Journal of Finance and Accounting

Credit Insurance and Quality of Loan Portfolio of Microfinance Banks in Kenya

Cellinah Wanza Muindi, Dr. Jeremiah Koori, PhD & Dr. Anthony Mugetha Irungu, PhD

ISSN: 2616-4965

Stratford Peer Reviewed Journals and Book Publishing
Journal of Finance and Accounting
Volume 10||Issue 1 ||Page 43-57|| January|2026|
Email: info@stratfordjournals.org ISSN: 2616-4965

Credit Insurance and Quality of Loan Portfolio of Microfinance Banks in Kenya

[1*]Cellinah Wanza Muindi, [2]Dr. Jeremiah Koori, PhD & [3]Dr. Anthony Mugetha Irungu, PhD

[1]PhD student, Kenyatta University
[2]Lecturer, Department of Accounting and Finance, School of Business, Economics & Tourism, Kenyatta University
[3]Lecturer, Department of Accounting and Finance, School of Business, Economics & Tourism, Kenyatta University
*** Email of the Corresponding Author : muindicellinah@gmail.com**

How to cite this article: **Muindi, C. W., Koori, J., & Irungu, A. M. (2026). Credit Insurance and Quality of Loan Portfolio of Microfinance Banks in Kenya.** ***Journal of Finance and Accounting, 10*** **(1), 43-57. https://doi.org/10.53819/81018102t5410**

Abstract

The microfinance sector in Kenya has been grappling with deteriorating loan portfolio quality, as evidenced by the 5.55 percent net non-performing loans ratio between 2019 and 2022, exceeding the International Monetary Fund and World Bank's 5 percent vulnerability threshold. The absolute value of non-performing loans escalated from KES 4.198 billion in 2019 to KES 5.718 billion in 2022, creating a critical contradiction where expanded insurance coverage coincided with worsening portfolio performance. Therefore, this study assessed the effect of credit insurance on loan portfolio quality in Kenya's microfinance banks. The research was grounded in risk management theory. The study employed a positivism research philosophy and descriptive research design, targeting all 14 Central Bank of Kenya-regulated microfinance banks. Secondary data spanning 2019-2023 was analyzed using STATA through descriptive and inferential panel regression techniques. Credit insurance was measured as the ratio of insured loan amounts to total loans issued, while portfolio quality was measured as non-performing loans to total loans ratio. The study found that credit insurance has a statistically significant and negative effect on loan portfolio quality in Kenya's microfinance banks. The results show that each unit increase in credit insurance is associated with a 0.266-unit decline in loan portfolio quality ($\beta = -0.266$, $p = 0.000$), confirming the rejection of the null hypothesis. This indicates that, rather than strengthening portfolio performance, increased reliance on credit insurance may undermine loan quality within the microfinance sector. The study recommends that regulatory bodies, specifically the Central Bank of Kenya, enforce stricter oversight frameworks for credit insurance implementation in microfinance banks to mitigate identified moral hazard effects. Regulations should mandate complementary monitoring systems that maintain rigorous credit appraisal standards and borrower screening processes even when insurance coverage exists, preventing insurance presence from encouraging lax lending practices. Microfinance institutions should integrate enhanced loan supervision mechanisms alongside insurance adoption, including periodic portfolio reviews, borrower repayment behavior monitoring, and insurance claim pattern analysis to detect early warning signals of moral hazard.

Keywords: *Credit insurance, quality of loan portfolio, Microfinance Banks, Kenya*

Stratford Peer Reviewed Journals and Book Publishing
Journal of Finance and Accounting
Volume 10||Issue 1 ||Page 43-57|| January|2026|
Email: info@stratfordjournals.org ISSN: 2616-4965

1.0 Background to the Study

Microfinance institutions serve as crucial catalysts for financial inclusion, providing small loans and savings services to individuals and businesses excluded from mainstream banking. The main indicator of institutional health is loan portfolio quality, measured by the ratio of fully repaid loans against those overdue or at default risk (Bachas, Kim & Yannelis, 2021; Agasha, Monametsi & Feela, 2020). A robust loan portfolio reflects efficient lending practices, wise borrower selection, and effective repayment procedures, leading to sustainability and growth (Sifrain, 2022). International financial institutions set the non-performing loan (NPL) threshold at 5%, with figures above indicating high credit risk and potential financial instability (IMF, 2006; World Bank, 2019). Maintaining sound portfolio quality enables microfinance banks to generate revenue, enhance stability, and extend credit to underserved populations (Quartey & Kotey, 2019).

Credit insurance has emerged as a critical risk management tool for protecting loan portfolios against defaults that threaten institutional sustainability. As a risk management instrument, credit insurance provides financial security to both borrowers and lenders when unexpected events lead to loan repayment defaults (Agasha, Monametsi & Feela, 2020; Kadima, 2023). The mechanism allows borrowers to expand businesses without fear that unfortunate scenarios will decrease repayment capacity, while simultaneously protecting lenders from catastrophic losses (Enoch, Digil & Arabo, 2021). Credit insurance is measured by the ratio of insured loan amounts to total loans disbursed (Kadima, 2023; Bashaija, 2022). However, theoretical frameworks suggest that insurance mechanisms, without adequate monitoring, can create moral hazard effects where both parties take excessive risks, potentially undermining portfolio quality (Bashaija, 2022).

Global evidence presents mixed findings on credit insurance effectiveness in microfinance contexts. In Europe, microfinance banks maintained average Portfolio at Risk (PAR30) levels of 9.91% in 2021 despite widespread credit insurance adoption (Pytkowska, 2022). The United States demonstrated that effective risk management practices, including credit insurance, contributed to microfinance institutional achievement and expansion (Quartey & Kotey, 2019). Palestinian microfinance institutions showed that local credit risk measures, including insurance mechanisms, lowered exposure and enhanced stability (Abusharbeh, 2023). African regional studies reveal contradictory findings regarding credit insurance impact on portfolio quality. In Rwanda, credit risk measures including insurance mechanisms accounted for 34.8% of loan portfolio quality variation, demonstrating significant protective effects (Ndikubwimana et al., 2023). Ugandan microfinance banks implementing credit risk management initiatives experienced major beneficial effects on asset quality and lower default rates (Agasha, Monametsi & Feela, 2020). Tanzanian research established that enhanced appraisal techniques effectively lowered portfolio risk, though credit insurance adoption showed inconsistent results (Ngonyani, 2020).

Kenya's microfinance sector presents a critical credit insurance paradox requiring investigation. Despite increased credit insurance adoption, microfinance banks recorded an average NPL ratio of 5.55% between 2019 and 2022, with absolute non-performing loans rising from KES 4.198 billion to KES 5.718 billion (CBK, 2019-2022). This deterioration occurred precisely when institutions expanded credit insurance coverage, suggesting potential moral hazard effects. Kadima (2023) emphasized credit insurance as key in reducing loan defaults, yet empirical evidence shows portfolio quality declined during the study period. Kenyan studies by Karanja and Simiyu (2022) focused on broader credit policies, while Muindi and Mutwiri (2021) examined collateral

requirements, leaving insufficient evidence on credit insurance's specific portfolio quality impact despite its widespread adoption and theoretical importance.

This study addresses the critical knowledge gap on credit insurance effectiveness in Kenya's microfinance sector. Existing research explores general risk management practices without isolating credit insurance's specific impact on loan portfolio quality (Ngeno, 2021; Mwangi, 2021). The Central Bank of Kenya's regulatory framework requires enhanced risk management, yet credit insurance's actual contribution remains empirically unclear (CBK, 2022; Kimani, 2021). Understanding how credit insurance affects portfolio quality is essential because Kenya's 14 regulated microfinance banks serve over 2 million borrowers, and deteriorating portfolio quality threatens financial inclusion objectives. This study therefore assesses the effect of credit insurance on loan portfolio quality in Kenyan microfinance banks, providing empirical evidence to resolve implementation challenges and inform policy frameworks.

1.1 Statement of the Problem

Kenya's microfinance sector has implemented comprehensive initiatives to curb rising non-performing loans and restore portfolio stability. Critical interventions include IFRS 9 adoption, which compelled microfinance banks to project expected credit losses and enhance credit risk monitoring (Kahiro, 2021; Mungai, 2022; Odhiambo, 2021). Institutions upgraded credit appraisal processes, imposed strict collateral requirements, enhanced supervision mechanisms, and expanded credit information sharing systems (Njue, 2021; Omondi, 2021; Wambua, 2022). Significantly, credit insurance adoption intensified as a protective mechanism against default risks. The Central Bank of Kenya reinforced these efforts through regulatory frameworks covering credit risk management, loan classification, provisioning guidelines, regular inspections, and financial literacy programs (CBK, 2022; Kimani, 2021; Mwangi, 2022).

Despite these comprehensive interventions, including expanded credit insurance coverage, Kenya's microfinance sector continues experiencing critical portfolio quality deterioration. Net non-performing loans to net loan portfolio ratio stood at 5.56% over 2019-2022, exceeding the IMF and World Bank's 5% vulnerability threshold (CBK, 2019-2022). Absolute non-performing loans escalated from KES 4.198 billion in 2019 to KES 5.718 billion in 2022, representing a 36.2% increase. This deterioration occurred precisely when credit insurance adoption intensified, creating a paradoxical situation where increased protective mechanisms coincided with worsening portfolio quality. The persistent decline signals that existing risk management interventions, particularly credit insurance mechanisms, may not be functioning as theoretically intended in Kenya's microfinance context.

The credit insurance effectiveness paradox reveals a critical knowledge gap requiring empirical investigation. Theoretical frameworks suggest credit insurance should protect portfolio quality by transferring default risks, yet Kenya's experience shows concurrent insurance expansion and portfolio deterioration (Kadima, 2023; Bashaija, 2022). Existing studies emphasize credit insurance's theoretical importance in reducing loan defaults but lack empirical evidence on its actual portfolio quality impact in Kenya's microfinance environment (Mudey & Wekesa, 2020). Scholars differ on credit insurance effectiveness, with some highlighting protective benefits while others warn about moral hazard effects where insurance presence encourages lax lending standards (Mercylynne & Omagwa, 2017; Agasha, Monametsi & Feela, 2020). This study therefore assessed credit insurance's specific effect on loan portfolio quality in Kenya's microfinance banks.

Stratford Peer Reviewed Journals and Book Publishing
Journal of Finance and Accounting
Volume 10||Issue 1 ||Page 43-57|| January|2026|
Email: info@stratfordjournals.org ISSN: 2616-4965

1.2 Objective of the Study

To assess the effect credit insurance on quality of loan portfolio of microfinance banks in Kenya.

1.3 Research Hypothesis

H_0: Credit insurance has no significant effect on quality of loan portfolio of microfinance banks

2.0 Literate Review

The chapter presented the theory that guide the research and conceptual framework.

2.1 Theoretical Review

The study was anchored on risk management theory. Crockford introduced the theory in 1982, and Kloman refined it in 1992. It offers a comprehensive process for dealing with uncertainty in different organizational situations. This was the first of the structuring theories in risk management to emphasize the essential features of recognition, assessment, and prioritization of risks, which then led to the economic application of resources for reducing, monitoring, and controlling the probability and the consequences of the risk event occurrence (Aven, 2016). Risk management, beyond offering protection, has been argued to create significant value for firms (Nocco & Stulz, 2006). Bromiley et al. (2015) broadened risk from a narrow view to one that considers both threats and opportunities. Mikes (2011) stressed that risk management must be embedded in every process as part of organizational culture. In addition, it suggests that risk management should be relevant to the specific context of each organization, be open and participative, and follow the change (Hopkin, 2018). The theory was relevant in completing the study, as it connected credit insurance with microfinance banks. This theory helped in understanding how the credit insurance program can be a part of the total risk management strategies in environments where microfinance lending is the main focus and usually the borrowers are caught up in economic uncertainties that are beyond their control. Microfinance banks using credit insurance can effectively manage risk and enhance loan portfolio quality. The risk theory's emphasis on adopting a methodical approach to risk which indeed shows how microfinance banks have to combine their social mission with the goal of financial viability is great. It revealed how these organizations could systematize their risk management activities through the use of credit insurance to safeguard themselves from a potential wave of loan defaults and at the same time continue with their work in the under privileged community.

2.2 Conceptual Framework

The conceptual framework is presented in Figure 1.

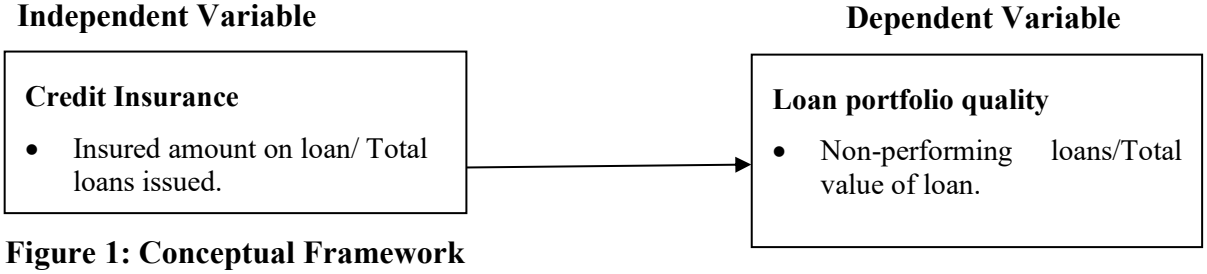

Figure 1: Conceptual Framework

3.0 Research Methodology

The study employed a positivism research philosophy and descriptive research design to examine credit insurance's effect on loan portfolio quality in Kenya's microfinance banks. Positivism facilitated systematic hypothesis testing and statistical examination of the relationships between variables (Creswell & Creswell, 2018; Zikmund, Babin, Carr & Griffin, 2010; Collis & Hussey, 2014). The descriptive design enabled tracking trends and establishing relationships between credit insurance and portfolio quality. The study adopted a census approach encompassing all 14 Central Bank of Kenya–regulated microfinance banks, thereby eliminating sampling bias and ensuring comprehensive representation of the sector. Secondary data spanning 2019-2023 was extracted from institutional financial statements, AMFI reports and CBK publications after obtaining approvals from Kenyatta University and NACOSTI. Data analysis utilized Stata software, employing descriptive statistics and inferential panel regression techniques. Ethical protocols ensured data integrity, source attribution, and transparent reporting throughout the research process.

4.0 Research Findings and Discussions

The research findings and discussions are presented in sections.

4.1 Descriptive Statistics

This section presents descriptive statistics for loan portfolio quality and credit insurance. The statistics include observations, mean, standard deviation, minimum, and maximum for each variable. The results are presented in Table 1 below.

Table 1: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Loan Portfolio Quality	70	0.3285	0.8898	-0.4830	0.5450
Credit Insurance	70	2.3111	1.5843	0.9463	4.5111

Source: Survey Data (2025)

Mean loan portfolio quality stood at 0.3285 (32.85%), with substantial standard deviation of 0.8898, indicating considerable variation across institutions and time periods. The minimum value of -0.4830 in 2021 represented portfolio corrections or write-offs, while the maximum of 0.5450 (54.5%) in 2020 indicated peak deterioration when non-performing loans reached critically high levels. This mean significantly exceeded the IMF and World Bank's 5% stability threshold, confirming severe portfolio quality challenges throughout the study period. The wide range between minimum and maximum values demonstrates heterogeneous performance across microfinance banks and temporal volatility driven by economic shocks during the study period. Credit insurance statistics revealed mean coverage of 2.3111 (231.1%), indicating insured loan amounts exceeded total loans issued, suggesting multiple insurance policies or comprehensive coverage strategies. The standard deviation of 1.5843 demonstrated substantial variation in insurance adoption intensity across institutions. Minimum coverage of 0.9463 (94.63%) in 2019 showed nearly complete portfolio coverage at baseline, while maximum coverage reached 4.5111 (451.11%) in 2021, representing dramatic expansion during the COVID-19 pandemic when

institutions aggressively pursued default protection. The 2021 peak coincided with portfolio quality deterioration, suggesting potential moral hazard where increased insurance coverage corresponded with worsening loan performance. Post-pandemic adjustments saw coverage decline to 1.8930 (189.3%) in 2022 before rising to 2.4821 (248.21%) in 2023, indicating recalibration while maintaining elevated protection levels.

4.2 Trend Analysis

Trend analysis examines the patterns of variables over the five-year study period (2019-2023). This analysis helps identify structural changes, cyclical patterns, and the evolution of risk management practices and loan portfolio quality in response to macroeconomic shocks and regulatory developments in Kenya's microfinance sector.

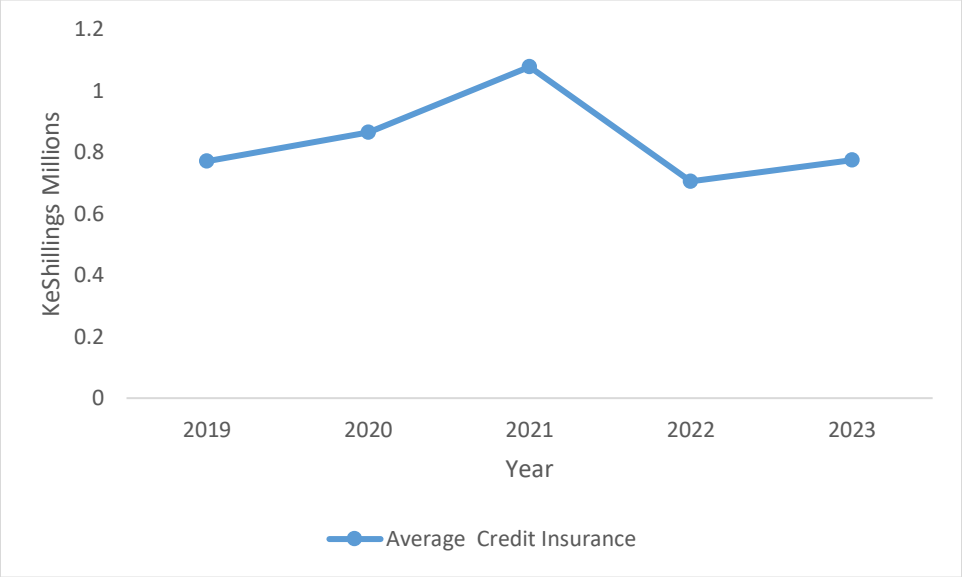

Figure 2: Trend of Credit Insurance (2019-2023)

(Source; Survey data, 2025)

Credit insurance demonstrated a clear upward trajectory with notable fluctuations, rising from 0.77 in 2019 to peak at 1.07 in 2021, representing a 39.0% increase. The metric increased steadily from 0.77 to 0.87 in 2020, a 13.0% rise, then surged to 1.07 in 2021 as microfinance banks aggressively pursued protection against pandemic-driven default risks. Subsequently, insurance coverage declined sharply to 0.70 in 2022, a 34.6% decrease from the peak, representing the lowest level during the study period. However, 2023 witnessed recovery to 0.77, returning exactly to 2019 baseline levels. The cyclical pattern, peaking during the crisis and returning to pre-pandemic levels, suggests temporary crisis-driven insurance adoption followed by normalization as the sector stabilized.

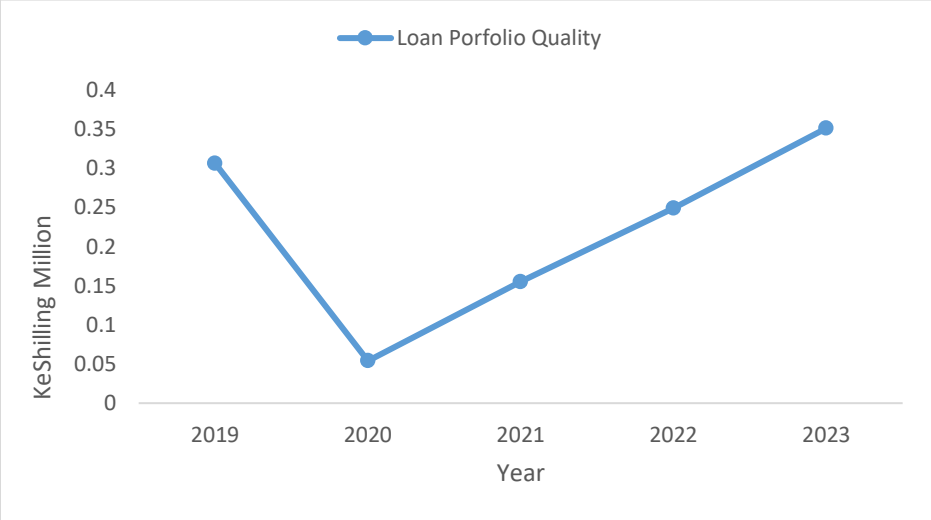

Figure 3: Trend of Loan Portfolio Quality (2019-2023)

(Source; Survey data, 2025)

Loan portfolio quality demonstrated a clear deteriorating trend with gradual recovery trajectory. Starting at 0.31 in 2019, portfolio quality declined dramatically to 0.05 in 2020, representing an 83.9% deterioration as pandemic-driven economic shocks triggered widespread defaults. The recovery commenced in 2021 with portfolio quality improving to 0.15, a 200% increase from the trough, followed by continued improvement to 0.25 in 2022 and 0.35 in 2023. Despite the recovery, the 2023 level of 0.35 exceeded the 2019 baseline of 0.31, indicating portfolio quality remained worse than pre-pandemic levels. The overall upward trend from 2020 trough demonstrates gradual portfolio recovery, though the sector had not fully restored pre-crisis loan quality by study conclusion.

4.3 Correlation Analysis

Correlation analysis illustrates the association between variables and the association between credit insurance and loan portfolio quality is depicted in Table 2.

Table 2: Correlation Analysis

	Credit Insurance
Credit Insurance	1.000
Loan Portfolio	-.807**

Source: Survey Data (2025)

The correlation analysis in Table 2 demonstrates a strong negative association between credit insurance and loan portfolio quality (r = -0.807). The correlation coefficient of -0.807 indicates that as credit insurance coverage increases, loan portfolio quality deteriorates proportionally, with this relationship being statistically significant at the 1% level. The negative direction contradicts conventional theoretical expectations that insurance mechanisms should protect portfolio performance by absorbing default risks. The strength of this correlation, approaching -0.80, suggests approximately 65% shared variance between the variables, demonstrating that credit

insurance expansion consistently accompanied portfolio quality decline across Kenya's microfinance sector during 2019-2023. This negative correlation provides preliminary evidence supporting moral hazard effects in credit insurance implementation. The relationship suggests that when microfinance banks increase insurance coverage, portfolio quality simultaneously worsens, potentially indicating that insurance presence encourages lax lending standards or reduces borrower repayment discipline. This finding aligns with Risk Management Theory's warnings about unintended behavioral consequences when protective mechanisms create false security perceptions. The correlation evidence supports Kadima (2023) and Mercylynne & Omagwa (2017), who cautioned that credit insurance without adequate monitoring may undermine the portfolios it aims to protect. However, correlation does not establish causation, necessitating regression analysis to confirm whether credit insurance directly causes portfolio deterioration or whether this association reflects confounding factors such as institutions adopting insurance specifically when facing elevated default risks.

4.4 Tests of Hypothesis

The study assessed how credit insurance influences loan portfolio quality in Kenya's microfinance banks. To meet this objective, a hypothesis was developed and tested using panel regression analysis especially by checking the p value. The hypothesis test results are presented below.

Table 3: Regression Analysis

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
1 (Constant)	2.8460	0.6225		4.571	.0000
Credit Insurance	-0.2660	0.0254	-.670	-10.493	.0000

Source: Survey Data (2025)

Hypothesis examined whether credit insurance influences the quality of loan portfolios. It was stated as follows:

H_0: Credit insurance has no significant effect on the quality of the loan portfolio of microfinance banks in Kenya.

The study found that credit insurance had a statistically significant and negative effect on loan portfolio quality ($B = -0.266$, $p = 0.000$). This implies that an increase in credit insurance is associated with a deterioration in loan portfolio quality among Kenyan microfinance banks. Regression analysis revealed that credit insurance significantly and negatively affects the quality of the loan portfolio, leading to the rejection of the null hypothesis. Specifically, the findings indicate that loan portfolio quality declines by 0.266 units for every one-unit increase in credit insurance, holding other variables constant. These results suggest that credit insurance may be one of the major contributors to portfolio deterioration, as its presence appears to weaken portfolio quality rather than strengthen it. The outcome supports Credit Risk Management Theory, which posits that the use of credit insurance in lending can encourage moral hazard, thereby undermining loan portfolio quality despite its intended role in protecting lenders against default risk. The findings are consistent with earlier empirical studies. Mercylynne and Omagwa (2017), in their

study of Kenyan commercial banks, observed that debt recovery had a limited effect on performance, while loan appraisal, lending rules, and credit policies had strong positive effects. Similarly, Kayode et al. (2015), using panel data from six Nigerian banks covering the period 2000 to 2013, found that credit risk adversely affected performance as measured by return on assets, although credit extended to customers improved performance.

4.5 Discussion of the Findings

The objective was to assess the impact of credit insurance on loan portfolio quality in Kenyan microfinance banks. In this study, credit insurance was measured by the ratio of insured loan amounts to the total loan value issued by microfinance banks. The null hypothesis (H_0) posited that credit insurance does not have a significant effect on loan portfolio quality and was tested using regression analysis. The regression results indicate that credit insurance has a negative influence on loan portfolio quality, with a coefficient of −0.266 and a p value of 0.000, leading to the rejection of the null hypothesis. The findings suggest that credit insurance, although intended to protect financial institutions from loan defaults, may induce moral hazard, particularly when risks are insured, as borrowers become more likely to engage in risky behavior, thereby negatively affecting loan portfolio quality. In line with Credit Risk Management Theory, credit risk management views risk in a broader context, emphasizing management's role in balancing risk transfer mechanisms with effective monitoring to avoid unintended consequences. Further, correlation analysis revealed a very strong negative relationship between credit insurance and loan portfolio quality ($r = -0.8070$, $p = 0.0000$). Previous studies have reported mixed results regarding the effects of credit insurance. Kadima (2023) examined credit risk management in Kenyan MFBs and noted that while credit insurance helps deflect default risk, its implementation requires careful oversight to prevent moral hazard. Mercylynne and Omagwa (2017) found that in Kenyan commercial banks, loan appraisal and credit policies had stronger positive impacts than insurance-based approaches.

5.0 Conclusion

The study concludes that credit insurance has a statistically significant and negative effect on loan portfolio quality in Kenya's microfinance banks. Empirical results show that each unit increase in credit insurance is associated with a 0.266-unit decline in loan portfolio quality ($\beta = -0.266$, $p = 0.000$), confirming the rejection of the null hypothesis. This indicates that, rather than strengthening portfolio performance, increased reliance on credit insurance may undermine loan quality within the microfinance sector. The findings suggest the presence of moral hazard effects, where the availability of credit insurance reduces the incentive for both lenders and borrowers to exercise strict credit discipline. Lenders may relax screening, monitoring, and recovery efforts, while borrowers may engage in riskier behavior due to the perceived protection offered by insurance coverage. This outcome is consistent with Credit Risk Management Theory, which cautions that risk transfer mechanisms, if not accompanied by effective monitoring and control systems, can lead to behavioral distortions that weaken overall risk outcomes. Overall, the study highlights the need for microfinance banks to balance the use of credit insurance with robust credit appraisal, monitoring, and enforcement mechanisms to safeguard loan portfolio quality and ensure sustainable financial performance.

6.0 Recommendations

The study recommends that regulatory bodies, specifically the Central Bank of Kenya, enforce stricter oversight frameworks for credit insurance implementation in microfinance banks to mitigate identified moral hazard effects. Regulations should mandate complementary monitoring systems that maintain rigorous credit appraisal standards and borrower screening processes even when insurance coverage exists, preventing insurance presence from encouraging lax lending practices. Microfinance institutions should integrate enhanced loan supervision mechanisms alongside insurance adoption, including periodic portfolio reviews, borrower repayment behavior monitoring, and insurance claim pattern analysis to detect early warning signals of moral hazard. Policymakers should develop sector-wide guidelines requiring transparent disclosure of insurance coverage levels, premium structures, and claim settlement ratios to enable comparative performance assessment. Furthermore, insurance providers should align premium pricing with actual risk profiles rather than offering uniform coverage, thereby incentivizing prudent lending behavior and maintaining portfolio quality standards throughout the sector.

REFERENCES

Abusharbeh, M. T. (2023). Modeling the factors of portfolio at risk for microfinance banks in Palestine. *Cogent Economics & Finance*, *11*(1), 2186042. https://doi.org/10.1080/23322039.2023.2186042

Agasha, E., Monametsi, G., & Feela, T. (2020). Loan portfolio quality of microfinance banks in Uganda: A qualitative assessment. *Journal of Financial Risk Management*, *9*(02), 155-161. https://doi.org/10.4236/jfrm.2020.92009

Ali, R., Butt, S. U., Butt, Z. Z., Shah, S. M., & Sulehri, F. A. (2019). Role of Credit Information Sharing and the Funding Cost of Banks: Evidence from the Top Ten "AA Rating" Commercial Banks of Pakistan. *SEISENSE Journal of Management*, *2*(4), 88-95. https://doi.org/10.33215/sjom.v2i4.171

Amos, E. G. Ukpe E. A., & Essien, I. T. (2021). Effect of Credit Management Systems on the Loan Recovery Efforts of Microfinance banks in Akwa Ibom State, Nigeria. Research Journal of Finance and Accounting, 9(10), 26-31

Arrow, K.J. (1985). The Economics of Agency. In Principals and Agents: The Structure of Business, edited by J.W. Pratt and R.J. Zeckhauser, 37-51. Boston: Harvard Business School Press.

Bachas, N., Kim, O. S., & Yannelis, C. (2021). Loan guarantees and credit supply. *Journal of Financial Economics*, *139*(3), 872-894. https://doi.org/10.1016/j.jfineco.2020.08.008

Bashaija, W. (2022). Effect of Financial Risk on Financial Performance of Insurance Companies in Rwanda. *Journal of Finance and Accounting*, *10*(5).

CBK. (2022). Bank Supervision & Banking Sector Reports. *Retrieved from Https://Www.Centralbank.Go.Ke/Reports/Bank-Supervision-and-Banking-Sector-Reports/*.

Deyganto, K. O. (2020). The Assessing Credit Risk Management Practice of MFBs: Evidence from Micro Finance Institutions in Sidama Regional State, Ethiopia.

Diamond, D. W. (1984). Financial Intermediation and Delegated Monitoring. *Review of Economic Studies*, 51(3), 393-414. https://doi.org/10.2307/2297430

Dickey, D. A., & Fuller, W. A. (1979). Distribution of the estimators for autoregressive time series with a unit root. *Journal of the American statistical association*, *74*(366a), 427-431.

Dolo, A. B. (2021). An Assessment of the Impact of Credit Risk Management and Performance on Loan Portfolio at International Bank Liberia.

Drempetic, S., Klein, C., & Zwergel, B. (2020). The influence of firm size on the ESG score: Corporate sustainability ratings under review. *Journal of business ethics*, *167*, 333-360. https://doi.org/10.1007/s10551-019-04164-1

Dube, H., & Kwenda, F. (2023). Credit Risk Management and the Financial Performance of Microfinance banks in Southern Africa. *The Journal of Developing Areas*, *57*(2), 145-157. https://doi.org/10.1353/jda.2023.0026

Duho, K. C. T., Duho, D. M., & Forson, J. A. (2023). Impact of income diversification strategy on credit risk and market risk among microfinance banks. *Journal of Economic and Administrative Sciences*, *39*(2), 523-546.

Enoch, E. Y., Digil, A. M., & Arabo, U. A. (2021). Evaluating the Effect of Credit Collection Policy on Portfolio Quality of Micro-Finance Bank. *arXiv preprint arXiv:2105.10991*.

Field, A. (2023). Discovering statistics using IBM SPSS Statistics. Sage: London UK.

Freixas, X., & Rochet, J.-C. (2008). *Microeconomics of Banking*. 2nd ed. Cambridge, MA: MIT Press.

Gall, J. P., & Borg, W. R. (2007). *Educational research: An introduction*. Boston, MA: Pearson Education

Granger, C. W., & Newbold, P. (1974). Spurious regressions in econometrics. *Journal of econometrics*, *2*(2), 111-120.

Habamenshi, V., & Gasana, S. (2023). Effect of Credit Risk Management on Loan Performance among Microfinance banks. A Case of Réseau Interdiocésain De Microfinance (RIM Ltd) Kibuye Branch. *International Journal of Research and Innovation in Social Science*, *7*(8), 750-769.

Hoang, K., Tran, S., & Nguyen, L. (2022). Credit information sharing, nonperforming loans and economic growth: A cross-country analysis. *Cogent Economics and Finance*, *10*(1). https://doi.org/10.1080/23322039.2022.2045720

Hulu, Y. A., Cindy, C., Gani, S., Sinurat, M., & Ilham, R. N. (2022). The Relationship between Non-Performing Loans and Size on Leverage in Indonesia Stock Exchange. *International Journal of Finance, Economics and Business*, *1*(3), 231-236.

International Monetary Fund (2006). Financial Soundness Indicators: Compilation Guide. Retrieved from https://www.imf.org/external/pubs/ft/fsi/guide/2006/pdf/071807.pdf

Ishmail, D. M., Memba, F., & Muriithi, J. (2023). moderating effect of firm size on the relationship between credit risk and financial performance of microfinance banks in Kenya.

Jerono, A., & Olweny, T. (2023). Financial Risk Management Practices on Financial Performance of Microfinance banks in Kiambu County, Kenya. *International Journal of Finance*, *8*(2), 1-26.

Kadima, A. W. W. (2023). Effect Of Credit Risk Management On Financial Performance Of Selected Microfinance banks In Kenya.

Kahiro, J. M. (2021). Effect of IFRS 9 adoption on financial performance of microfinance banks in Kenya. *Journal of Finance and Accounting*, 5(2), 34-45.

Kalui, F. M. (2020). Institutional micro credit determinants and portfolio quality of investment groups. *European Scientific Journal*, *16*(4), 191-214.

Karanja, S. G., & Simiyu, E. M. (2022). Credit management practices and loan performance of microfinance banks in Kenya. *Journal of Finance and Accounting*, *6*(1), 108-139.

Kayode, O. F., Obamuyi, T. M., Owoputi, J. A., & Adeyefa, F. A. (2015). Credit Risk and Bank Performance in Nigeria. *IOSR Journal of Economics and Finance*, *6*(March-April, 2015), 21–28. https://doi.org/10.9790/5933-06222128

Kebede, J., Tawiah, V., & Gyapong, E. (2023). The effect of corruption on microfinance loan portfolio: A semiparametric analysis. *Economics of Transition and Institutional Change*, *31*(1), 241-268. https://doi.org/10.1111/ecot.12332

Kehdinga, E. N. (2023). Credit Management as a Predictor to the Sustainability of Microfinance banks: a portfolio quality analysis. *Journal of Academic Finance*, *14*(2), 99-127.

Kennedy, A. M. (2017). Macro-social marketing research: philosophy, methodology and methods. *Journal of Macromarketing*, *37*(4), 347-355.

Khan, A., Ahmad, A., & Shireen, S. (2021). Ownership and performance of microfinance banks: Empirical evidences from India. *Cogent Economics & Finance*, *9*(1), 1930653.

Khatri, K. K. (2020). Research paradigm: A philosophy of educational research. *International Journal of English Literature and Social Sciences*, *5*(5), 1435-1440.

Kijkasiwat, P., & Phuensane, P. (2020). Innovation and firm performance: The moderating and intervening roles of firm size and small and medium enterprise finance. *Journal of Risk and Financial Management*, *13*(5), 97.

Kil, K., Ciukaj, R., Druhov, O., & Gritsenko, N. (2020). Determinants of the Non-Performing Loan Ratio in the Banking Sectors of Central and Eastern Europe Countries. *Financial and credit activity problems of theory and practice*, *2*(33), 23-36. https://doi.org/10.18371/fcaptp.v2i33.206391

Kimani, E. M. (2021). The role of the Central Bank of Kenya in regulating and supervising microfinance banks. *International Journal of Economics and Finance*, 13(6), 123-135.

Kirimi, A. G. (2019). *Effect of Shared Entrepreneurs' Credit Information on the Performance of Deposit Taking Microfinance banks in Kenya* (Doctoral dissertation, JKUAT-COHRED).

Kirongo, A., & Odoyo, C. (2020). Research philosophy design and methodologies: A systematic review of research paradigms in information technology.

Kivaya, B. M., Kemboi, A., & Odunga, R. (2020). Moderating role of firm size on corporate governance and financial performance of microfinance banks in Kenya. *African Journal of Emerging Issues*, *2*(1), 1-23.

Luukkonen, R., Saikkonen, P., & Teräsvirta, T. (2008). Testing linearity against smooth transition autoregressive models. *Biometrika*, *75*(3), 491-499. https://doi.org/10.1093/biomet/75.3.491

Luvuma, S. (2021). *Loan portfolio management and financial performance of microfinance banks in Uganda: a case study of Brac Uganda Microfinance Limited Head office, Kampala* (Doctoral dissertation, University of Kisubi).

MacKenzie, D. (2014). *A Sociology of Algorithms: High-Frequency Trading and the Shaping of Markets*. Review of Financial Studies, 27(7), 1213-1237.

Mahmood, F., Han, D., Ali, N., Mubeen, R., & Shahzad, U. (2019). Moderating effects of firm size and leverage on the working capital finance–profitability relationship: evidence from China. *Sustainability*, *11*(7), 2029.

Maina, E. M., & Njeru, A. (2023). Influence of credit risk management practices on loan recovery performance of the registered digital credit providers in Kenya. *The Strategic Journal of Business & Change Management*, *10*(4), 682-695.

Markowitz, H. (1952). Portfolio Selection. *The Journal of Finance*, 7(1), 77-91.

Martin, S. M. (2019). *Microfinancing and its effect on entrepreneurial activity in the base of the pyramid: An in-depth look at Banco Compartamos in México* (Doctoral dissertation, IE University).

Mashalaghu, R. B., & Mutunga, O. (2021). Effect of Firm Characteristics on Financial Stability of Microfinance banks in Kilifi County, Kenya. *International Research Journal of Economics and Management Studies IRJEMS*, *2*(2), 34–49.

Mbah, R. E. (2023). The Impact of Effective Credit Risk Management Systems on the Survival of Microfinance banks. *Current Topics on Business, Economics and Finance Vol. 6*, 37-51.

Mercylynne, M. W., & Omagwa, J. (2017). Credit Risk Management And Financial Performance Of Selected Commercial Banks In Kenya. *IOSR Journal of Business and Management*, *19*(11), 92–98. https://doi.org/10.9790/487X-1911079298

Midi, H., Sarkar, S. K., & Rana, S. (2010). Collinearity diagnostics of binary logistic regression model. *Journal of interdisciplinary mathematics*, *13*(3), 253-267.

Mishkin, F. S. (1999). Global Financial Instability: Framework, Events, Issues. *Journal of Economic Perspectives*, 13(4), 3-20.

Mudey, H. M., & Wekesa, M. (2020). Effect of Credit Policy on Loan Performance of Micro Finance Institutions in Mogadishu, Somalia. *International Journal of Advanced Research and Review*, *5*(4), 20-31.

Mühlich, L., & Fritz, B. (2021). Borrowing Patterns in the Global Financial Safety Net: Does Governance Play a Role?. *Global Policy*, *12*, 47-68.

Muindi, C. W., & Jagongo, A. (2023). Microcredit Risk Management Strategies and Loan Portfolio Quality of Microfinance banks in Kenya. *Journal of Finance and Accounting*, *3*(4), 32-42.

Muindi, C. W., & Mutwiri, N. M. (2021). Collateral requirement as a determinant of portfolio quality of microfinance banks: Why does it matter? Insights from microfinance banks in Kenya. *International Academic Journal of Economics and Finance*, *3*(6), 362-374.

Mutai, M. C., & Opuodho, G. (2021). Effect of credit risk management practices on loan performance of microfinance banks in Kenya. *International Academic Journal of Economics and Finance, 3 (7), 159*, *175*, 2.

Muthoni, M. I., Mwangi, L. W., & Muathe, S. M. (2020). Credit management practices and loan performance: empirical evidence from commercial banks in Kenya. *International Journal of Current Aspects in Finance, Banking and Accounting*, *2*(1), 51-63. https://doi.org/10.35942/ijcfa.v2i1.105

Mwangi, A. W. (2021). *Effect Of Credit Management On Asset Quality Of Microfinance banks In Nairobi Metropolitan* (Doctoral dissertation, Kca University).

Ndichu, J. K. (2021). *Effect Of Credit Management Practices On Loan Performance In Self Help Groups In Kenya* (Doctoral dissertation, Kca University).

Ndikubwimana, P., Abel, B., Mukamanzi, F., Twesige, D., & Byukusenge, L. (2023). Credit Risk Analysis and Microfinance Loan Quality in Rwanda: A Case Study of Cooperative COPEDU Ltd. *The University Journal*, *5*(2), 99-120.

Ngeno, G. K. (2021). *The Relationship Between Credit Information Sharing and Non-performing Loan Among Microfinance banks in Kenya* (Doctoral dissertation, University of Nairobi).

Ngonyani, D., & Serbes, H. (2020). Loan Appraisal Protocol for Effective Microfinance Portfolio in Tanzania. *International Journal of Public Finance*, *5*(2), 193-210.

Ngware, S. G. (2021). *Banks' Portfolio Diversification on Financial Performance of Commercial Banks in Kenya* (Doctoral dissertation, JKUAT-COHRED).

Nyandoro, E. B. (2019). *Determinants of loan portfolio quality in investments groups: a case study of Sidian bank* (Doctoral dissertation, Egerton University).

Obae, G., & Jagongo, A. (2022). Credit management practices and loan repayment of commercial banks in Kenya. *International Academic Journal of Economics and Finance* |, *3*(7), 222–237. https://iajournals.org/articles/iajef_v3_i7_222_237.pdf

Odhiambo, F. O., & Ndede, F. W. (2019). Credit Information Sharing Practices and Financial Performance of Commercial Banks in Kenya. *International Journal of Current Aspects*, *3*(6), 67-82. https://doi.org/10.35942/ijcab.v3iVI.79

Peteraf, M.A. (1993). The Cornerstones of Competitive Advantage: A Resource-Based View. *Strategic Management Journal*, 14(3), 179-191.

Pichlak, M., & Szromek, A. R. (2021). Eco-innovation, sustainability and business model innovation by open innovation dynamics. *Journal of Open Innovation: Technology, Market, and Complexity*, *7*(2), 149.

Pila, J., Muturi, W., & Olweny, T. (2022). Moderating Effect of Manufacturing Firm Size on Indictors of Financial Uncertainty and Performance of Kenya Manufacturing Firms. *Journal of Accounting and Finance in Emerging Economies*, *8*(4), 489–500. www.publishing.globalcsrc.org/jafee

Priem, R.L., & Butler, J.E. (2001). Is the Resource-Based "View" a Useful Perspective for Strategic Management Research? *Academy of Management Review*, 26(1), 22-40.

Prihantoro, L. T., & Nuryakin, C. (2020). Does Collateral Affect the Access and Loan Payment Behavior of MSMEs? *Journal of Economics, Business, & Accountancy Ventura*, *23*(2), 218–225. https://doi.org/10.14414/jebav.v23i2.2336

Purwanto, A. (2021). Partial least squares structural squation modeling (PLS-SEM) analysis for social and management research: a literature review. *Journal of Industrial Engineering & Management Research*.

Pytkowska, J. (2022). Microfinance in Europe: Survey Report 2022 edition. Retrieved from https://www.european-microfinance.org/sites/default/files/document/file/survey121222b.pdf

Quartey, J. A., & Kotey, B. (2019). The effect of regulations on ability of MFIs to provide sustained financial services to small business. Small Enterprise Research, 26(3), 235-252.

Rahi, S. (2017). Research design and methods: A systematic review of research paradigms, sampling issues and instruments development. *International Journal of Economics & Management Sciences*, *6*(2), 1-5.

Rao, T. S., & Gabr, M. M. (2010). A test for linearity of stationary time series. *Journal of time series analysis*, *1*(2), 145-158.

Rhee, W. W., & Ha, H. Y. (2022). Does Public-Loan Management Matter for Sustainable Finance and Operation Risk? *Sustainability*, *14*(3), 1453.

Sifrain, R. (2022). Factors influencing loan portfolio quality of microfinance banks in Haiti. *Journal of Financial Risk Management*, *11*(1), 95-115.

Uddin, M. A., Alam, M. S., Al Mamun, A., & Akter, A. (2020). A study of the adoption and implementation of enterprise resource planning (ERP): Identification of moderators and mediator. *Journal of Open Innovation: Technology, Market, and Complexity*, *6*(1), 2.

World Bank (2019). Bank Regulation and Supervision Survey. Retrieved from https://www.worldbank.org/en/research/brief/BRSS

Zikmund, G.W., Babin, B.J., Carr, C.J. & Griffin, M. (2010). *Business Research Methods*. 8th edition. South-Western, Cengage Learning.