeneity has an essential role in influencing the association between banks' credit risk management actions and their financial performance.
2	Maccarthy & Jibrin (2023)	2018	Linear regression using SPSS ver. 22	The results reveal that there is a positive and significant association between cash equivalents and deposit money bank return on investment. It also suggested that deposit money bank cash equivalents and return on equity are positive and large, and that such financial assets have a significant association with deposit money bank performance in Nigeria.

3	Shittu & Abdulkadir (2023)	2018	Generalised Least Square (GLS) regression models	The findings revealed that the non-performing loan ratio (NPLR) and capital adequacy ratio (CAR) had a significant positive moderating relationship, but the loan loss provision ratio (LLPR) and asset quality ratio (AQR) had a negative but statistically significant relationship. Furthermore, the cost per loan asset ratio was found to have an inverse moderating influence on the relationship between the loan and advance ratio (LADR) and the bank's probability, although being statistically insignificant.
4	Olufemi & Sunmisola (2022)	2010-2019	Panel data Regression Analysis.	Financial risk, according to the study's findings, has a negative effect on the financial performance of Nigerian deposit money institutions.
5	Ademola (2022)	2011-2020	Descriptive statistics and inferential statistics	The findings showed that the non-performing loan ratio (NPLR) and loan loss provision ratio (LLPR) have a negative and significant effect on deposit money bank performance, meaning that increasing the NPLR and LLPR will have a negative impact on bank performance. In contrast, the capital adequacy ratio (CAR) has a favorable and significant impact on bank performance. This suggests that higher CAR increases bank performance.
6	Odigbo et al. (2022)	2015-2020	Multiple regressions	According to the findings, there is a favorable and significant

				association between enterprise risk management and the long-term financial success of Nigeria's listed deposit money institutions.
7	Adamu (2022)	2011-2020	Panel regression technique	The study discovered that credit risk management has a major impact on the profitability of Nigerian deposit money institutions.
8	Gana & Abubakar (2022)	2011-2020	Multiple Regression Analysis.	The results revealed LLP and CAR as having a direct and significant relationship with ROE, while NPLR and LATD have an insignificant effect on ROE.
9	Jackson & Tamuke, (2022)	2008Q1-2018Q4	Panel data estimation.	The study reveals sign from (unbalanced) panel data estimate inside the fixed effects model that high NPLs contribute to the banking system's instability. It also shows that a low productive base in the domestic sector affects the situation of high NPLs in the banking system.
10	Abdullahi & Tela, (2022)	2009-2020	Ordinary least square random effect regression model.	The findings show that credit and interest rate risk management have a significant inverse effect on the profitability of Nigeria's listed deposit money banks, implying that increasing risk management variables will result in a decrease in the financial performance of Nigeria's listed deposit money banks.
11	Balogun (2022).	2011-2020	Descriptive, correlation and regression analysis.	According to the findings, credit risk management has a considerable effect on commercial banks' financial

				performance.
12	Okeke et al. (2022).	2012-2021	Descriptive statistics, Pearson's correlation matrix and panel data regression analysis.	Findings indicate that the effects of security/legal expenses and insurance premium on earnings per share are positive, but statistically non-significant while the effects of audit fee and directors' remunerations are negative and also statistically non-significant.
13	Mohammed et al. (2022)	2009-2020	Multiple Regression Technique.	The result reveals that the risk management committee significantly moderate the association between credit risks, liquidity risk and performance while other hypothesis variables indicated insignificant effect of the moderator.
14	Balogun (2022).	2011-2021	Multiple regression Analysis.	According to the report, credit risk management has an impact on the financial stability of Nigeria's listed deposit money banks.
15	Gwamna & Abdullahi (2022).	2011-2020	Multiple regression model	The study discovered that risk has a significant impact on the financial performance of Nigerian DMBs.
16	Hambolu et al. (2022).	2008-2018	Panel data analysis	The findings demonstrated a positive and significant relationship between the loan loss provision to total assets ratio and the profitability of Nigerian commercial banks. In Nigeria, commercial bank profitability is also negatively and insignificantly related to the ratio of loans and advances to total deposits, as well as negatively and insignificantly

				related to the capital adequacy ratio. Again, the study showed a negative and substantial relationship between the ratio of non-performing loans to total assets and commercial bank profitability in Nigeria. Finally, the relationship between bank size and profitability of Nigerian commercial banks was discovered to be positive but insignificant.
17	Tomi, et al. (2022).	2013-2018	Descriptive and inferential statistical methods, with the aid of Statistical Packaged for Social Sciences (SPSS) version 26 software	The result of regression coefficients indicates that the coefficient of Average Collection Period (NPL) is negative with (-.000) and has significant impact on ROTA ($p > .05$) of the sampled banks for the period of study. The result of regression also revealed a negative relationship between NPL and ROTA which is significant ($p < .05$) for the sampled banks during the period of study
18	Olasunkanmi (2022).	2014-2019	Multiple regression technique.	The data show that the non-performing loan to return on asset ratio, liquidity rate, currency rate, and interest rate all have a substantial beneficial impact on the return on asset (financial performance) of Nigeria's listed deposit money banks, among other things.
19	Fatogun & Akintoye (2022).	2006-2020	Ordinary Least Square regression (OLS).	It was discovered that liquidity ratio and capital adequacy ratio have positively affected performance of the selected deposit money banks in a

				significant way. On the contrary, debt to equity ratio is negatively insignificant on bank's performance.
20	Ibrahim et al. (2020).	2009-2018	Regression Analysis method.	According to the study, credit risk management has a favorable and significant impact on the financial performance of Nigerian deposit money institutions.
21	Ekinici & Poyraz, (2019).	2005-2017	Panel Data Estimation Techniques.	The estimation results revealed that there is a negative association between credit risk and both ROA and ROE. This finding reveals that there is a link between credit risk management and Turkish deposit bank profitability from 2005 to 2017.
22	Tan (2016).	2003-2011	A one-step Generalized Method of Moments (GMM) system estimator	The results do not show any robust finding with regards to the impacts of competition and risk on bank profitability, while it is found that Chinese bank profitability is affected by taxation, overhead cost, labour productivity and inflation.
23	Saleh & Abu (2020).	2010-2018	standard estimation techniques for panel data in the analysis, using fixed effect and random effect regression models.	Credit risk, liquidity risk, and bank capital variables all have a direct effect on bank profitability, according to the research.
24	Umar et. al. (2021).	2011-2020	Panel Data Estimation Techniques.	The findings show that the exposure to carbon-neutral lending is negatively related to the default risk. The results remain consistent for the various sizes of the sorts, depicting that

				regardless of the bank size, the impact of green financing on the credit risk is the same. They attributed the credit risk reduction to the lower volatility of the borrowers' earnings and cash flows emanating from their sustainable business model
25	Shahzad (2019)		Primary and secondary data were analysed using Panel Data Estimation Techniques.	Findings present a novel comparative analysis of the differences between UK commercial banks and Emirati financial institutions and two key differences were identified. First, the results showed that Emiratis banks prioritized financial statement analysis and credit score analysis in their credit risk management, while UK banks prioritized credit portfolio models and exposure limits. Second, in respect to organisational profitability, the Emirati banks implementing creditworthiness analysis and internal ratings to measure their potential credit risks achieve higher returns on equity, compared to those in the UK who use stress testing and exposure limits
26	Ghenimi et al. (2017).	2006-2013	Panel vector autoregressive (PVAR) models.	According to the study's conclusions, there is no economically significant reciprocal contemporaneous or time-lag relationship between credit risk and liquidity risk.. However, these risks have an impact on bank stability on their own, and their interplay

				contributes to bank instability.
27	Farooq et al. (2019)	2009 - 2015	Generalized Method of Moments (GMM) regression.	Findings show that the model generated from the bad management hypothesis, non-performing loans are a serious issue requiring due attention, and bank profitability measured by Return on Average Assets has significant and negative effect on Non-Performing Loans.
28	Naji & Shabib (2023).	2012-2021	Penal Var Approach	LTDR and ROE have a mutual association ship. In variance decomposition analysis, all variables are mostly influenced by themselves or by shocks and shocks of other variables. Finally, VECM has discovered or identified a short-term association.
29	Chaudhary & Kumar (2023)	2010-2019	Panel data Technique	The results from the study showed a negative and significant effect of Non-performing Assets (NNPA) on the bank performance measures
30	Ghosh & Mondal (2022)	2013-2019	Panel data regression analysis	The study results revealed mixed and varied indication about credit risk management and its influence on the financial performance of commercial banks. The study results indicate that profitability of the banks is falling due to increasing non-performing loans. However, the capital adequacy ratio enhances the profitability of public sector banks more than the private sector commercial banks.
31	Devi (2022)	2011-	Panel data regression	The researcher discovered that

		2019	analysis.	earnings are a highly significant factor influencing bank performance in India, with a percentage change in earnings resulting in a 61.9% increase in bank performance as evaluated by the ROE. Capital adequacy, asset quality, and liquidity were discovered to have a substantial effect on Indian bank performance. Management efficiency and sensitivity, on the other hand, have a negligible effect on the performance of Indian banks.
32	Bahari (2022)	2016-2020	Descriptive statistics and ordinary least squares regression.	The result reveals that bad loans have a positive and significant effect on ROA and ROE.
33	Kamal & Golder (2022).	2011-2018	Generalised method of moments (GMM) model.	This study finds mixed results, i.e., none of the credit risk variables used in this study, with the exception of interest coverage ratio (ICR), affect the sampled banks' performance equally from each of the three perspectives. Particularly, the results show that ICR has a significant positive impact on all measures of banks' financial performance, whereas provision for credit losses to total credit (PCLTC) has no impact on any measure of financial performance. The equity multiplier ratio (EMR) has a significant positive impact on return on equity (ROE) but does not affect Tobin's Q (TQ) and economic value added (EVA-ln).

				Capital adequacy (CAR) has been shown to improve return on equity (ROE) and TQ while having an insignificant effect on EVA-ln. The non-performing loan(NPL) ratio has a negative effect on ROE but does not affect TQ and EVA-ln.
34	Yeasin (2022)	2010-2019	Panel regression analysis model	The outcome showed that credit risk is negatively affecting the financial performance of commercial banks
35	Roselyne et al. (2022)	2022	Panel Data analysis technique	These results indicate that credit risk had a substantial influence on financial performance.
36	Mahmood & Ahmed, (2022)	2022	Panel data approach	These findings suggest that building a comprehensive risk management system is not only a good practice for meeting regulatory requirements, but also a good way to improve the performance of Iraqi banks in general, and private banks in particular.
37	Aldahdooh (2022).	2016-2020	Panel data regression model	Financial and statistical analyses indicated that there is a significant positive impact of credit risk management on the financial performance within the commercial banking sector in Palestine.
38	Annah (2022).	2011-2020	Panel data regression model using STATA v16.0 software.	According to the study's findings, credit risk and liquidity risk may have a detrimental impact on commercial banks' financial performance.
39	Maryanti et al. (2022).	2020	Partial Least Square (PLS) approach.	According to the research, risk management has a substantial association with return on assets (ROA). This finding suggests that

				management has a major impact on bank performance (ROA). Furthermore, the studies revealed that risk management had no meaningful relationship with return on equity (ROE).
40	Tirwa, et al. (2022).	2010-2019	Panel data regression models use SPSS software for analysis.	The study's findings revealed that the independent variables (liquidity risk and credit risk) had a significant impact on BOB's financial performance, as measured by the proxy variables ROE and ROA. The study also revealed that, in contrast to credit risk, liquidity risk has a significant impact on ROA.
41	Huy, et al. (2021).	2015-2020	OLS Regression Model	Findings reveal that increase in inflation, together with decrease in risk free rate (Rf) and lending rate will increase market risk.
42	Singh, et al. (2021).	2015-2019	Multiple regression analysis.	Findings show that GDP growth has a positive and significant effect on the NPL of commercial banks.
43	Rehman et al. (2019).	2019	Multiple regression analysis.	The findings indicate that credit risk management practices have a considerable impact on the credit risk faced by Balochistan's commercial banks.
44	Ali, & Oudat (2020).	2014-2018	Regression Analysis	Regression research demonstrates that the association between bank performance, exchange rate risk, liquidity risk, and operating risk is insignificant. The results also show a significant positive link between bank performance and capital risk. Furthermore, the findings

				show that capital risk is the most significant type of risk.
45	Taiwo & Abayomi (2015)	2006-2012	Panel Least Square (PLS).	The result from PLS estimate discovered that credit risk management has a significant effect on profitability of Nigeria Banks.
46	Domman et al. (2017)	2000-2013	Autoregressive distributed lags (ARDL) and Vector-Auto-regression (VAR).	The outcome revealed that all the variables show long term and short significant association with ROA and not with PAT. The relationship between PAT and NPLs with other variables was analysed since co-integration could not be established. The VAR result indicates that PAT as a measure of bank performance is more responsive to changes in NPL more than other variables including the NPL. It is concluded that ROA appears to be a better measure of bank performance when studying effects of NPL as it shows that it has significant negative impact on ROA but the PAT does not show any significant response to NPL
47	Alshatti (2015)	2005-2013	Panel Least Square and E-Views.	According to the outcome of the research work, credit risk management has an impact on the financial performance of Jordanian DMBs as evaluated by return on asset and return on equity.
48	Eze & Ogbulu (2016)	1990-2013	ECM and Co-Integrated Technique.	The researcher affirmed that the selected measures of asset quality have significant impact on the three indicators of bank performance namely- return on

				equity, return on asset and return on shareholder funds respectively.
49	Adesugba & Bambale (2016)	2010-2015	Panel Linear Regression Analysis.	The outcome of the study shows a significant relationship between credit risk management and performance using ROA and ROE.
50	Kayode et al., (2015)	2000-2013	Random Effect Framework.	Credit risk is found to be negatively and significantly connected to bank performance as assessed by return on assets (ROA).
51	Onipe et al.,(2015)	2010-2014	Ordinary Least Square (OLS) Model.	The result of their study suggested a positive association between cash and bank balances, financial services held for trading, loans and advances and returns on assets.
52	Soyemi et al, (2014)	2012	OLS Regression Model.	The findings proved to be mostly consistent with earlier studies, as the estimated explanatory variables strongly accounted for changes in financial performance [ROA-92% (71.78); ROE-84% (46.55)] in both cases.
53	Idowu & Awoyemi (2014)	2005-2012	Panel Regression Model.	According to the findings, credit risk management has a major impact on the profitability of Nigerian commercial banks.
54	Uwuigbe et al.,(2015)	2007-2011	Descriptive statistics and econometric analysis using the Panel Linear Regression Methodology.	According to the study's findings, while the ratio of non-performing loans and bad debt has a substantial negative influence on bank performance in Nigeria, the association between secured and unsecured loan ratio and bank performance is not significant.

55	Oyewo (2014)	5 Years	Correlation and Heteroskedasticity Correlation Regression Model.	According to the researcher, there is a substantial correlation between risk asset management and business success as measured by liquidity, profitability, and going concern.
56	Adeusi et al, (2014)	4 Years	Panel Data Estimation Techniques.	According to the study, there is a considerable association between bank performance and risk management.
57	Iwedi & Onuegbu (2014)	1997-2011	Panel Data Regression Techniques.	The results reveal that the ratio of non-performing loans to loans and advances (LogNPL) and bank performance (LogROA) have a positive association.
58	Tamiru (2013)	2005-2010	OLS regression analysis.	The findings revealed that all assets, except fixed assets, primarily loans and advances, have a positive impact on profitability, but all liabilities, primarily savings and fixed deposits, as well as other liabilities and credit balances, have a significant and negative impact on commercial bank profitability. In terms of macroeconomic variables, the real GDP growth rate has a negative impact on commercial bank profitability.
59	Kaaya & Pastory (2013)	2000-2010	Panel Data Regression Technique.	The result affirmed that the credit risk signals have produced negative correlation which indicates the higher the credit risk the lower the bank performance.
60	Agu & Basil (2013)	1993-2011	Analysis of Variance (ANOVA).	It was observed that persistent increase in interest rate is a major and statistical important factor which causes bad debts in

				Nigeria. Commercial banks.
61	Kolapo et al. (2012)	2000-2010	Panel Model Analysis.	The data demonstrated that credit risk had no cross-sectional affect on bank performance as measured by Return on Assets.
62	Kargi (2011)	2004-2008	Descriptive, Correlation and Regression Technique.	According to the data, credit risk management has a considerable impact on Nigerian banks' profitability. It concluded that loan and advance amounts, non-performing loans, and deposits had an inverse connection with bank profitability, exposing institutions to a significant risk of illiquidity and hardship.
63	Junaidu & Sanusi (2014)	2002-2011	Descriptive statistics, correlation, as well as random effect generalized least square (GLS) regression techniques.	CRM has a significant positive effect on Nigerian bank profitability as measured by three independent variables, as evidenced by the coefficient of determinations "R2 value," which shows within and between values of 40.89% and 58.35% (which are impressive), while the overall R2 is 43.91%, indicating that the variables considered in the model account for approximately 44% change in the dependent variable, that is, profitability.
64	Muhammad et al, (2012)	2004-2008	Correlation and Regression Technique.	According to the data, credit management has a substantial impact on the profitability of Nigerian banks.

65	Epure & Lafuente (2012)	1998-2007	DEA-based frontier methods grounded in economic production theory.	The research demonstrated that regulatory improvements boost performance, and that risk causes bank performance disparities. Non-performing loans have a negative impact on efficiency and return on assets, whereas capital adequacy has a positive impact on net interest margin.
66	Abbas et al. (2014)	2006-2011	Panel Model Analysis	Credit risk was found to have a negative influence on the performance variables of ROA and ROE, as measured by the ratio of nonperforming loans to total loans and loan loss provision to nonperforming loans.

Source: Researcher (2023)

Majority of the researchers used secondary data that ranges from a period of 4 years to a maximum of 15 years based on random and judgmental sampling technique. The researchers used an average of two independent and dependent variables. They also made use of different types of descriptive and inferential statistics techniques like regression model, ordinary least square regression (OLS) and econometric analysis to draw their conclusion that there exists a relationship between credit risk and financial performance of deposit money bank in Nigeria.

Critique of Empirical Studies

This paragraph highlights the concerns for additional research and analysis based on the numerous studies evaluated on credit risk exposure and financial performance of Nigerian deposit money institutions. A critical examination of existing empirical studies in terms of objectives, variables, methodology, findings, and research gaps identified a slew of methodology flaws that necessitate further investigation.

Ekinci and Poyraz, (2019) focuses on the effect of credit risk on bank performance in Turkey. In order to analyze banks based on their ownership structure, three panels' data are considered: state-owned banks, privately-owned banks, and international banks. Because Nigeria and Turkey have different socioeconomic, political, and financial systems, the findings of this study cannot be applicable to Nigeria.

Similarly, Tan, (2016) examine the impacts of risk and competition on bank profitability in China, again in this study the researcher classified deposit money bank into state-owned, joint-stock and city commercial banks, such structures are not applicable in Nigeria banking setting as such the result of this research cannot be applied to Nigeria environment.

Bahari and Sarita (2022). In their work on the effect of credit risk management on the financial performance of foreign exchange banks in Indonesia, did not demonstrate the theories on which the hypotheses tested were based as well as its shortness of time horizon applied in the study which could impede its logical relevance. Blessing and Ebere, (2023) examines the role of corporate heterogeneity in the relationship between credit risk management and bank performance. Although appropriate methodology and sample size were applied in the study, the researchers failed to align their findings with any of the theories explained in the study.

Similarly, Shittu and Abdulkadir, (2023), on the other hand, failed to offer any theoretical foundation on which to base its submissions, notwithstanding the study's development of specification effects. The study looked at the role of the cost per loan asset ratio in moderating the relationship between credit risk and financial performance in Nigerian listed deposit money banks. Furthermore, no theory was provided to support the variables in the study.

Ademola et al. (2022) reviewed credit risk management: Implication for deposit money banks' performance in Nigeria but the random sample of five banks was applied in this study out of twenty-four (24) banks existing in 2020. This represents about 21% of the entire population. These sample applied is considered inadequate for a study as this. Also, multiple regression analysis could have been applied for a more robust result rather than the application of descriptive statistics as well as inferential statics which was used in the study.

Odigbo et al. (2022) focus on the effect of enterprise risk management on financial performance of deposit money banks. The specific objective of the research is to determine the effect of ERM on earnings per share (EPS) and to ascertain the effect of ERM on the market value (using Tobin Q) of five (5) selected banks for the period of 2015 to 2020. Although multiple regression model was adopted in the study, however, the sample size of five banks for six years is considered inadequate for a robust study as this, hence the need for more enhanced study with larger population and an extended number of years of study. Also, researchers failed to align their findings with any of the theories explained in the study.

Shahzad (2019) conduct a comparative study on the influence of credit risk management adoption and strategy was carried out between United Arab Emirate and United Kingdom in relation to the respective commercial bank's performance. Although the researcher adopted a mixed methods of research design i.e both quantitative and qualitative design, however most of the parameters adopted in the

study relates to United Arab Emirate and United Kingdom economic, financial and political environment which is quite different from what is obtainable in Nigeria setting. As there is possibility of having a different result if such study is conducted applying Nigeria economic, financial and political setting. The summary of critique is presented in Table 2.

Table 2: Summary of Critique of empirical Studies

S/N	Author/Date	Study Title	Period	Methodology	Findings	Critiques
1	Ekinci, & Poyraz, (2019), Turkey.	The impact of credit risk on banks performance in Turkey.	2005-2017	Panel Data Estimation Techniques.	The estimation results demonstrated a negative relationship between credit risk and both ROA and ROE. From 2005 to 2017, there was a correlation between credit risk management and Turkish deposit bank profitability, according to this report.	The finding of this study could not be applied to Nigeria since Nigeria and Turkey have different socio-economic, political and financial institutions settings
2	Tan, (2016), China.	The impacts of risk and competition on bank profitability in China	2003-2011	A one-step Generalized Method of Moments (GMM) system estimator	The results do not show any robust finding with regards to the impacts of competition and risk on bank profitability, while it is found that Chinese bank profitability is affected by	The researcher classified deposit money bank into state-owned, joint-stock and city commercial banks, such structures are not applicable in Nigeria banking setting as such the result of this research can not be applied to Nigeria

					taxation, overhead cost, labour productivity and inflation.	environment.
3	Bahari, (2022). Indonesia	The effect of credit risk management on the financial performance of foreign exchange banks in Indonesia	2016-2020	Descriptive statistics and ordinary least squares regression.	The result reveals that non-performing loans have a positive and significant effect on ROA and ROE.	The researcher was unable to demonstrate the ideas upon which the hypotheses were tested as well as its shortness of time horizon applied in the study which could impede its logical relevance
4	Blessing, & Ebere, (2023). Nigeria.	The role of corporate heterogeneity in the relationship between credit risk management and bank performance	2010-2019	Two panel least squares models	The outcome of the study shows that corporate (board) heterogeneity plays a crucial role in moderating the association between credit risk management activities of banks and their financial performance.	Although appropriate methodology and sample size was applied in the study, the researchers failed to align their findings with any of the theories explained in the study.
5	Shittu,& Abdulkadir, (2023), Nigeria.	The moderating effect of cost per loan asset ratio on the relationship between credit risk	2018	Generalised Least Square (GLS) regression models	The results showed that the non-performing loan ratio (NPLR) and capital adequacy ratio (CAR) had a	Despite the study's development of specification effects, the researcher failed to offer any theoretical foundation on which to root their

		and financial performance of listed deposit money banks in Nigeria			substantial positive moderating association, but the loan loss provision ratio (LLPR) and asset quality ratio (AQR) had a negative but statistically significant link. Furthermore, even though it was not statistically significant, the cost per loan asset ratio was found to have an inverse moderating influence on the relationship between the loan and advance ratio (LADR) and the bank's probability.	contributions. Moreover, the researcher did not provide a theory to underpin the variables in the study.
6	Ademola et al., (2022), Nigeria.	Credit risk management: Implication for deposit money banks' performance in Nigeria	2011-2020	Descriptive statistics and inferential statistics	Findings revealed that non-performing loan ratio (NPLR) and loan loss provision ratio (LLPR) have negative and statistically significant effect	These sample of 21% of the entire population of 24 banks applied is considered inadequate for a study as this. Also, multiple regression analysis could have been applied for a

					<p>on deposit money banks performance indicating that an increase in NPLR and LLPR will affect the performance of banks adversely. However, capital adequacy ratio (CAR) has a positive and significant effect on banks' performance. This implies that higher CAR enhances the performance of banks</p>	<p>more robust result rather the application of descriptive statistics as well as inferential statics which was used in the study.</p>
7	Odigbo, et al., (2022)	Effect of enterprise risk management on financial performance of deposit money banks.	2015-2020	Multiple regressions	<p>The study revealed that there is a positive and significant correlation between enterprise risk management and sustainable financial performance of listedbanks in Nigeria</p>	<p>Although multiple regression model was adopted in the study however, the sample size of five banks for six years is considered inadequate for a robust study as this, hence the need a more enhanced study with larger population and an extended numbers of years of study. Also, researcher failed to align their</p>

						findings with any of the theories explained in the study.
8	Shahzad, (2019), United Arab Emirates (UAE) and the United Kingdom (UK)	The influence of credit risk management strategies on the performance of commercial banks	2019	Primary and secondary data were analysed using Panel Data Estimation Techniques.	Findings present a novel comparative analysis of the differences between UK commercial banks and Emirati financial institutions and two key differences were identified. First, the results showed that Emiratis banks prioritised financial statement analysis and credit score analysis in their credit risk management, while UK banks prioritised credit portfolio models and exposure limits. Second, in respect to organisational profitability, the Emirati banks implementing creditworthiness	Although the researcher adopted a mixed methods of research design i.e both quantitative and qualitative design, however most of the parameters adopted in the study relates to United Arab Emirate and United Kingdom economic, financial and political environment which is quite different from what is obtainable in Nigeria setting. As such there is possibility of having a different result if such study is conducted applying Nigeria economic, financial and political setting.

					analysis and internal ratings to measure their potential credit risks achieve higher returns on equity, compared to those in the UK who use stress testing and exposure limits	
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Summary and Gaps

The researcher observed from empirical reviews of literature that the findings from the subject matter still remain inconclusive. There were conflicting findings in the various studies carried out by different researchers. For instance, Kayode et al. (2015) indicated a negative and significant relationship between credit risk and bank performance as assessed by return on assets (ROA), Uwuigbe et al. (2015) found that the ratio of non-performing loans to loan and advances (LogNPL) has a significant negative effect on bank performance in Nigeria, whereas Donmma et al. (2017) found that NPLs have a significant negative impact on ROA. However, Iwedi and Onuegbu (2014) discovered a positive relationship between the ratio of non-performing loans to loan and advances (LogNPL) and bank performance (LogROA). The lack of unanimity among scholars plainly shows that more research is required. The summary of gaps that emanated from literature is presented in Table 3.

Table 3: Summary of Gaps in Literature Review

S/N	Gaps	Scholars/Researcher
1	Conceptual Gap	Ekinci and Poyraz (2019), Donmma et al. (2017) and Uwuigbe, et al. (2015), and Abbas et al. (2014), all agreed that credit risk is negatively and significantly affect the bank’s performance measured by return on assets (ROA), but Abubakar et al. (2019), Kayode et al. (2015), Iwedi and Onuegbu (2014), all revealed that there is a positive relationship between credit risk and performance of deposit money banks.

2	Methodological Gap	Methodological gaps exist in various studies which includes, Ademola et al. (2022), Nigeria; Odigbo, et al. (2022). Blessing & Ebere (2023). Maccarthy & Jibrin (2023). Etc.
3	Geographical Gap	Ekinci and Poyraz, (2019), Turkey; Tan, (2016), China; Shahzad, (2019), United Arab Emirates (UAE) and the United Kingdom (UK). The finding of these studies could not be applied to Nigeria system since Nigeria have different socio-economic, political and financial institutions settings.
4	Theoretical Gap	Lack of theoretical base existed in some studies on the subject matter (Bahari, 2022). Indonesia; Blessing & Ebere (2023). Nigeria; Shittu, & Abdulkadir (2023), Nigeria; Odigbo et al. (2022). The studies failed to demonstrate the theories on which the hypotheses tested were based.

Conclusion

This study concludes that there is need to departs from current literature that evaluated the causality between credit risk and profitability by using common financial performance metrics such as ROE, ROE, NIM etc as dependent variables and Total loan to total deposit, non-performing loans to total loan, loss written of ratio etc as independent variables. The introduction of bank lending rate as a control variable is a departure from the norms of the earlier extant studies on credit risk and financial performance of deposit money bank.

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