CREDIT RISK MANAGEMENT AND FINANCIAL PERFORMANCE OF CONSTRUCTION AND ALLIED COMPANIES LISTED AT NAIROBI SECURITIES EXCHANGE, KENYA

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ABSTRACT

This research examined how credit risk management affects the financial performance of construction and related companies listed on Kenya's Nairobi Securities Exchange (NSE). Specifically, it analyzed the effects of credit risk assessment, and identification on financial performance, using Return on Equity (ROE) as the key performance indicator. A quantitative research design was employed, utilizing secondary panel data collected from published financial statements of listed companies over a defined period. Stata version 18 was used for data analysis, which includes panel regression modeling, correlation analysis, and descriptive statistics. The findings revealed that credit risk assessment (credit scores and credit risk identification (cash flow coverage ratio) had strong, positive, and statistically significant effects on ROE across all models. The study's regression model revealed that 81% of the variation in ROE was explained by credit risk management variables, implying that other external factors play a minor role. The results underscore the importance of robust credit evaluation, liquidity management, and proactive risk identification in enhancing firm profitability. The study recommends strengthening credit assessment mechanisms, improving cash flow analysis practices, and revisiting current credit monitoring frameworks. These insights provide valuable implications for financial managers, policymakers, and investors in the construction sector.

Key Words: Credit Risk Management, Financial Performance, Nairobi Securities Exchange, Credit Risk Assessment, Return on Equity, Credit Scores, Credit Risk Identification, Cash Flow Coverage Ratio

Background of the Study

As a critical sector in Kenya, construction and allied businesses fuel economic development through GDP contributions, job creation, and infrastructure improvement (Kenya National Bureau of Statistics, 2021). However, several substantial financial performance challenges, including exposure to credit risk, beset these industries. Robust financial performance is critical in maintaining industry stability and fostering expansion while protecting organizational solvency. The financial performance of the construction and allied companies faced a backdrop from the financial year 2017 onwards, owing to reduced sales volume (Edwards, 2020). The companies have, however, compensated for the drop by offering credit facilities to boost their sales volumes. The increase in sales volumes has led to increased incomes in recent years in the post-Corona Virus Disease 2019 era. While increased lending offers a solution to the problem of reduced sales volumes, it creates another challenge: the exposure of companies to credit risk. Therefore, by adopting effective credit risk management practices, these companies could improve their financial performance and ensure proper return on investment (Edwards, 2020).

The construction and allied companies deal with intermediaries such as financial institutions, supplies, dealers, distributors, wholesalers, and individuals. Because of the nature of the construction industry, companies may provide credit to participants to guarantee a constant demand for manufactured goods. Once the goods are sold, companies allow the intermediaries to make payments later. Under this kind of arrangement, the debtor must make the payment later by the agreed credit limits and terms of payment. The rising cost of debt from banks has forced players in various industries to develop measures such as picking goods on credit and paying back with interest after the expiry of the agreed period (Moraes & Terence, 2017). The credit transactions are vital in the creation of sales volumes, hence creating more demand for construction items. Buyers who are unable to raise enough money to purchase goods are enabled to meet the needed volumes through credit. However, such operations inevitably render construction and allied companies vulnerable to credit default risks (Osoro & Ogeto, 2014).

Credit risk management constitutes the systematic process of assessing, controlling, and mitigating potential financial losses arising from borrowers' failure to fulfill contractual obligations. This practice encompasses evaluating debtor credibility, establishing suitable lending thresholds, and executing risk reduction measures (Mishkin & Eakins, 2015). The construction and allied companies that offer higher credit to customers expose themselves to credit risk, which can negatively affect their financial performance as they are likely to face liquidity issues. However, the construction and allied industries have different terms of lending, and as such, managing the credit risk can be a huge challenge (Mishkin & Eakins, 2015).

Conducting thorough credit risk evaluations for both prospective and current clients enable firms to assess customer reliability and payment behavior (Githaiga, 2015). This will eventually minimize the risk of default and loss of money, which can have adverse effects on the financial performance due to write-offs that reduce profits. To control credit risk, businesses must keep an eye out for any changes in the debtor's behaviour. If the borrower modifies their financial behaviour, a firm may avoid losses due to fraudulent activity. The use of a credit control approach has the potential to positively impact financial performance by effectively managing credit risk. This strategy ensures that customers who have a good credit history with the business can potentially be extended credit by the firm (Githaiga, 2015).

Studies in past have shown that there exists a positive correlation between credit risk management and returns. Implying that the more companies issue goods on credit, they are likely to gain. However, a rise in credit is likely to expose the firms to liquidity problems. Failure to implement credit risk mitigation measures may result in progressively worsening

financial consequences from institutional lending through construction and allied businesses (Osoro & Ogeto, 2014).

Statement of the Problem

Kenya's construction and allied sectors play a significant role in the country's economic development by contributing to the Gross Domestic Product (GDP) and job creation. However, these industries face significant challenges related to financial performance, primarily due to credit risk exposure. Managing credit risk is crucial for these companies to enhance their financial performance and maintain stability. Current scholarship provides limited empirical understanding of how core credit risk management dimensions, particularly risk assessment, appraisal, monitoring, and control systems, directly affect financial performance metrics, including return on equity (ROE). Credit risk assessment, often measured by credit scores, is essential in determining the creditworthiness of customers. However, few studies have focused on how assessment practices tailored to the construction sector can impact firms' financial outcomes. Similarly, credit risk appraisal and monitoring, measured through the current ratio and interest coverage ratio, respectively, are vital in identifying potential risks before they become significant liabilities. Yet, there is a lack of comprehensive studies that evaluate how these measures influence construction firms' profitability, particularly ROE (Mishkin & Eakins, 2015).

The Kenyan financial landscape demonstrates path-dependent institutional characteristics that necessitate localized risk management approaches. Regulatory interventions like the controversial interest rate ceiling (2016 Banking Amendment Act) generated unprecedented credit rationing effects and behavioral adaptations among lenders, producing performance implications poorly captured in existing cross-country studies (Central Bank of Kenya, 2019). Construction industry dynamics, governed by pro-cyclical demand patterns, create distinctive credit risk exposures that challenge conventional risk assessment frameworks developed for less volatile economic sectors. Consequently, studies need to explore how the Kenyan market conditions influence credit risk management strategies and their effect on financial performance (Njuguna et al., 2022).

The application of established theories such as agency theory and credit risk theory to the construction and allied industries. These theories primarily focus on the broader finance or banking sectors and may not fully capture the specific dynamics at play in the construction industry. For instance, agency theory emphasizes the conflict between shareholders and managers regarding risk-taking, yet it may not account for the unique project-based nature of construction firms, which are more exposed to credit risks due to delayed payments and project financing challenges (Jensen & Meckling, 1976). Similarly, credit risk theory may not adequately address the impact of cyclical cash flows and capital-intensive projects, common in the construction industry, on credit risk. The capital-intensive operational reality and inherent business cycle sensitivity of construction firms reveal fundamental limitations in current credit risk research paradigms. As demonstrated by Githaiga (2015), the predominant use of static, cross-sectional analyses and conventional performance metrics inadequately addresses the temporal dynamics and specialized financial structures characteristic of this sector. The construction sector's financial performance is heavily influenced by long-term projects, requiring longitudinal data to provide more accurate insights. Moreover, existing studies may overlook specific credit risk management tools like cash flow coverage ratios, which are crucial for industries with fluctuating cash flows. This research imperative demands longitudinal study designs incorporating sector-specific financial indicators to properly elucidate the credit risk-performance nexus in construction finance. Only through such tailored methodologies can scholars capture the temporal dynamics and operational realities that conventional models overlook.

Existing scholarship exhibits a pronounced sectoral imbalance, with extensive investigation of credit risk dynamics in financial institutions but remarkably limited empirical examination of its effects on non-financial enterprises, particularly in construction industries (Osoro & Ogeto, 2014). The construction sector's distinctive operational realities, including chronic payment delays and heavy reliance on project financing, necessitate targeted empirical investigation into how credit risk assessment protocols, control mechanisms, monitoring systems, and identification processes affect financial outcomes. Robust inquiry in this domain would yield critical insights for practitioners while advancing financial management theory in capital-intensive industries.

This study directly addresses five dimensions of existing research limitations (conceptual, contextual, theoretical, methodological, and empirical) to elucidate how optimized credit risk management can strengthen return on equity (ROE) for Kenyan construction firms.

General Objective

To assess the effect of credit risk management on financial performance of construction and allied companies listed at Nairobi Securities Exchange.

Specific objectives

i. To examine the effect of credit risk assessment on financial performance of construction companies listed at the Nairobi Securities Exchange.
ii. To assess the effect of credit risk identification on financial performance of construction and allied companies listed at the Nairobi Securities Exchange.

LITERATURE REVIEW

Theoretical Review

Transaction Cost Theory

Williamson (1981) proposed the transaction cost theory of trade credit, which posits that trade credit helps in the reduction of transaction costs associated with paying bills. When two parties are trading, they form long-term relationships that allow the seller and buyer to cooperate in scheduling deliveries and payments to optimize the inventory and cash flow (Jankensgård, 2019). The trade credit helps in the achievement of better cooperation, which separates the payment cycle from the delivery schedule. The theory predicts that the accounts receivable and accounts payable increase with the interest rates. It further views trade credit as a long-term arrangement between the partners rather than the conflicts that arise from the short-term variability of the market environment.

The optimization of transactional costs in lending operations constitutes a critical component of efficient credit risk management systems, with demonstrable impacts on the financial performance metrics of construction and allied firms listed on the Nairobi Securities Exchange (NSE). Effective implementation requires lenders to systematically gather comprehensive borrower data, employ robust analytical frameworks to evaluate creditworthiness, and continuously monitor exposure levels throughout the credit lifecycle. Transaction Cost Theory highlights the expenses involved in obtaining this information, as high transaction costs can arise when lenders invest substantial resources in screening and due diligence to evaluate potential borrowers' credit risk (Williamson, 1985).

Effective credit risk management necessitates ongoing surveillance of borrowers' financial stability and repayment behavior, constituting a core operational requirement. This imperative aligns with Transaction Cost Theory, which explicitly identifies monitoring expenditures as a fundamental component of economic exchange costs, particularly relevant in construction sector financing, where information asymmetries are pronounced. Lenders incur costs to ensure

that borrowers adhere to the terms of the credit agreement and to detect any signs of financial distress. When credit agreements are violated, lenders may incur enforcement costs in pursuing legal actions or other remedies. Transaction cost theory highlights the expenses associated with enforcing contracts (Jensen & Meckling, 1976).

Transaction cost theory affects credit risk assessment by highlighting the costs associated with information gathering, monitoring, negotiation, and enforcement. Higher transaction costs typically increase the perceived credit risk of a borrower, leading lenders to either increase the cost of credit or impose stricter lending conditions like collateral and covenants. Conversely, reducing these costs through better information, standardized contracts, or long-term relationships can lead to more favourable credit terms and lower perceived risk that positively affects financial performance (Ferris, 1981).

Transaction Cost Theory provides a critical theoretical framework for this study, as it aligns with credit risk management's fundamental objective of optimizing relationship-based transaction costs. When properly implemented, such management yields efficiency gains through reduced information acquisition costs, lower monitoring expenditures, and decreased enforcement outlays. This framework operates on the core economic principle that rational actors will only initiate and maintain credit relationships when the anticipated marginal benefits exceed the expected marginal costs.

Modern Portfolio Theory

Modern Portfolio Theory (MPT) is a framework widely used in investment management that focuses on optimizing portfolio risk and return. While MPT primarily addresses investment portfolio construction and asset allocation, certain aspects of the theory can be applied to credit risk management. In investment, modern portfolio theory management is a critical theory. It seeks to identify the most effective combinations of assets to optimize a portfolio's expected returns at a specific level of risk. Additionally, it aims to minimize risk for a given level of expected return (Markowitz, 1952). However, risk diversification can reduce overall risk, even when the returns of assets are neither positively nor negatively correlated (Omisore, 2013).

Unlike traditional financial asset portfolios, credit portfolios require specialized considerations, including credit rating assessments, covenant enforcement, and the dynamic evolution of credit events. Consequently, MPT principles must be adapted to align with the unique characteristics of credit risk, such as default dependencies, recovery rate variability, and regulatory constraints, to ensure effective portfolio optimization. Regular monitoring and assessment of the credit risk profile are essential for maintaining a robust loan portfolio.

Applying Modern Portfolio Theory to credit risk management enables financial institutions and lenders to construct well-diversified loan portfolios that balance risk and return. This approach systematically mitigates credit risk through data-driven strategies while optimizing the overall performance of the loan portfolio (Chijoriga, 2011).

Credit risk monitoring for fixed-income and credit portfolios can benefit from the adaptation and use of Modern Portfolio Theory (MPT), which was initially developed for equity portfolios. It is important that although the concepts of MPT offer a structure for managing credit risk, credit portfolios differ from equity portfolios in certain ways. In the process of monitoring credit risk, credit-specific variables including credit ratings, credit events, and recovery rates must be taken into account. Furthermore, it could be necessary to modify the MPT's underlying presumptions such as the normal distribution of returns to better suit the features of credit portfolios.

Harry Markowitz developed Modern Portfolio Theory (MPT) in the 1950s, and it has had a significant impact on the finance sector. Like any theoretical framework, MPT has encountered opposition and criticism, too. Fama (1970) criticized the Efficient Market Hypothesis, a key

principle of MPT, arguing that markets aren't always fully efficient. The single-period framework of MPT, which might not adequately account for the complexity of multi-period investment horizons and investor behaviour across time, was challenged by Merton (1969).

The theory is applicable in the study where construction and allied companies diversify the debtor portfolio across different sectors, industries, and borrower types. This diversification of credit exposures helps mitigate the risk associated with a single default. Effective implementation of modern portfolio theory in credit risk management requires the critical deployment of quantitative credit risk models and rigorous credit rating analyses. To estimate the credit risk connected to each borrower, lenders can provide credit scores or ratings to borrowers. This makes it possible to assemble a portfolio that is well-balanced and based on different creditworthiness levels (Omisore, 2013). MPT recognizes that portfolios should be periodically rebalanced. Similarly, when it comes to managing credit risk, lenders must constantly evaluate borrowers' creditworthiness and modify their portfolios as necessary (Chijoriga, 2011).
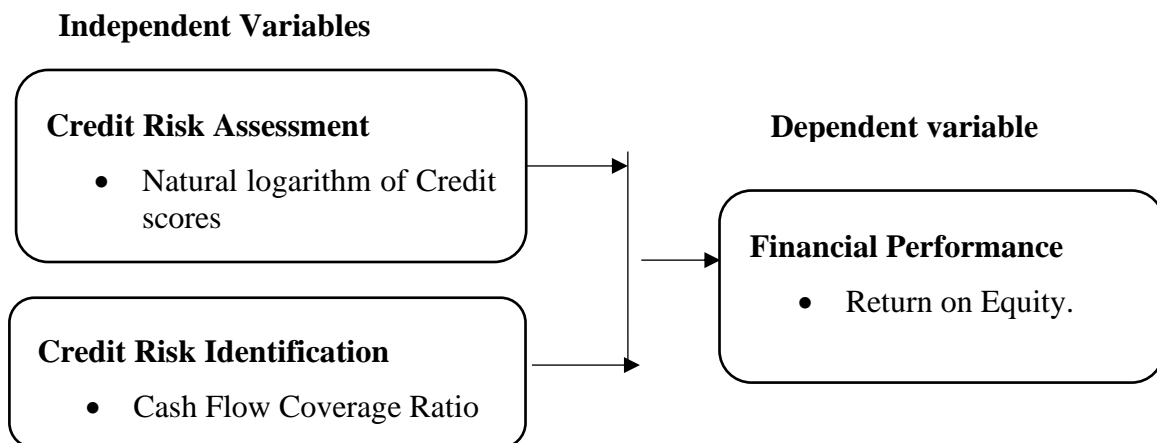
Conceptual Framework

Independent Variables

Figure 2.1:Conceptual Framework
Source: Author 2024

Credit assessment process involves measuring the default risk associated with a borrower's inability to satisfy their financial liabilities (Altman, 1968). Credit scores are essential in this process, as they indicate a borrower's creditworthiness based on factors such as repayment history, outstanding debt, and credit utilization. A higher credit score reflects lower risk, allowing lenders to make more informed lending decisions. As a key determinant of portfolio performance, this variable critically impacts default rates and asset quality. Rigorous credit analysis functions as a protective filter against high-risk obligors, consequently strengthening the lender's financial position. When credit risk is managed effectively through a rigorous assessment, the firm can experience higher returns on equity, as fewer loans default and the institution maintains a healthy portfolio of performing loans (Merton, 1974).

Credit risk identification is the first step in managing credit risk and involves determining which risks are present in the lending portfolio. The cash flow coverage ratio, which assesses a company's ability to meet its debt obligations using cash flow from operations, is a key financial metric. It indicates how effectively a company generates sufficient operational cash flow to cover both interest and principal repayments. A higher ratio indicates stronger cash flow and a lower risk of default. Identifying credit risks early through cash flow analysis allows lenders to manage their exposure more effectively. If risks are identified early, lenders can adjust credit terms, request additional collateral, or renegotiate repayment schedules, which minimizes potential losses. Proper risk identification, through metrics like the cash flow

coverage ratio, reduces loan losses, improves the quality of the loan portfolio, and supports stronger financial performance, contributing to higher ROE.

As a key performance indicator, ROE reveals how successfully management utilizes invested capital to generate profits. The metric incorporates both operational efficiency (through profit margins) and financial leverage, serving as a comprehensive measure of corporate profitability. When key credit risk management practices such as assessment, control, monitoring, and identification are effectively implemented, they collectively reduce the likelihood of default, improve loan recovery rates, and enhance liquidity management, thereby positively influencing financial performance. This leads to more stable and predictable cash flows, lower default rates, and better overall loan performance. As a result, the financial institution or company will experience stronger profitability, reflected in higher ROE.

Empirical Literature Review

Effect of Credit Risk Assessment on Financial Performance

Dr. Shukla and Kagoyire (2016) conducted an empirical study examining the extent to which Equity Bank incorporated customer feedback mechanisms in its credit management evaluation processes. The investigation utilized a descriptive cross-sectional technique. The research focused on a study group consisting of individuals from Equity Bank's credit department workforce. Data was gathered by questionnaires, which were then tallied and analyzed using SPSS. The study revealed that commercial banks in Rwanda rely moderately on customer appraisal systems for credit management decisions. The findings demonstrated that customer evaluation serves as an effective mechanism for loan assessment, with collateral considerations playing a significant role in the evaluation process (Shukla & Kagoyire, 2016). Neglecting to assess the customer's repayment capacity can lead to default, and the evaluation of clients also considers the character of the borrower seeking credit services. It was ultimately determined that the personnel of Rwanda's commercial banks were competent in client appraisal. Globally, only about 1.5% of Micro and Small Enterprises (MSEs) obtain loans from commercial banks (International Centre for Economic Growth, 1999), raising concerns about how the majority of MSEs finance their working and investment needs.

Mohammad (2008) conducted an empirical investigation of risk management practices in Bangladesh's banking sector, with particular focus on credit risk determinants of non-performing loans (NPLs). The study identified the temporal accumulation of NPLs as the predominant factor contributing to systemic banking sector challenges. He believes that only a substantial reduction in the nation's NPL ratio may help prevent it from losing competitiveness in the global banking industry amidst expanding globalization. With their extensive twenty-year experience in addressing non-performing loans (NPL), they have amassed a wealth of information regarding the causes and remedies to this challenge. The researcher found that lenders, policymakers, and borrowers should heavily rely on past experiences and act accordingly.

Njiru (2017) investigated the relationship between credit appraisal practices and financial performance in commercial banking institutions. The study revealed that commercial banks typically employ multiple concurrent credit evaluation methodologies to assess borrower risk. The most commonly utilized approach among the respondents is referencing with credit reference bureaus at 91%, followed closely by the usage of five conditions of credit at 87%. The customer's previous credit history has been considered by numerous commercial banks, as 77% of the respondents expressed this sentiment. The credit scoring approach was less popular compared to other systems. Just 54% of the participants acknowledge the implementation of this approach in their organization. Utilizing the given strategies extensively is anticipated to significantly improve the loan performance.

Credit Risk Identification and Financial Performance

Arhinful and Radmeh (2023) undertook a comprehensive longitudinal analysis of capital structure effects on corporate performance among Tokyo Stock Exchange-listed enterprises. The research examined a 22-year panel dataset (2000-2021) encompassing 257 publicly traded corporations across five strategic sectors: automotive, construction, electrical equipment, metal production, and telecommunications. Utilizing advanced econometric modeling techniques, the study specifically investigated the relationship between financial leverage ratios and key performance metrics while controlling for industry-specific characteristics and macroeconomic fluctuations. The study employed the random effect and the generalized linear model (GMM) to assess the impact of the firms' leverage on financial performance to determine the influence of financial leverage on financial performance. he study found statistically significant evidence that interest coverage ratios positively influence ROA, ROE, and Tobin's Q, while cash coverage ratios specifically enhance ROE. Conversely, debt servicing requirements negatively impact overall financial performance. These results suggest that robust coverage ratios contribute to financial health, with cash liquidity playing a particularly important role in driving equity returns, whereas excessive debt obligations appear to constrain corporate performance. The findings underscore the importance of maintaining balanced financial structures, where adequate coverage buffers support profitability while minimizing the drag from debt servicing burdens.

Al-Tamimi (2002) conducted a seminal investigation into the correlation between risk identification frameworks and risk mitigation strategies within the UAE's commercial banking sector. The study identified the primary methods employed for risk identification, including the examination of financial statements and managerial inspections. Key risk management strategies included credit scoring, setting standards, risk assessment, creditworthiness analysis, and securing collateral. Building upon prior research, Al-Tamimi and Al-Mazrooei (2007) conducted a comparative analysis of risk management frameworks across domestic and international banking institutions operating in the UAE financial sector. Their empirical investigation revealed that both commercial and foreign banks faced substantial exposure to multiple risk categories, particularly foreign exchange volatility and operational vulnerabilities. The study further identified systemic gaps in risk mitigation strategies, highlighting the need for more robust enterprise-wide risk management protocols in the UAE banking industry during this period.

RESEARCH METHOLOGY

This study adopts a quantitative research approach employing a causal-comparative research design within a panel data framework. Panel data allows for analysis over time and across multiple firms, improving the robustness and generalizability of the results by accounting for both cross-sectional and time-series variation. This design is appropriate for the study as it does not involve manipulation of variables but relies on secondary financial data obtained from publicly listed companies over ten years (2014–2023), thus supporting objective analysis of real-world financial behavior and performance. This study utilizes a panel dataset covering ten years from 2014 to 2023, obtained from the Nairobi Securities Exchange (NSE). The dataset comprises audited financial statements and relevant credit risk information for four listed construction and allied companies: Bamburi Cement PLC, Crown Paints Kenya PLC, East African Cables PLC, and East African Portland Cement PLC. These companies were selected due to their consistent presence on the NSE, industry relevance, and market capitalization, making them representative of Kenya's construction and allied sectors. Their inclusion ensures a comprehensive examination of credit risk management practices and financial performance

within the sector.

The data were sourced from publicly available company reports, annual financial statements, and disclosures submitted to the NSE, which is known for enforcing strict standards on reporting transparency and accuracy. The reliability and regulatory oversight of the NSE enhance the credibility of the data used. The dataset was verified for completeness, with no missing entries, and statistical assumptions such as normality were tested to validate its suitability for analysis.

This study adopted a panel data regression approach, which is ideal for analyzing data that varies across both time and entities in this case, four construction and allied companies listed at the Nairobi Securities Exchange, observed over a ten-year period (2014–2023). Panel data analysis combines the strengths of cross-sectional and time-series data, enhancing the model's ability to control for individual heterogeneity and improving the precision of estimated relationships (Zulfikar, 2018).

To determine the most appropriate model for this study, the Hausman test was conducted to compare the Fixed Effects and Random Effects models. A statistically significant result from the Hausman test would suggest the use of the Fixed Effects Model; otherwise, the Random Effects Model would be preferred. These models were used to estimate the relationship between credit risk management components, namely Credit Scores (C_Scores), and Cash Flow Coverage Ratio (CCR) and financial performance, measured by Return on Equity (ROE).

RESULTS AND DISCUSSION

Descriptive Statistics

Table 4.1 presents the descriptive statistics for the key variables used in the study, based on a sample of 40 observations from construction and allied companies listed at the Nairobi Securities Exchange. The statistics provide an overview of the central tendencies and dispersion of the data, helping to contextualize the regression and correlation results.

Table 4.1:Descriptive Statistics

Variable	Description	Obs	Mean	Std. Dev.	Min	Max
ROE	Return on Equity	40	53.017	5.585	42.575	64.617
C_score	Credit scores	40	59.602	7.714	43.031	76.261
CCR	Cash Flow Coverage Ratio	40	4.869	1.169	2.314	6.846

(Source: Research Findings, 2025)

From the findings above, Return on Equity (ROE) reported a mean value of 53.02, with a standard deviation of 5.59. This indicates that, on average, the firms generated a 53.02% return on shareholders' equity, reflecting relatively strong financial performance across the sample. The ROE ranges from a minimum of 42.58% to a maximum of 64.62%, suggesting moderate variability in firm performance.

The mean for credit scores (C_score), representing credit risk assessment, is 59.60 with a standard deviation of 7.71. This indicates that most firms score relatively well in assessing creditworthiness, although there is some variation across the firms, as seen from the range of 43.03 to 76.26. These results reflect generally positive credit evaluation practices within the sector.

Lastly, the cash flow coverage ratio (CCR), used to assess credit risk identification, shows a mean of 4.87 with a standard deviation of 1.17. This reflects a generally strong ability of the

firms to cover liabilities using operational cash flows. The range of 2.31 to 6.85 indicates a moderate spread in firms' capacity to identify and manage credit risks through cash flow analysis.

Correlation Analysis

The correlation analysis was conducted to examine the direction and strength of the linear relationships between financial performance, measured by Return on Equity (ROE), and the various dimensions of credit risk management. The findings, presented in Table 4.7, reveal several noteworthy patterns.

Table 4.2:Correlation analysis

	ROE	**C_score**	**CCR**
ROE	1		
C_score	0.672***	1	
CCR	0.563***	-0.0248	1
N	40		

$^{*}\,p < 0.05$, $^{**}\,p < 0.01$, $^{***}\,p < 0.001$

(Source: Research Findings, 2025)

Firstly, credit scores (proxy for credit risk assessment) displayed a strong positive and statistically significant correlation with ROE ($r = 0.67$, $p < 0.001$). This suggests that companies with higher credit scores tend to exhibit better financial performance. The strength and significance of this relationship imply that effective credit assessment mechanisms may play a key role in enhancing firm profitability. Secondly, the cash flow coverage ratio (CCR), representing credit risk identification, also showed a moderately strong and statistically significant positive correlation with ROE ($r = 0.56$, $p < 0.001$). This indicates that firms with better capabilities in identifying credit risk through cash flow analysis are more likely to achieve higher returns on equity. This aligns with expectations that strong internal risk identification processes contribute positively to financial outcomes.

Panel Regression Results

Table 4.3 shows Return on Equity (ROE) serving as an equivalent measure for financial achievement, the results of three panel regression models, Random Effects, Fixed Effects, and Pooled OLS that were used to investigate the relationship between credit risk management techniques and financial performance. The analysis directly addresses the specific hypotheses.

Table 4.3: Credit Risk Management and Financial Performance

	Random Effects	**Fixed Effects**	**Pooled OLS**
Credit scores	0.470***	0.442***	0.470***
	(0.052)	(0.057)	(0.052)
Cashflow coverage ratio	2.832***	2.969***	2.832***
	(0.333)	(0.335)	(0.333)
Constant	9.572	10.183	9.572
	(4.906)	(5.323)	(4.906)
Observations	40	40	40
R^2	0.847	0.851	0.831
Adjusted R^2			0.812

Standard errors in parentheses $^{*}\,p < 0.05$, $^{**}\,p < 0.01$, $^{***}\,p < 0.001$
(Source: Research Findings, 2025)

H01: There is no significant effect of credit risk assessment on financial performance of construction companies listed at the Nairobi Securities Exchange.

In all three models, there was a constant and statistically significant positive correlation between financial success and credit risk assessment, as measured by credit scores. A unit rise in credit score is linked to a 0.47 increase in ROE, according to the Random Effects model's coefficient for credit scores, which was 0.47 (p < 0.001). Similarly, the Fixed Effects model yielded a coefficient of 0.44 (p < 0.001), and the Pooled OLS model confirmed this effect with a coefficient of 0.47 (p < 0.001). These results strongly support the conclusion that credit risk assessment is positively and significantly associated with improved financial performance, regardless of the estimation technique applied. Consequently, the null hypothesis (H01) is rejected in all models, confirming the importance of robust credit evaluation mechanisms in enhancing firm profitability.

H02: There is no significant effect of credit risk identification on the financial performance of construction companies listed at the Nairobi Securities Exchange.

Cash flow coverage ratio, used as the measure of credit risk identification, demonstrated a strong and statistically significant positive relationship with ROE across all models. The Random Effects model reported a coefficient of 2.83 (p < 0.001), the Fixed Effects model showed 2.97 (p < 0.001), and the Pooled OLS model yielded 2.83 (p < 0.001). These findings imply that firms that are better able to identify and manage cash flow risks tend to achieve higher financial performance. Given the high level of statistical significance and consistency across all models, the null hypothesis (H04) is rejected. This underscores the role of timely and accurate identification of credit risk exposures in enhancing firm profitability.

Model Fit and Overall Performance

The model fit was generally strong across all specifications. The R-squared values were 0.85 for the Fixed Effects model, 0.85 for the Random Effects model, and 0.83 for the Pooled OLS model, with the Adjusted R-squared of the Pooled OLS being 0.81. This indicates that the independent variables collectively explain over 80% of the variation in financial performance, affirming the relevance of credit risk management in shaping the financial outcomes of listed construction and allied companies in Kenya.

The model was estimated below

$$ROE_{it} = 10.183 + 0.442\, C\_Scores_{it} + 2.969 CCR_{it}$$

Where:

ROE_{it}=*Return on Equity for company i at time t*

C_Scores_{it}=*Credit Risk Assessment (credit scores)*

CCR_{it}=*Credit Risk management (Cashflow coverage ratio)*

μ_i=*unobserved company-specific effect*

ε_{it}=*error term*

Conclusion

The study's findings establish a statistically significant relationship between credit risk management practices and financial performance among NSE-listed construction and allied companies. Empirical evidence reveals that two components of credit risk assessment and credit risk identification show particularly strong positive correlations with Return on Equity (ROE) improvements.

Recommendations

Based on the results and conclusions, the following recommendations are offered for various stakeholders:

1. **Enhance Credit Assessment Mechanisms**: Firms should invest in more sophisticated credit scoring systems and due diligence processes to better assess clients' creditworthiness, thereby reducing the likelihood of default and enhancing financial performance.

2. **Strengthen Credit Risk Identification Practices**: Management should regularly evaluate operational cash flows and employ predictive tools to identify potential credit risks early, which can improve the firms' resilience and profitability.

3. **Policy and Regulatory Support**: Industry regulators and policymakers should support credit risk management capacity building through training, incentives, and regulatory frameworks that promote best practices.

Suggestions for Further Research

Future research could broaden the scope of the study by incorporating a more diverse sample of companies across various sectors or by utilizing alternative financial performance metrics, such as Return on Assets (ROA) or Net Profit Margin. Longitudinal studies with larger datasets could offer more profound insights into the long-term effects of credit risk management. Furthermore, qualitative research exploring managerial perceptions and practices could complement quantitative findings, providing a more comprehensive basis for policy recommendations.

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