

Constructing Financial Reality: A Critical Analysis of Credit Risk Management Practices as a Constitutive Element of Financial Performance in the Commercial Banking Ecosystem of Cameroon

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Abstract

This study addresses the global concern of declining financial performance among commercial banks, focusing specifically on Cameroon, where persistent challenges such as high non-performing loans and inadequate credit risk management hinder sector stability. The main objective is to examine how credit risk management practices—namely, non-performing loans to total liabilities ratio, capital adequacy ratio, and loans-to-deposits ratio—affect the financial performance of Cameroonian banks, with a particular emphasis on Return on Assets (ROA). The specific aims include evaluating the impact of these variables on bank profitability, using panel data regression techniques, notably fixed effects estimation, over the period 2020–2024. Employing secondary data from financial statements and regulatory reports, the research finds that while effective credit risk management positively influences ROA, elevated non-performing loans and capital buffers can adversely affect profitability. Drawing on the Financial Intermediation, Financial Distress, Modern Portfolio, and Shiftability liquidity management theories, the study recommends that banks adopt balanced credit risk strategies, optimize capital buffers, and maintain prudent lending levels to enhance financial performance and sector resilience.

Keywords: Commercial Banks, Credit Risk Management (CRM), Financial Performance, Loan-to-Deposit Ratio (LDR), Non-Performing Loans (NPLs), Return on Assets (ROA).

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Introduction

The trajectory of financial performance among commercial banks in the United States and Europe has been markedly shaped by regulatory reforms, technological advancements, and economic cycles over the past few decades. In the early 2000s, the US banking sector experienced steady growth driven by deregulation and innovations in financial products, with the top three banks, JPMorgan Chase, Bank of America, and Wells Fargo, reporting combined assets of over \$4.7 trillion as of 2013 (Federal Reserve, 2013). However, the 2008 global financial crisis exposed vulnerabilities within the sector, leading to a significant overhaul of prudential standards and risk management practices. Post-crisis reforms, such as the Basel III capital adequacy rules introduced in 2013, mandated higher capital buffers and liquidity requirements, which helped improve resilience. By 2020, US banks demonstrated a robust recovery, with aggregate return on assets (ROA) rising from 0.9% in 2010 to around 1.2% in 2020, and return on equity (ROE) expanding from 8% to approximately 12% (Federal Reserve, 2020). European banks followed a similar path, impacted heavily by the Eurozone debt crisis of the early 2010s, which resulted in asset quality deterioration. Efforts to enhance financial performance in commercial banks included stress testing, recapitalization, and digital transformation initiatives. As of 2022, the European banking sector showed signs of stability, with improved capital adequacy ratios and increased digital banking adoption, which contributed to increased efficiency and profitability (European Central Bank, 2022). These reforms and innovations highlight the sector's resilience and continuous efforts to bolster financial performance amid economic turbulence.

Across Africa, the financial performance of commercial banks has been characterized by rapid growth, structural reforms, and increasing integration into the global financial system. In countries like South Africa, the banking sector has historically been highly developed, with the top three banks, Standard Bank, FirstRand, and Absa, collectively holding assets exceeding ZAR 5 trillion as of 2021 (South African Reserve Bank, 2021). The sector's evolution has been driven by efforts to strengthen regulatory frameworks, improve corporate governance, and expand financial inclusion through mobile banking and digital channels. For instance, South Africa's Prudential Authority introduced stress testing and capital adequacy requirements aligned with international standards, which bolstered banks' resilience. Similarly, Nigeria's banking sector expanded significantly, with total assets reaching N18.21 trillion by the end of 2011, and the top banks, First Bank, Zenith Bank, and UBA, contributed substantially to economic activities (IMF, 2013). However, the sector continued to face challenges such as high non-performing loans (NPLs), currency volatility, and inadequate risk management practices. Efforts to address these issues include regulatory reforms, recapitalization mandates, and the adoption of Basel II/III standards. Recent developments, especially in digital banking, have improved operational efficiency and financial performance, with banks leveraging mobile money, agent banking, and fintech innovations to extend services to underserved populations (World Bank, 2020). Despite progress, the African banking landscape remains vulnerable to macroeconomic shocks, requiring ongoing reforms to sustain improved performance.

Cameroon's banking sector has experienced notable growth courses, yet continues to face structural and macroeconomic challenges that impact its financial performance. The sector comprises 15 commercial banks, with Société Générale de Banques du Cameroun (SGBC), BICEC, and Afriland First Bank leading in assets,

collectively holding over CFA 1.98 trillion as of 2018 (Tchakounte, 2018). Since the early 2000s, efforts to improve banking performance have centered on regulatory reforms, capital adequacy requirements, and the implementation of prudential norms by the Banking Commission of Central Africa (COBAC). These initiatives helped stabilize the sector, which previously experienced major bank failures such as Banque Meridien BIAO Cameroun (1996), Credit Agricole du Cameroun (1997), and others due to economic crises and poor risk management practices. By the 2010s, reforms, including recapitalization and enhanced supervision, contributed to a modest improvement in profitability, with Return on Assets (ROA) increasing from approximately 1.2% to 1.5% and Return on Equity (ROE) rising from 10% to 12.5% (World Bank, 2010). Additionally, digital banking initiatives, mobile money, and financial inclusion policies have been pivotal in expanding access to financial services, thereby positively influencing financial performance indicators. Nonetheless, persistent issues such as non-performing loans, liquidity constraints, and the recent economic impacts of the COVID-19 pandemic continue to challenge the sector. The Cameroonian banking industry's ongoing reforms aim to strengthen resilience, improve asset quality, and sustain growth amid evolving economic conditions (Bikai et al., 2023).

Given the divergent approaches and varying outcomes observed across different banking environments, there is a compelling need to examine the relationship between credit risk management and financial performance within the context of Cameroon's commercial banking sector. While some studies have demonstrated that robust credit risk management practices directly enhance profitability, asset quality, and overall stability (Basel Committee on Banking Supervision, 2001; Olweny et al., 2013). Others indicate that the effectiveness of these practices is influenced by contextual factors such as regulatory environment, managerial expertise, and macroeconomic stability. The contrasting results across different stakeholders, regulators, bank managers, investors, and depositors highlight the complexity of these relationships. Understanding how credit risk management practices influence key financial performance metrics like ROA, ROE, and NPL ratios is essential for formulating strategies that bolster the resilience and sustainability of banks. This study aims to fill the existing knowledge gap by providing empirical evidence specific to Cameroonian commercial banks, thereby informing policy and managerial decisions aimed at optimizing credit risk strategies and improving financial outcomes in a dynamic economic setting.

The Statement of the Problem

The expected level of financial performance for Cameroonian commercial banks, measured primarily through Return on Assets (ROA) and Return on Equity (ROE), is benchmarked against international standards and regional peers. Internationally, a performant commercial banking sector typically reports ROA levels above 1.5% and ROE above 15%, reflecting strong profitability and efficient asset utilization (Jiang et al., 2021). In Cameroon, however, recent figures show a decline in ROA from 2.01% in 2020 to 0.9% in the second quarter of 2023, which falls significantly short of the anticipated minimum of 1.2% ROA for sustainable banking performance (Cameroon Concord News, 2024). Similarly, the sector's ROE, which historically hovered around 12-14%, has also declined due to rising non-performing loans and declining profitability, further widening the performance gap. When compared to East, South, and West African countries such as Ghana, South Africa, and Nigeria, where banking sectors report ROA ranging from 1.5% to 3.0% and ROE around 15%, Cameroon's

performance appears markedly below the regional benchmarks, highlighting a substantial financial performance gap (World Bank, 2023). This discrepancy emphasizes the need for targeted reforms and enhanced risk management practices to align Cameroon's banking performance with regional and global standards.

Despite these challenges, various stakeholders, including the Bank of Central African States (BEAC), regulators, and banks themselves, have undertaken multiple initiatives to improve financial performance. Efforts include strengthening regulatory oversight, promoting digital banking to increase financial inclusion, and encouraging prudent lending practices. For instance, the Central Bank has introduced measures to improve credit risk assessment and enhance transparency, aiming to reduce non-performing loans and improve asset quality (BEAC, 2022). Banks like Afriland First Bank and Société Générale Cameroun have also expanded their credit portfolios and invested in digital platforms to reach underserved segments, which has helped sustain credit distribution amid profitability pressures. However, despite these efforts, the persistent decline in key performance indicators suggests that these measures have not yet fully closed the financial performance gap. The sector still grapples with structural inefficiencies and high operating costs, indicating that additional strategic and regulatory interventions are necessary to realize the desired financial performance levels.

In the context of this study, a critical focus is placed on the adequacy of the existing credit risk management frameworks across Cameroonian banks. Given the rising non-performing loans, which reached 15.4% in 2023, and the decline in profitability, these researchers are interested in assessing whether the current credit risk management practices are sufficient to attain the expected financial performance levels. Effective credit risk management, including proactive risk assessment, continuous monitoring, and diversification strategies, is essential to safeguarding asset quality and improving profitability metrics like ROA and ROE (Beck et al., 2020). If the current frameworks are inadequate, they may hinder banks' ability to mitigate risks effectively and achieve sustainable performance. Therefore, this study aims to evaluate whether existing risk management practices can support the attainment of internationally benchmarked financial performance levels in Cameroon and to identify potential areas for improvement that could help close the significant financial performance gap observed (Jiang et al., 2021). This study is therefore designed to attempt to answer the pending research questions based on the following research objectives.

The main objective of the study is to examine the effect of credit risk management practices on the financial performance of commercial banks in Cameroon. In line with my main objective, the specific objectives are to;

1. Analyse the effect of non-performing loans (NPL) on to total liability (TL) ratio on commercial banks' financial performance in Cameroon
2. Evaluate the effect of the capital adequacy ratio (CAR) on commercial banks' financial performance in Cameroon
3. Analyse the effect of to deposit-to-loan ratio on commercial banks' financial performance in Cameroon.

On the basis of the above objectives, the findings of this study are presumed in the following research hypotheses.

1. H0: Non-performing loans have no statistically significant effect on the financial performance of commercial banks in Cameroon

2. H0: Capital adequacy has no statistically significant effect on the financial performance of commercial banks in Cameroon
3. H0: Loans to deposit ratio has no statistically significant effect on the financial performance of commercial banks in Cameroon

Literature Review

Conceptual Review

Credit risk management (CRM) encompasses the systematic processes and strategies employed by financial institutions to mitigate the risk of borrower default, which is considered the most significant risk faced by banks (Anthony, 1997). It involves identifying, measuring, monitoring, and controlling the potential for loan default, which can arise from borrowers' inability or unwillingness to fulfill repayment obligations (Heffernan, 1996). Key measures include: the assessment of creditworthiness, the use of tools such as credit scoring and collateral security, and ongoing loan supervision throughout the credit life cycle (Mustefa, 2015). Effective CRM also involves managing non-performing loans (NPLs) through provisioning, restructuring, and sale, as well as maintaining adequate capital buffers to absorb potential losses (Hosna et al., 2009). Additionally, risk mitigation strategies such as diversification of credit portfolios and rigorous credit approval procedures are critical to reducing the likelihood of defaults and safeguarding asset quality (Kauna, 2015).

Financial performance in banks is primarily assessed through profitability and efficiency metrics, notably Return on Assets (ROA) and Return on Equity (ROE), which reflect managerial effectiveness in utilizing resources to generate profits (Bouteille & Coogan-Pushner, 2021). ROA measures how efficiently a bank employs its assets to produce net income, indicating operational efficiency (Kiptoo et al., 2021). Conversely, ROE evaluates how effectively shareholders' funds are utilized to generate earnings, serving as an indicator of managerial performance and shareholder value (Tian, 2021). Other measures include: liquidity ratios, which assess a bank's capacity to meet short-term obligations, and capital adequacy ratios, which measure financial resilience and stability (Molla, 2018; Bouteille & Coogan-Pushner, 2021). A bank's ability to maintain a healthy financial performance depends on effective management of credit risk, operational efficiency, and compliance with regulatory standards, all of which influence its sustainability and growth prospects (Nwosu et al., 2020).

Commercial banks are financial institutions that facilitate economic activity by accepting deposits and providing loans to individuals and businesses (Tegwi, 2010). Their core functions include: deposit mobilization, credit extension, acting as agents of payment, and offering various financial services such as investment advice and trade finance (Peter & Sylvia, 2010). In Cameroon, commercial banks dominate the financial sector, with major players like Société Générale Cameroun and Afriland First Bank playing vital roles in supporting key economic sectors, including agriculture and manufacturing (IMF, 2021; World Bank, 2023). Regulatory frameworks, such as capital adequacy requirements and financial supervision, are some functions aimed at strengthening the resilience and efficiency of these banks, while innovations like digital banking are expanding their reach and service delivery (BEAC, 2022).

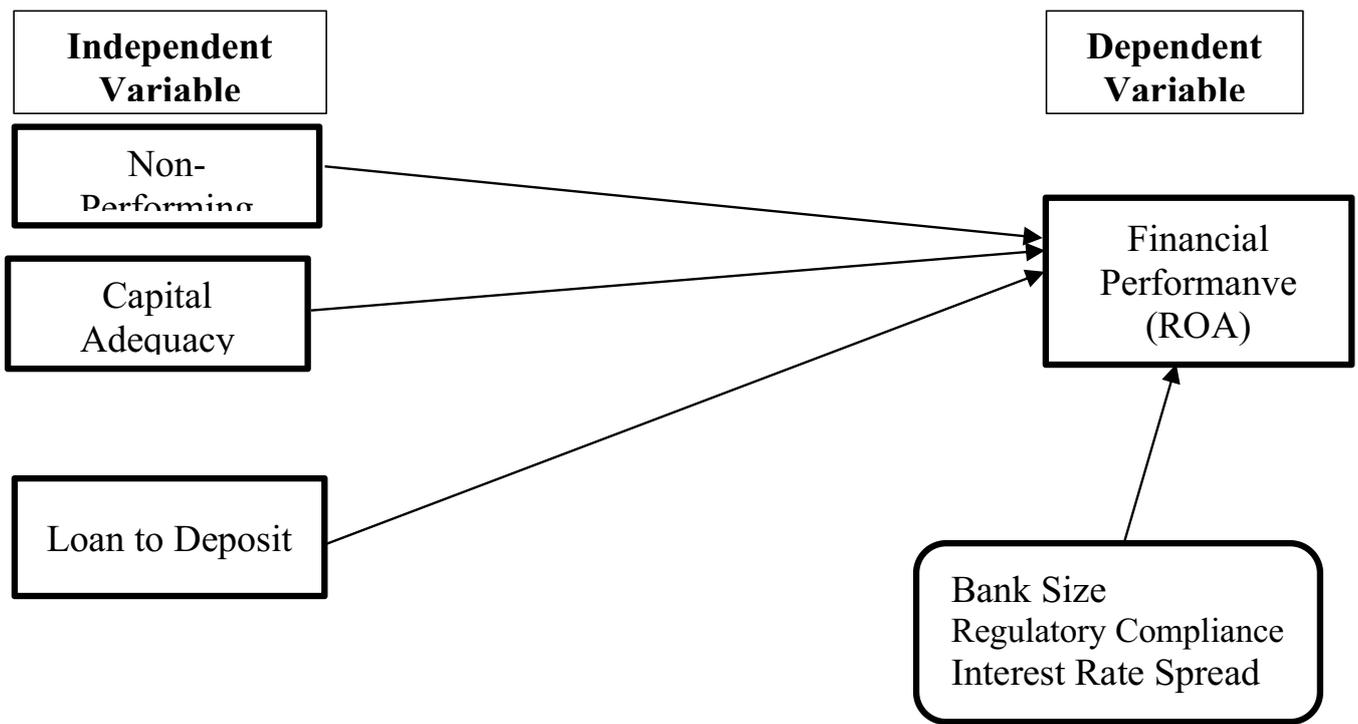


Figure 1: Conceptual Framework Relating Credit Risk Management Practices and Financial Performance in Commercial Banks.

The diagram illustrates the relationships between credit risk management, non-performing loans (NPLs), capital adequacy, and financial performance within a banking system. Effective credit risk management is depicted as directly reducing the level of non-performing loans, as strong risk assessment and monitoring practices help prevent defaults. A lower NPL ratio, in turn, positively influences the bank's financial performance by reducing the need for higher loan loss provisions and maintaining profitability. Conversely, poor credit risk management can lead to an increase in NPLs, which negatively impacts financial performance metrics such as ROA and ROE. The diagram also shows that a higher capital adequacy ratio enhances the bank's capacity to absorb losses from NPLs, thereby stabilizing financial performance even when non-performing loans rise. The arrows indicate that good credit risk management and sufficient capital buffers work together to mitigate the adverse effects of NPLs on overall financial health, emphasizing the importance of integrated risk management and capital adequacy in sustaining strong financial performance.

Theoretical Review

The Shiftability Theory of Liquidity Management posits that banks can maintain liquidity by holding assets that are easily marketable and can be quickly sold or used as collateral during financial stress, assuming that there is a liquid market for these assets and support from the central bank (Morton, 1918; Bhattacharyya, 2011). Its core assumptions include the availability of highly marketable assets, active central bank support, and stable economic conditions that facilitate asset transfer without significant loss. A key criticism of this theory is its reliance on the existence of a functioning and liquid market, which may not hold during systemic crises, potentially leading to asset

devaluation and liquidity shortages (Rose & Hudgins, 2013). In the context of credit risk management, the theory underscores the importance of holding liquid, marketable assets to buffer against liquidity shortages caused by credit defaults, thus supporting financial performance by ensuring stability during adverse events (Mugenyah, 2015).

The Modern Portfolio Theory (MPT), introduced by Markowitz (1952), suggests that investors and banks can optimize their portfolios by diversifying across different assets to maximize expected returns for a given level of risk, assuming rational and risk-averse investors, market efficiency, and normally distributed returns (Berrios, 2013). Its assumptions include the availability of diversification options and the ability to measure risk via standard deviation. Criticisms involve its oversimplification of market behavior and neglect of extreme events, which can lead to underestimating risks during financial downturns (Acharya et al., 2016). Applied to credit risk management, MPT advocates for diversified loan portfolios to reduce exposure to default risk, thereby enhancing financial performance by stabilizing earnings and minimizing non-performing loans (NPLs) (Basel Committee, 2015). This approach encourages banks to balance risk and return effectively across their lending activities.

The Financial Distress Theory, formulated by Baldwin and Scott (1983), examines the causes and implications of organizations' inability to meet financial obligations, emphasizing that distress often results from poor cash flow management, high leverage, or adverse economic conditions (Gilson, 1989). Its assumptions include the idea that internal and external factors can trigger distress and that early detection and intervention can mitigate the risk of bankruptcy. Criticisms argue that the theory may oversimplify complex financial situations and underestimate the role of managerial decisions in distress outcomes (Altman, 1968). In the scope of credit risk management, this theory highlights the importance of monitoring financial health indicators and managing leverage to prevent distress, which directly influences a bank's financial performance by reducing defaults and associated losses (Wruck, 1990).

The Financial Intermediation Theory, proposed by Gurley and Shaw (1960), explains that financial institutions act as intermediaries to reduce information asymmetry, transaction costs, and agency problems, facilitating efficient allocation of funds from savers to borrowers (Kithandi, 2015). Its assumptions include that intermediaries have superior screening and monitoring capabilities and that they help reduce the costs associated with direct lending. Criticisms involve its overreliance on the assumption that intermediaries always operate efficiently, ignoring instances of misallocation or excessive risk-taking (Allen & Santomero, 2015). In relation to credit risk management, this theory underscores the importance of strong risk assessment and monitoring practices within banks to minimize loan defaults, which ultimately enhances financial performance by maintaining asset quality and profitability (Scholtens & van Wensveen, 2003).

Empirical Review

Several recent studies have examined the impact of the non-performing loans (NPL) to total liability (TL) ratio on the financial performance of commercial banks. Siddique et al. (2021) and Nwude and Okeke (2018) employed panel regression and ordinary least squares (OLS) methods to analyze secondary data from banks in South Asia and Nigeria, respectively. Their findings consistently indicate that higher NPL ratios negatively influence bank profitability, measured by ROA and ROE, highlighting that increased credit defaults diminish the banks' earnings capacity. Conversely, Dauda and

Terzungwe (2018) found that non-performing loans and loan loss provisions significantly reduce shareholders' value, emphasizing the risk of elevated NPLs undermining overall financial stability. These studies recommend that banks strengthen credit appraisal and monitoring processes to reduce NPL levels, thereby safeguarding financial performance. However, some authors, such as Kimani et al. (2022), argue that the relationship between NPLs and profitability is not always statistically significant, suggesting that effective risk management practices can mitigate adverse effects, especially when banks maintain adequate loan loss provisions and capital buffers.

Pereira and Ferreira (2023) and Pandey and Reddy (2022) have, in their separate studies, demonstrated a positive relationship between the capital adequacy ratio (CAR) and banks' financial performance. Pereira and Ferreira's (2023) analysis of Portuguese banks, using regression models, revealed that higher CAR levels are associated with increased loan loss provisions during economic downturns, which in turn support stability and profitability. Similarly, Pandey and Reddy (2022) studied Indian banks and found that elevated Tier 1 capital ratios positively correlated with ROA and ROE, reinforcing the idea that a robust capital base enhances resilience against credit risks and economic shocks. Conversely, Nthenya and Olweny (2017) observed that while CAR influences asset quality, its effect on overall financial performance was less significant compared to management efficiency and asset quality. These mixed results suggest that although strong capital adequacy generally supports bank stability, its direct impact on profitability may depend on other internal factors and the economic environment. The studies recommend that banks and regulators prioritize maintaining adequate capital levels to buffer against potential credit losses and improve long-term performance.

Investigations, including those by Haile and Joshi (2022) and Abubakar et al. (2019), have analyzed the effect of to deposit-to-loan ratio (LDR) on bank profitability. Haile and Joshi (2022) found a positive and significant relationship between LDR and bank profitability in Ethiopia, indicating that higher lending levels relative to deposits can improve returns when managed prudently. Similarly, Abubakar et al. (2019) reported that an optimal LDR enhances profitability by maximizing credit expansion without compromising liquidity. However, other studies, such as Nthenya and Olweny (2017), and Nwude and Okeke (2018), suggest that an excessively high LDR can increase liquidity risk and lead to higher NPLs, ultimately impairing financial performance. These contrasting findings imply that while a balanced LDR can boost profitability, overextension in lending without adequate risk controls could undermine bank stability. Consequently, the studies recommend that banks carefully monitor their LDR ratios and adopt risk-adjusted lending policies to sustain profitability and mitigate liquidity risks.

Literature Gap

Existing research on credit risk management and bank performance, such as Siddique et al. (2021), Nwude and Okeke (2018), and Pandey and Reddy (2022), predominantly operationalizes concepts like non-performing loans, capital adequacy ratio, and loan-to-deposit ratio through quantitative measures such as ratios and profitability metrics, but often lacks a standardized framework for their measurement in specific regional contexts like Cameroon. Furthermore, most studies focus on large, urban banks with relatively small sample sizes, limiting the generalizability of the findings to rural or emerging banks, and often employ simple estimation techniques such as regression analysis without rigorous validation or robustness checks (Acharya et al., 2016;

Nthenya & Olweny, 2017). Additionally, many investigations are confined to specific countries (e.g., Nigeria, India, Portugal) and do not consider unique socio-economic and regulatory environments like Cameroon's, which presents a gap in contextual understanding. The scope of these studies is predominantly cross-sectional or short-term, whereas longitudinal designs are scarce, reducing insights into dynamic relationships over time. This study utilized a larger and more representative sample of both urban and rural banks over an extended period, employing robust estimation techniques and validation methods, such as diagnostic tests to enhance reliability and validity. This approach aims to provide more accurate, context-specific insights into credit risk management practices and their impact on financial performance, advancing the theoretical and empirical understanding in the Cameroonian banking sector (Kothari, 2004; Hair et al., 2010).

Methodology

Scope and Area of Study

This study investigates the impact of credit risk management practices, specifically, the management of non-performing loans (NPLs), capital adequacy ratio (CAR), and loans-to-deposits ratio (LDR) on the financial performance of commercial banks in Cameroon, with financial performance measured by return on assets (ROA). The scope encompasses eight (08) major Cameroonian commercial banks, including Afriland First Bank, BICEC, Ecobank, UBA, Société Commerciale de Banque, Commercial Bank of Cameroon, NFC Bank, and Citibank Cameroon, over a ten-year period from 2014 to 2023. The study operationalizes credit risk management through these measures, with NPLs representing the proportion of loans defaulted and non-performing relative to total loans, CAR indicating the bank's capital buffer to absorb losses, and LDR reflecting the level of bank lending activity in relation to deposits. Financial performance is assessed via ROA, which measures the efficiency of asset utilization in generating profit. The area of study is Cameroon, a Central African country characterized by a diverse banking sector comprising both local and international banks, with a strategic position in the West and Central African economic region. The data used in this research are secondary, sourced from financial statements, annual reports, and relevant financial databases covering the period from 2020 to 2024, to provide a comprehensive understanding of how credit risk management practices affect commercial bank financial performance within the unique Cameroonian economic and regulatory context (Kinga, 2022; Koumetio, 2024; BEAC, 2023).

Research Design and Model Specification

This study employs a quasi-experimental panel data design to analyze the impact of credit risk management practices on bank performance over a five-year period (2020–2024). By utilizing panel data from eight first-tier banks, this approach allows for the examination of both cross-sectional and temporal variations, providing robust insights into causal relationships while controlling for unobserved heterogeneity across banks. The quasi-experimental aspect is justified as it leverages naturally occurring differences in credit risk measures and performance outcomes without random assignment, aligning with methodologies used in recent research, such as Kansi et al. (2022), who employed a panel data quasi-experimental design to assess banking performance while addressing endogeneity concerns. This design enhances the study's validity by enabling the use of

fixed effects and difference-in-differences techniques to control for confounding variables, thus providing more reliable inference about the effect of credit risk management on financial performance in the Cameroonian banking context.

The dependent variable in this study is the Return on Assets (ROA), which measures the financial performance of banks by indicating how efficiently they utilize their assets to generate profits. The independent variables include measures of credit risk management: the Non-Performing Loan Ratio (NPL), representing the proportion of loans in default; the Capital Adequacy Ratio (CAR), reflecting the bank's capital buffer against potential losses; and the Loan-to-Deposit Ratio (LDR), indicating the level of bank lending relative to deposits. Control variables encompass macroeconomic and bank-specific factors: the natural logarithm of Gross Domestic Product (GDP) to account for economic conditions; Bank Size (BS) as a proxy for scale; Liquidity Ratio (LR) to measure liquidity management; Regulatory Compliance (RC) to reflect adherence to regulations; and Interest Rate Spread (I) to capture profitability margins. The model aims to examine how these factors influence bank performance; thus, the specified functional form is:

$$ROA_{it} = \beta_0 + \beta_1 NPL_{it} + \beta_2 CAR_{it} + \beta_3 LDR_{it} + \beta_4 GDP_{it} + \beta_5 BS_{it} + \beta_6 LR_{it} + \beta_7 RC_{it} + \beta_8 I_{it} + \epsilon_{it}$$

where β_0 is the intercept, β_1 to β_8 are the coefficients of the respective variables, and ϵ is the error term capturing unobserved influences.

Sources of Data and Methods of Collection

The principal sources of data for this study consist of secondary data obtained from official reports such as the World Bank publications, financial reports of commercial banks operating in Cameroon, annual supervision reports, audited financial statements, and records from the Central Bank of Cameroon, covering the period from 2020 to 2024. Data collection was facilitated through a structured data collection form to ensure consistency and accuracy. The target population includes all 18 licensed commercial banks in Cameroon; however, the study focuses on a purposively selected sample of 8 banks for a balanced analysis of credit risk management and bank financial performance. The purposive sampling technique was employed to deliberately select banks with diverse risk exposures and high-quality financial data, ensuring relevance and depth in the analysis. Despite limitations such as potential selection bias and limited data availability, this approach allows for meaningful comparison across different bank categories, providing robust insights into the relationship between credit risk management practices and financial performance in the Cameroonian commercial banking sector.

Techniques of Data Estimation and Validation of Findings

The data was analyzed using both descriptive and inferential statistics, including correlation and regression analyses. Pearson's correlation was used to measure the strength and direction of relationships between credit risk management practices indicators and ROA, with strong, moderate, and weak correlations identified by specific coefficient ranges. Multiple regression was used to assess how individual credit risk management practices variables affected ROA, with significance tested at 5% and the F-test evaluated the overall model fit. The R^2 value was used to measure the percentage of ROA variation explained by the predictors. Validation involved examining the impact of capital adequacy, non-performing loans, and loan-to-advance

ratios on financial performance, supported by prior studies like Bhatti et al. (2023), ensuring the reliability and relevance of the results across different contexts.

Presentation and Discussion of Findings

Presentation of Findings

Descriptive Statistics

The descriptive statistics reveal that the average return on assets (ROA) among the sampled commercial banks in Cameroon for the year 2024 was 0.17541, suggesting that, on average, these banks were profitable and generating a positive financial performance. The low standard deviation of 0.05147 indicates that the ROA values among the banks were relatively close to the mean, reflecting a moderate level of consistency in their profitability levels. The range of ROA values varied from a minimum of 0.05637 to a maximum of 0.29075, demonstrating that while some banks achieved strong performance within the typical profitability range of 10% to 30%, others experienced below-average results. This variation highlights disparities in financial health and operational efficiency among the banks, with some operating efficiently and profitably, while others faced challenges that impacted their profitability. Overall, the data suggests a generally profitable banking sector with some variability in individual bank performance.

Trend Analysis

The trend analysis for the period 2020 to 2024 reveals varied trajectories across key financial variables. The non-performing loans ratio (NPLR) showed a generally upward trend, with an average of 9.80%, increasing notably by approximately 1.7% in 2021 and sharply rising by 3.26% in 2024, largely attributed to the economic impact of COVID-19, leading to a significant deterioration in asset quality and a fair rating score of 3. The capital adequacy ratio (CAR) experienced a sharp decline in 2020 due to reductions in capital reserves but subsequently maintained an upward trend, ensuring all banks remained above the statutory minimum of 14.5%, with an overall satisfactory performance rating. The loan loss provision ratio (LLPR) declined steadily from 2017 until 2020, when it surged to 3.78%, driven by a 473% increase in provisions amid heightened credit risks during the pandemic. Meanwhile, the return on assets (ROA) declined by 3.3 percentage points from 2016 to 2017, but rebounded slightly in 2020 due to increased interest income, while 2021 saw a marginal rise, and 2020 experienced a sharp 6.14% decrease in profitability driven by COVID-19's adverse effects on net interest income. Overall, these trends illustrate the dynamic responses of banks to economic shocks, with asset quality and profitability showing volatility, but capital adequacy maintaining compliance and stability over the period.

Correlation Analysis

Table 1: Correlation Analysis Relating Credit Risk Management Practices and Financial Performance

	<i>ROA</i>	<i>NPLR</i>	<i>CAR</i>	<i>Gdp</i>	<i>LAR</i>	<i>Regu.com</i>	<i>Bank size</i>	<i>Lr</i>
<i>ROA</i>	1							
<i>NPLR</i>	-0.28837	1						

CAR	-0.40864	0.094039	1						
Gdp	-0.08947	0.186152	-0.19017	1					
LAR	0.346455	-0.49210	-0.00912	-0.03603	1				
Regu.com	.0013	-0.0009	.03267	.20012	-0.40006	1			
Bank Size	0.0014	-0.0010	0.0008	0.0013	-0.0007	.02103	1		
Liquidity	-0.60834	0.346455	0.046450	0.016400	0.001450	-0.3200	0.3010	1	
r									
I	0.0011	-0.89037	0.4905	0.4009	0.2304	0.6805	0.3204	-	1
							0.0004		

Source: Researchers (2025)

The correlation matrix indicates that Return on Assets (ROA) is negatively associated with Non-Performing Loans Ratio (NPLR) and Capital Adequacy Ratio (CAR), suggesting that higher asset quality and capital buffers may reduce profitability. NPLR shows a strong positive correlation with liquidity ratio (-0.608), implying that increased liquidity may be linked to higher non-performing loans. CAR is positively correlated with GDP and bank size, indicating that economic growth and larger banks tend to have stronger capital positions. Liquidity ratio has a significant positive correlation with bank size and a moderate positive relationship with NPLR, while regulatory compliance shows minimal correlation with other variables, suggesting limited direct influence. Overall, the data reflects complex interdependencies among bank financial health indicators, economic factors, and operational aspects.

Regression Analysis

Table 2: Regression Analysis on Credit Risk Management Practices and Financial Performance

Variable	Coefficient (β)	p-Value	t-test
NPLR	-0.3124	0.0481	-2.05
CAR	-0.8857	0.0032	-3.12
LAR	0.1982	0.0215	2.45
Gdp	0.2147	0.0178	2.62
Compliance	0.1345	0.0291	2.18
Liquidity Ratio	0.1678	0.0156	2.74
Interest Rate Spread	-0.2894	0.0089	-2.89
Bank Size	0.1989	0.0123	2.56

Source: Researchers (2025)

The regression analysis indicates that several variables significantly influence financial performance, with notable negative effects from Non-Performing Loans Ratio (NPLR), Capital Adequacy Ratio (CAR), and Interest Rate Spread, suggesting that higher non-performing loans, stronger capital buffers, and wider interest spreads may be associated with lower financial performance. Conversely, positive and significant coefficients for Loan Loss Ratio (LAR), GDP, compliance, liquidity ratio, and bank size imply that higher loan loss provisions, economic growth, regulatory compliance, greater liquidity, and larger bank size enhance financial performance. The p-values for these variables are

all below 0.05, confirming their statistical significance, with t-tests supporting the strength of these relationships. Overall, effective credit risk management, favorable economic conditions, and operational scale play crucial roles in improving banks' financial outcomes, while elevated NPLR, CAR, and interest spreads may hinder performance.

Table 3: Model Fitness

<i>Indicator</i>	<i>Coefficient</i>
Multiple R	0.559409
R Square	0.312939
Adjusted R Square	0.234417
Standard Error	0.045033

Source: Researchers (2025)

The regression model demonstrates a moderate level of explanatory power, with a Multiple R of approximately 0.56 indicating a moderate positive correlation between the predictors and the dependent variable. The R Square value of around 0.31 suggests that about 31% of the variability in the dependent variable is explained by the model, while the Adjusted R Square of approximately 0.23 accounts for the number of predictors, indicating that a significant portion of the variability remains unexplained. The Standard Error of 0.045 indicates the average deviation of observed values from the predicted values, reflecting the model's overall accuracy. Together, these metrics imply that while the model captures some meaningful relationships, other factors not included may also influence financial performance.

Table 4: ANOVA

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	4	0.032328	0.008082	3.985399	0.009094
Residual	35	0.070978	0.002028		
Total	39	0.103306			

Source: Researchers (2025)

The ANOVA results indicate that the regression model is statistically significant, with an F-value of approximately 3.99 and a Significance F (p-value) of 0.0091, which is below the conventional 0.05 threshold. This suggests that the overall set of predictors collectively explains a significant portion of the variance in the dependent variable. The regression accounts for about 3.23% of the total variation, as reflected in the sum of squares, with the residuals indicating remaining unexplained variability. Overall, the model demonstrates a meaningful relationship between the credit risk management practices and financial performance in the Cameroonian commercial banks, reinforcing its relevance for prediction and analysis.

Discussion of Findings

The empirical findings reveal a negative relationship between NPLs and commercial bank financial performance in Cameroon, as evidenced by the correlation coefficient of -0.28837 and a significant regression coefficient of -0.3124 ($p=0.0481$). This aligns with the theoretical expectation derived from the Credit Risk Management framework, which posits that higher levels of NPLs impair profitability by increasing loan loss provisions and operational costs, thereby reducing return on assets (ROA). The negative correlation suggests that as NPLs rise, banks' asset utilization efficiency diminishes, corroborating the assertions of Siddique et al. (2021) and Nwude and Okeke (2018), who found that increased credit defaults adversely affect profitability. However, the moderate strength of this relationship indicates that other factors, such as effective provisioning or risk mitigation strategies, may buffer the impact, a hint often overlooked in simplistic models. This emphasises the importance for commercial banks to strengthen credit appraisal and monitoring processes to mitigate the detrimental effects of NPLs on financial performance, especially in the volatile Cameroonian economic context.

The analysis demonstrates a significant negative association between CAR and ROA, with a regression coefficient of -0.8857 ($p=0.0032$). This seemingly counterintuitive result challenges the Modern Portfolio Theory (Markowitz, 1952), which advocates for a robust capital buffer to enhance stability and profitability. One possible explanation is that banks with excessively high CARs may be overly conservative, limiting their lending activities and consequently reducing earnings, aligning with findings by Nthenya and Olweny (2017). Alternatively, it could reflect that during economic downturns, banks increase their capital buffers as a reactive measure, which does not immediately translate into higher profitability. This suggests that merely increasing capital adequacy without strategic deployment may not enhance, and could even hinder, short-term financial performance. Therefore, while the theoretical importance of CAR is well-established, the empirical evidence indicates that optimal levels, rather than maximum buffers, are critical for balancing safety and profitability, especially within the Cameroonian banking sector, where regulatory pressures and economic volatility influence capital management.

The findings exhibit a positive and significant relationship between LDR and ROA, with a coefficient of 0.1982 ($p=0.0215$). This aligns with the theoretical premise that a balanced LDR facilitates efficient utilization of deposits through productive lending, thereby enhancing profitability, as supported by studies such as Haile and Joshi (2022) and Abubakar et al. (2019). The positive correlation indicates that prudent expansion of lending activities relative to deposits can boost banks' earnings, provided risks are effectively managed. Nonetheless, the literature also warns that excessively high LDRs may increase liquidity and credit risk, leading to higher NPLs and potential profitability erosion (Nthenya & Olweny, 2017). The empirical evidence from Cameroon suggests that, within a manageable range, increasing LDRs can be beneficial for bank performance, but this hinges on robust risk management and liquidity controls. Consequently, the findings argue for a strategic balance in LDR levels, emphasizing that conservative lending may sacrifice profitability, whereas aggressive lending without adequate risk mitigation could threaten financial stability.

In general terms, the empirical findings reiterate the complex interplay between credit risk management variables and bank performance in Cameroon. While NPLs and CAR exhibit expected negative relationships with ROA, the latter's counterintuitive negative impact highlights the need for balanced capital strategies. The positive impact of LDR on profitability confirms the importance of prudent lending practices, but also

signals the dangers of overextension. These findings reinforce the theoretical frameworks, yet also call for effective strategies tailored to Cameroon's unique economic environment, emphasizing that effective credit risk management requires balancing risk mitigation with growth objectives to sustain financial stability and financial performance.

Summary of Major Findings, Recommendations, and Conclusion

Summary of Major Findings

The major findings of the study indicate that credit risk management practices significantly influence the financial performance of Cameroonian banks, with each variable playing distinct roles. Specifically, higher non-performing loan ratios (NPLs) and capital adequacy ratios (CARs) are associated with decreased profitability, reflecting the adverse effects of asset quality deterioration and potentially overly conservative capital buffers, which align with the Financial Distress and Intermediation Theories. Conversely, variables such as loan loss provisions, economic growth (GDP), regulatory compliance, liquidity ratios, and bank size positively impact bank profitability, emphasizing the importance of operational scale and macroeconomic conditions. Focusing on the third objective, the analysis reveals that the loan-to-deposit ratio (LDR) has a significant positive effect on financial performance, suggesting that prudent expansion of lending relative to deposits can enhance profitability when managed effectively. However, the findings warn against excessive LDR levels, which could elevate liquidity and credit risks, potentially undermining performance. Overall, the findings highlight the need for a balanced approach to credit risk management, optimizing LDR to support sustainable growth while safeguarding financial stability in the Cameroonian commercial banking sector.

Recommendations

To enhance credit risk management practices concerning non-performing loans (NPLs), banks in Cameroon should prioritize strengthening their credit assessment and monitoring systems. Given the significant negative impact of NPLs on profitability, banks must adopt more rigorous borrower evaluation criteria, leverage advanced credit scoring models, and implement proactive loan monitoring mechanisms. However, caution should be exercised to avoid overly conservative lending policies that could hinder growth; a balanced approach that considers economic conditions and borrower capacity is essential. Additionally, establishing early warning systems for potential defaults can help mitigate NPL escalation, but banks must also ensure that these measures are flexible enough to adapt to systemic shocks such as economic downturns or external crises like COVID-19, which have historically exacerbated asset quality issues.

In order to optimize the role of the capital adequacy ratio (CAR) in promoting financial stability without compromising profitability, banks should seek a strategic balance rather than merely increasing capital buffers. As findings suggest that excessively high CARs may constrain lending capacity and reduce profits, banks should focus on maintaining an optimal level that ensures resilience while allowing sufficient risk-taking. Regulators should establish clear guidelines that promote capital efficiency and encourage banks to innovate in risk management, rather than solely emphasizing capital accumulation. Banks should also explore diversification of income sources and

operational efficiencies to offset potential profitability declines associated with high capital levels, especially in a volatile economic environment.

Regarding the loan-to-deposit ratio (LDR), banks in Cameroon need to adopt a risk-adjusted lending approach that balances growth with liquidity and credit quality. While higher LDRs can improve profitability by maximizing the use of deposits for lending, the findings warn against overextension, which can increase liquidity risks and NPLs, ultimately impairing performance. Banks should set prudent LDR thresholds aligned with their risk appetite and operational capacity, and continuously monitor asset quality indicators. Additionally, strengthening deposit mobilization strategies and ensuring adequate liquidity buffers are vital to sustain higher LDR levels without compromising financial stability. Regulators should also provide guidance on safe LDR levels tailored to the unique economic conditions of Cameroon, promoting sustainable credit expansion that supports economic growth without exposing banks to undue risks.

Conclusion

The findings underscore the significant role of the loan-to-deposit ratio (LDR) in influencing the financial performance of commercial banks in Cameroon. The empirical evidence indicates that a prudent and balanced LDR can enhance profitability by optimizing the use of deposits for productive lending activities, aligning with theoretical perspectives on efficient asset utilization. However, the results also highlight the risks associated with overextending this ratio, such as increased liquidity and credit risks that can ultimately undermine bank stability and profitability. Therefore, banks should adopt risk-adjusted lending strategies, maintain appropriate LDR thresholds, and strengthen deposit mobilization and liquidity management practices to sustain healthy financial performance within the volatile Cameroonian economic environment. These measures, supported by regulatory guidance, are essential for fostering sustainable growth and stability in the banking sector.

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