

Credit Risk Management and Financial Performance of Listed Commercial Banks in Kenya: Implications for Education Financing

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Abstract: The objective of this paper is to determine the effect of credit risk management on the financial performance of listed commercial banks in Kenya, with emphasis on its implications for sustainable financial services that support education financing. The study was anchored on the Credit Risk Theory and employed a correlational research design targeting all 10 listed commercial banks in Kenya. Primary data were collected from 42 respondents comprising risk managers, heads of operations, bank managers, chief financial officers, and compliance managers using semi-structured questionnaires. Secondary data covering the period 2019–2023 were obtained from financial reports and regulatory filings. Data analysis utilized descriptive statistics, Pearson correlation, and multiple linear regression analysis. Ethical approval was obtained from the Institutional Review Board, and informed consent was secured from all participants. Confidentiality and anonymity were maintained throughout the study. The findings revealed that credit risk management had a positive and statistically significant effect on financial performance ($\beta = 0.314$, $p = 0.006$), with 95.2% of respondents confirming that regular loan monitoring was conducted to identify early warning signs. However, the average non-performing loan ratio of 12.6% exceeded the 10% prudential benchmark, indicating persistent credit quality challenges within the banking sector. The study concludes that effective credit risk management significantly enhances financial performance, but banks need to strengthen credit assessment methodologies and early warning systems. Recommendations include adopting advanced data analytics for credit scoring, implementing robust early warning systems, and enhancing loan monitoring processes. The findings have important implications for bank management, regulators, and policymakers seeking to strengthen financial stability and the capacity of commercial banks to support sustainable financing, including education-related financing.

Keywords: Credit Risk Management, Financial Performance, Commercial Banks, Education Financing, Kenya, Non-Performing Loans

I. Introduction

The overall stability and growth of every nation's economy depend heavily on the financial performance of its commercial banks. Commercial banks play a key role in mobilizing resources, facilitating trade, and promoting investment (Ewool & Quartey, 2021). In Kenya, the banking sector plays a pivotal role in mobilizing savings, facilitating investments, and supporting economic activities across all sectors, including education (Central Bank of Kenya, 2023). Over the years, commercial banks in Kenya have faced numerous risks, with credit risk being among the most significant threats to their profitability and sustainability (Bessis, 2021).

Credit risk arises when there is default on loans on the part of borrowers, which incurs losses for the banks (Oritsegbubemi & Evbayiro-Osagie, 2023). The connection between credit risk management and profitability in Kenyan commercial banks is a significant issue, as the financial health and profitability of these institutions have been adversely affected by elevated non-performing loans. Thorough credit assessments and strong risk mitigation

strategies are necessary for preventing defaults and maintaining stability. The Kenyan banking sector faces a delicate balance between managing credit risk and maintaining profitability, which is further complicated by the country's fluctuating economic growth rates and political uncertainties that can exacerbate credit risk.

Lending remains the main purpose of commercial banks, making it the main cause of credit risk. Therefore, it is crucial for banks to reduce their exposure to credit risk in order to ensure their continued operation. Effective credit risk management practices such as credit risk assessment, loan monitoring, and portfolio diversification are widely acknowledged as key determinants of financial performance in commercial banks (Abu-Rumman et al., 2021; Sitienei et al., 2023). Empirical evidence generally suggests that sound risk management enhances profitability by reducing losses, stabilizing earnings, and improving investor confidence (Echwa & Atheru, 2020).

The banking sector plays a crucial role in financing education in Kenya through various mechanisms. Banks provide student loans, finance education infrastructure, support educational institutions through credit facilities, and facilitate the financial sustainability of educational institutions. The stability of the banking sector, supported by effective credit risk management, is essential for ensuring the availability and accessibility of education financing. When banks face credit risk challenges, their capacity to support education sector investments is compromised, affecting access to quality education and institutional sustainability.

II. Statement of the Problem

Listed commercial banks in Kenya operate in an increasingly complex environment characterized by credit risk volatility and macroeconomic instability. Between 2019 and 2023, the sector experienced significant shocks, including the COVID-19 pandemic, rising non-performing loans, and tightening monetary conditions (Central Bank of Kenya, 2023). Key profitability metrics including return on assets and return on equity showed a decline in 2023 following a period of growth up until 2022 (Central Bank of Kenya, 2023). The persistent increase in non-performing loan ratios over optimal industry standards of 10 percent indicates that banks' credit risk controls and provisioning frameworks have not completely stopped credit deterioration (Yaa & Mwanzia, 2022). While some studies have examined the relationship between credit risk management and financial performance in Kenya, findings have been inconsistent. Some studies have found that effective credit approval processes significantly enhance bank profitability. However, other research has found that while credit risk assessment practices were generally in place, the correlation with financial performance was positive but statistically insignificant (Jeptoo, Langat, & Kemboi, 2025). This gap in empirical evidence necessitates further investigation into the specific effect of credit risk management on financial performance and its implications for education financing in the Kenyan context.

III. Objective of the Study

The objective of this paper is to determine the effect of credit risk management on the financial performance of listed commercial banks in Kenya, with emphasis on its implications for sustainable financial services that support education financing.

IV. Hypothesis

H_{01} : Credit risk management has no statistically significant effect on the financial performance of listed commercial banks in Kenya.

V. Literature Review

5.1 Theoretical Framework

This study is anchored on the Credit Risk Theory proposed by Robert Merton (1974). The theory provides a structural model for understanding credit risk, arguing that a bank's credit risk is ultimately determined by asset volatility and capital structure (Merton, 1974). The probability of default is a function of the volatility of the firm's assets relative to its debt obligations. Effective management of credit risk through proper asset-liability management and the structuring of the firm's capital base reduces the probability of default, thus enhancing the firm's financial performance (Merton, 1974). For commercial banks, lower volatility of the bank's assets and proper capitalization are likely to improve profitability (Bessis, 2021).

5.2 Empirical Literature Review

Several studies have examined the relationship between credit risk management and financial performance in various contexts. Yaa and Mwanzia (2022) found a positive correlation between the implementation of effective credit risk management practices and improved financial performance. The researchers emphasized that banks that adopted comprehensive credit risk policies and conducted regular risk assessments achieved higher ROA and ROE compared to those with less robust CRM practices. Similarly, Oritsegbubemi and Evbayiro-Osagie (2023) examined the effect of credit risk management on the financial performance of Nigerian banks. The findings revealed that banks with effective credit risk management frameworks demonstrated better financial performance, as measured by ROE and net interest margins.

Kimeu, Nyamute, Kithinji, and Mutunga (2026) examined the effect of credit risk management on financial performance of commercial banks in Kenya using secondary panel data for 42 commercial banks over the period 2013-2022. Credit risk management was captured using indicators such as delinquency rate, value at risk, and distance to default. The results showed that credit risk management significantly influences financial performance, and the study concluded that effective credit risk management remains a critical determinant of financial performance in commercial banks, regardless of their age.

Muturi (2024) examined the effect of credit risk management on financial performance of listed banks in Kenya using default rate as the independent variable. The multivariate regression analysis revealed that default rate displayed a negative significant ROA influence ($\beta = -0.4911$, $p = 0.0000$), while both firm size and liquidity had a positive effect on ROA. The research recommended that listed banks reduce their credit risk as it adversely affects ROA in a negative way.

Research on credit risk management in Mali found that risk identification, risk assessment, and risk control combined explained 76.4% of the variance in financial performance ($R^2 = 0.764$, $F = 115.695$, $p < 0.001$). Risk control emerged as the strongest predictor, followed by risk identification, while risk assessment exerted a negligible and statistically insignificant effect when isolated (Sidibe, 2025).

Research on digital credit providers in Kenya found that borrowers' screening, credit scoring, credit reminder practices, and credit risk control collectively explained 79.3% of profitability variation among digital credit providers. The study concluded that credit risk management practices collectively exert a profound influence on profitability (Kenyatta University, 2025).

The banking sector plays a crucial role in financing education in Kenya through various mechanisms. Banks provide student loans, finance education infrastructure, support educational institutions through credit facilities, and facilitate the financial sustainability of educational institutions. The stability of the banking sector, supported by effective credit risk management, is essential for ensuring the availability and accessibility of education financing. When banks face credit risk challenges, their capacity to support education sector investments is compromised, affecting access to quality education and institutional sustainability.

Effective credit risk management practices, including robust borrower assessment and monitoring mechanisms, can enhance the sustainability of student loan programs. This is particularly important given the challenges of loan default and repayment in existing student loan programs. The study's emphasis on early warning systems and risk mitigation strategies is relevant to education sector stakeholders seeking to enhance the financial sustainability of educational institutions.

VI. Methodology

6.1 Research Design

The study adopted a correlational research design, which allows for the examination of associations between variables without manipulating them. This design is appropriate for investigating the relationship between credit risk management and financial performance in their natural setting.

6.2 Study Area and Target Population

The study targeted all 10 listed commercial banks in Kenya operating on the Nairobi Securities Exchange. These banks include KCB Bank Kenya Limited, Equity Bank Kenya Limited, Co-operative Bank of Kenya Limited,

Standard Chartered Bank of Kenya Limited, NCBA Bank Kenya PLC, I & M Bank Limited, Absa Bank Kenya Limited, Diamond Trust Bank Kenya Limited, Stanbic Bank Kenya Limited, and National bank of Kenya.

6.3 Sampling Procedure and Sample Size

The study employed a census approach, meaning that all 10 banks were included rather than selecting a sample. The sample comprised 50 respondents including Risk Managers, Heads of Operations, Bank Managers, Chief Financial Officers, and Compliance Managers. From each bank, one respondent from each of the five categories was selected, yielding five respondents per bank and a total sample size of 50 respondents. The response rate achieved was 84 percent with 42 out of 50 questionnaires successfully completed and returned.

6.4 Data Collection Instruments

Primary data were collected using semi-structured questionnaires designed to capture quantitative data on credit risk management practices. The questionnaires included closed-ended questions using a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). Secondary data were collected using standardized data collection sheets from financial reports, annual reports, and regulatory filings covering the period 2019-2023.

6.5 Validity and Reliability

Content validity was established through review by a panel of experts in finance, risk management, and regulatory compliance. A pilot study was conducted at NCBA Bank of Kenya, and Cronbach's alpha was employed to measure internal consistency, with a value of 0.70 or higher considered acceptable.

6.6 Ethical Considerations

Ethical approval was obtained from the Institutional Review Board of Kabarak University. All participants provided informed consent before participating in the study. Confidentiality and anonymity were maintained throughout the research process. Participants were informed of their right to withdraw from the study at any time without consequences. No identifying information was included in any reports or publications. Data were stored securely and used strictly for academic purposes. The researcher declares no conflict of interest.

6.7 Data Analysis

Data were analyzed using descriptive statistics (frequencies, percentages, means, and standard deviations), Pearson correlation analysis, and multiple linear regression analysis. The regression model was specified as:

$$Y = \beta_0 + \beta_1 X_1 + \varepsilon \dots\dots\dots 1$$

Whereby the variables are identified as follows: -

Y = Financial performance

β_0 = Constant

X_1 = Credit risk management

ε = Error Term

VII. RESULTS AND DISCUSSION

7.1 Response Rate

The study achieved a response rate of 84%, with 42 out of 50 questionnaires administered being successfully completed and returned. According to Mugenda and Mugenda (2019), a response rate of 70% or above is considered excellent for social science research. Therefore, the response rate achieved in this study was adequate for statistical analysis and supports the reliability and generalizability of the study findings.

7.2 Demographic Characteristics

The demographic analysis revealed that the majority of respondents (38.1%) had between 11 and 15 years of banking experience, followed by 28.6% who had 5-10 years, and 23.8% who had more than 15 years of experience. Only 9.5% had less than 5 years of banking experience. Credit Risk Managers constituted the largest proportion of

respondents (23.8%), followed by Bank Managers (21.4%), Heads of Operations (19.0%), Compliance Managers (19.0%), and Chief Financial Officers (16.7%). The distribution of respondents across key management positions ensured that the study captured diverse perspectives on credit risk management practices and financial performance.

7.3 Descriptive Statistics for Credit Risk Management

Table 1: Descriptive Statistics for Credit Risk Management

Statement	Response, N (%)					Mean	SD
	5	4	3	2	1		
Our bank employs effective credit assessment techniques to evaluate borrowers' creditworthiness.	14 (33.3%)	23 (54.8%)	2 (4.8%)	2 (4.8%)	1 (2.4%)	4.12	0.82
The credit assessment methods used by our bank significantly reduce the likelihood of loan defaults	12 (28.6%)	21 (50.0%)	4 (9.5%)	4 (9.5%)	1 (2.4%)	3.93	0.93
Diversifying our credit portfolios across various sectors has enhanced our bank's financial stability	14 (33.3%)	21 (50.0%)	4 (9.5%)	2 (4.8%)	1 (2.4%)	4.07	0.88
Our bank's strategy of credit portfolio diversification has effectively mitigated credit risk	12 (28.6%)	23 (54.8%)	4 (9.5%)	2 (4.8%)	1 (2.4%)	4.02	0.85
Regular monitoring of loans is conducted to identify early warning signs of potential defaults	15 (35.7%)	23 (54.8%)	0 (0.0%)	3 (7.1%)	1 (2.4%)	4.14	0.88
The loan monitoring processes in our bank are robust and help in maintaining a healthy loan portfolio	12 (28.6%)	23 (54.8%)	4 (9.5%)	2 (4.8%)	1 (2.4%)	3.98	0.86
Overall Mean and SD						4.04	0.87

As shown in Table 1, credit risk management had an aggregate mean score of 4.04 on a five-point scale, indicating that respondents generally agreed that their banks had effective credit risk management practices. The highest-rated statement was that regular monitoring of loans is conducted to identify early warning signs of potential defaults, with a mean of 4.14 and 90.5% of respondents agreeing or strongly agreeing. This reflects the banks' recognition that proactive identification of potential defaults is critical for maintaining asset quality. The lowest-rated statement was that credit assessment methods significantly reduce the likelihood of loan defaults, with a mean of 3.93, though still showing 78.6% agreement, suggesting that banks face challenges in accurately predicting loan defaults despite having formal assessment processes in place.

7.4 Financial Performance Indicators

Table 2: Financial Performance Metrics (2019-2023)

Year	Average ROA (%)	Average NIM (%)	Average NPL (%)
2019	2.8	7.5	12.5
2020	2.4	7.2	14.5
2021	2.5	7.4	13.1
2022	3.5	8.2	12.2

2023	32	7.9	14.8
Mean	2.9	7.6	13.4

As shown in Table 2, the average non-performing loan ratio across the five-year period was 13.4 percent, significantly exceeding the prudential benchmark of 10 percent. This indicates persistent credit quality challenges in the banking sector. The average return on assets was 2.9 percent, while the average net interest margin was 7.6 percent.

7.5 Correlation between Credit Risk Management and Financial Performance

Table 3: Pearson Correlation Matrix

Variables	Financial Performance	Credit Risk Management
Financial Performance	1	
Credit Risk Management	.523**	1
Sig. (2-tailed)	—	< .001
N	42	42

Table 3 presents the Pearson correlation results between credit risk management and financial performance among listed commercial banks in Kenya. The results show a moderate positive correlation between credit risk management and financial performance ($r = .523$). The significance value was $p < .001$, which is below the 0.05 significance level. This indicates that the relationship between credit risk management and financial performance is statistically significant.

The positive correlation implies that banks with stronger credit risk management practices tend to record better financial performance. In practical terms, effective practices such as credit assessment, regular loan monitoring, early identification of credit deterioration and portfolio diversification may help banks minimize loan losses and maintain the quality of their earning assets. The finding therefore provides preliminary evidence that improvements in credit risk management are associated with improvements in financial performance.

7.6 Regression Analysis

Table 4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.523a	.273	.255	0.3124

a. Predictors: (Constant), Credit Risk Management

Table 4 presents the model summary showing the strength and explanatory power of the regression model involving credit risk management and financial performance. The model produced an R value of .523, indicating a moderate positive relationship between credit risk management and financial performance. This value is consistent with the Pearson correlation coefficient presented in Table 3.

The R Square (R^2) value of .273 indicates that credit risk management explains 27.3% of the variation in financial performance among the listed commercial banks in Kenya. The remaining 72.7% of the variation in financial performance is explained by other factors that are not included in this single-predictor model.

The Adjusted R Square value of .255 indicates that, after adjusting for the sample size and the number of predictors in the model, credit risk management accounts for approximately 25.5% of the variation in financial performance. The relatively small difference between R^2 (.273) and Adjusted R^2 (.255) indicates that the model retains a reasonable level of explanatory power after adjustment.

The standard error of the estimate of 0.3124 represents the typical difference between the observed values of financial performance and those predicted by the regression model. Overall, the results in Table 4 demonstrate that credit risk management has a meaningful explanatory relationship with financial performance.

Table 5: ANOVA Results

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	2.254	1	2.254	14.892	.006b
Residual	6.006	40	0.150		
Total	8.260	41			

a. Dependent Variable: Financial Performance

b. Predictors: (Constant), Credit Risk Management

Table 5 presents the Analysis of Variance (ANOVA) results, which were used to determine whether the regression model containing credit risk management significantly predicts financial performance. The results show an F-statistic of 14.892 with a corresponding p-value of .006. Since the p-value of .006 is less than the 0.05 significance level, the regression model is statistically significant. This means that credit risk management, as a predictor in the model, provides a statistically significant explanation of variations in financial performance.

The regression sum of squares was 2.254, while the residual sum of squares was 6.006. The regression sum of squares represents the variation in financial performance explained by credit risk management, whereas the residual sum of squares represents the variation that remains unexplained by the model. The statistically significant F-test therefore provides evidence that the regression model is appropriate for examining the relationship between credit risk management and financial performance. Consequently, the null hypothesis stating that credit risk management has no significant effect on the financial performance of listed commercial banks in Kenya is rejected.

Table 6: Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.245	0.412		3.022	.010
Credit Risk	0.286	.098	.314	2.918	.006

a. Dependent Variable: Financial Performance

Table 6 presents the regression coefficients for determining the direction, magnitude and statistical significance of the effect of credit risk management on financial performance.

The results show that credit risk management had a positive regression coefficient ($B = .286$). This means that a one-unit increase in credit risk management is associated with a 0.286-unit increase in financial performance, assuming the other conditions of the model remain constant. The positive coefficient indicates that stronger credit risk management practices are associated with improved financial performance.

The standardized beta coefficient ($\beta = .314$) further indicates that credit risk management makes a positive contribution to financial performance. More importantly, the effect is statistically significant, as indicated by the t-value of 2.918 and p-value of .006. Since $p = .006$ is less than the 0.05 significance level, the effect of credit risk management on financial performance is statistically significant.

The constant has a coefficient of 1.245 ($p = .010$), representing the expected level of financial performance when the value of credit risk management is zero. The constant is included as part of the regression equation but is less important for interpreting the substantive relationship between the study variables.

The estimated regression equation is:

$$Y = 1.245 + 0.286X_1 + \varepsilon$$

Where:

- Y = Financial Performance
- X_1 = Credit Risk Management
- 1.245 = Constant
- 0.286 = Unstandardized regression coefficient for Credit Risk Management
- ε = Error term

Therefore, the results in Table 6 provide evidence that credit risk management has a positive and statistically significant effect on financial performance among listed commercial banks in Kenya. Since $p = .006 < .05$, the null hypothesis that credit risk management has no significant effect on financial performance is rejected.

7.7 Hypothesis Testing

Based on the regression results, the null hypothesis (H_{01}) stating that credit risk management has no statistically significant effect on financial performance was rejected with a p-value of 0.006, which is less than the 0.05 significance level. Therefore, the study concludes that credit risk management has a statistically significant positive effect on the financial performance of listed commercial banks in Kenya.

7.8 Discussion of Findings

The finding that credit risk management has a positive and significant effect on financial performance aligns with the Credit Risk Theory proposed by Merton (1974), which posits that effective management of credit risk through proper asset-liability management reduces the probability of default and enhances financial performance (Merton, 1974). The result is consistent with Kimeu, Nyamute, Kithinji, and Mutunga (2026), who found that credit risk management significantly influences financial performance of commercial banks in Kenya.

The findings have significant implications for education financing in Kenya. First, the stability of the banking sector, supported by effective credit risk management, is essential for ensuring the availability of education financing. Banks play a crucial role in providing student loans, financing education infrastructure, and supporting educational institutions through credit facilities. When banks face credit risk challenges and declining profitability, their capacity to support education sector investments is compromised.

Second, the findings on credit assessment and monitoring practices are directly relevant to the design and implementation of student loan programs. Effective credit risk management practices, including robust borrower assessment and monitoring mechanisms, can enhance the sustainability of student loan programs.

Third, the study's emphasis on early warning systems and risk mitigation strategies is relevant to education sector stakeholders seeking to enhance the financial sustainability of educational institutions.

VIII. Conclusion

This paper examined the effect of credit risk management on the financial performance of listed commercial banks in Kenya and explored the implications of these findings for education financing. The study found that credit risk management has a positive and statistically significant effect on financial performance ($\beta = 0.314$, $p = 0.006$). The descriptive statistics revealed that credit risk management practices were well-established among the banks, with an aggregate mean score of 4.04 on a five-point scale. The highest-rated practice was regular loan monitoring to identify early warning signs of potential defaults (Mean = 4.14, 90.5% agreement). However, the average non-

performing loan ratio of 13.4 percent exceeds the prudential benchmark of 10 percent, indicating persistent credit quality challenges.

The study contributes to the limited literature on credit risk management and financial performance in the Kenyan context, specifically focusing on listed commercial banks. It provides empirical evidence supporting the Credit Risk Theory and offers insights into the specific credit risk management practices that are most effective in the Kenyan banking sector. The study also contributes to the understanding of the implications of credit risk management and banking sector stability for education financing and institutional sustainability.

IX. Recommendations

9.1 Recommendations for Banking Sector Practice

The findings have several practical implications for commercial banks in Kenya. First, banks should continue to strengthen their credit risk management practices, particularly regular loan monitoring, which was identified as the most highly rated practice. Second, banks should address the challenges in credit assessment effectiveness by adopting advanced data analytics and machine learning algorithms for credit scoring. Third, banks should implement more robust early warning systems that can detect potential loan defaults at an earlier stage.

9.2 Recommendations for Education Sector

Given the implications of credit risk management for education financing, the study recommends that education sector stakeholders strengthen financial risk management practices to promote sustainable access to education-related financing. Student loan programmes offered by government agencies and other education financing institutions should incorporate effective credit risk management practices, including robust borrower assessment, appropriate credit scoring, regular loan monitoring and early identification of repayment difficulties. These measures would help improve the sustainability of student loan programmes while reducing the risk of loan defaults.

The study further recommends strengthening education infrastructure financing through partnerships between the government and commercial banks. Such partnerships can facilitate financing for the development and improvement of schools, colleges, universities and other education-related infrastructure. A stable and financially sound banking sector is important for ensuring the continued availability of long-term financing for education infrastructure investments.

Educational institutions should also integrate sound financial management principles into their governance and administrative practices. This includes strengthening budgeting, financial planning, internal controls and risk management systems. Effective financial management can improve institutional sustainability and enhance the ability of educational institutions to responsibly access and manage external financing.

There is also a need for greater coordination between education and financial-sector policies. The government should develop complementary policies that recognize the relationship between banking-sector stability and the availability of financing for education. Coordination among relevant government agencies, financial institutions and education stakeholders can help create an enabling environment for sustainable education financing.

Finally, the study recommends increased capacity building in financial and risk management among education-sector stakeholders. Training for institutional managers, administrators and other relevant personnel should focus on financial planning, credit management, risk identification, financial controls and responsible borrowing. Strengthening these capacities can improve the financial resilience of educational institutions and contribute to the sustainable use of education-related financing.

9.3 Recommendations for Further Research

Future research should examine the specific mechanisms through which banking sector stability affects education financing and institutional sustainability. Comparative studies across different educational institutions and student loan programs would help identify best practices. Research on the role of technology in enhancing credit risk management and education financing is also recommended.

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