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Underwriting Risk Exposure and Financial Performance of Listed Insurance Companies at the Nairobi Securities Exchange

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Abstract

This study examined the effect of underwriting risk exposure on the financial performance of insurance companies listed on the Nairobi Securities Exchange (NSE). The study was anchored on Agency Theory and employed a positivist research philosophy alongside a descriptive correlational design. It utilised secondary panel data extracted from the audited annual financial statements of six insurance firms listed on the Nairobi Securities Exchange over the 2015–2024 period, resulting in a total of 60 firm-year observations. Underwriting risk exposure was measured using the loss ratio, while financial performance was measured using return on assets (ROA). Data were analysed using descriptive statistics, Pearson correlation and regression analysis. Findings revealed variations in underwriting risk exposure, with an overall mean loss ratio of 67.06 per cent and a standard deviation of 6.18 per cent. Kenya Re-Insurance Corporation Limited recorded the lowest mean loss ratio (59.48%), while CIC Insurance Group Limited recorded the highest (73.26%). The industry average increased from 63.25 per cent in 2015 to 76.65 per cent in 2020 before declining to 60.53 per cent in 2024. Inferential results established a statistically significant negative effect of underwriting risk exposure on financial performance ($\beta = -0.842$, $p < 0.001$). The regression model explained 70.9 per cent of the variation in financial performance ($R^2 = 0.709$; $F(1, 58) = 143.749$, $p < 0.001$), leading to rejection of the null hypothesis. The study contributes empirical evidence on underwriting risk and financial performance in Kenya's listed insurance sector, highlighting the importance of effective underwriting practices in sustaining financial performance. It recommends strengthening risk assessment, premium pricing, claims management, fraud detection and reinsurance practices. The Insurance Regulatory Authority should also enhance regulatory monitoring of underwriting risk and loss ratios.

Keywords: Financial performance, insurance companies, loss ratio, Nairobi Securities Exchange, risk management, underwriting risk exposure.

INTRODUCTION

The insurance industry is an important part of the global financial system because it protects against financial risks, mobilises savings, supports investment, and contributes to economic stability. Insurance companies perform these functions by assuming risks from individuals and organisations in exchange for premiums, making effective risk assessment and management central to their sustainability. A major risk insurers face is underwriting risk, which arises when actual claims and related expenses exceed the levels anticipated during underwriting. Excessive underwriting risk can therefore weaken profitability through higher claims costs, inadequate premium pricing, and poor risk selection. Effective management of underwriting risk is consequently essential for maintaining insurers' financial performance and long-term viability.

Globally, insurers operate in an environment marked by economic uncertainty, shifting risk patterns, rising claims pressures, technological developments, and evolving customer expectations. These conditions have made accurate risk assessment, pricing, underwriting, and claims management increasingly important to insurance companies. Financial performance remains a key indicator of an insurer's ability to meet policyholder obligations, maintain adequate capital, and generate sustainable returns. Recent research shows that insurance risk management is significantly associated with financial performance, although the direction and magnitude of the relationship may vary by risk type and institutional environment. For example, evidence from Kenya indicates that risk management significantly influences insurance firms' financial performance, highlighting the importance of controlling risks arising from insurance operations (Kiptoo et al., 2021). Similarly, empirical evidence on underwriting risk shows that higher exposure can negatively affect insurers' financial performance because increased claims and inadequate underwriting decisions can reduce profitability (Kamau, 2023).

Underwriting risk is particularly important in developing insurance markets, where insurers must balance portfolio growth with effective risk control. African insurance markets continue to face challenges related to low insurance penetration, competitive pressures, changing economic conditions, and claims management. These challenges increase the importance of underwriting decisions because insurers must determine appropriate premiums while selecting and managing risks that can potentially generate substantial claims. In the Kenyan insurance sector, empirical evidence has produced mixed findings regarding the relationship between underwriting risk and financial performance. Morara and Sibindi (2021), for example, found that underwriting risk, measured using the combined ratio, was positively associated with financial performance, while Kamau (2023) reported a significant negative effect of underwriting risk on financial performance. These differences suggest that the effect of underwriting risk may depend on firm characteristics, risk measurement, and the period examined.

In Kenya, the insurance industry remains an important contributor to financial and economic activity. The sector has continued to expand in premiums, assets, and investment, although growth has occurred alongside rising claims and risk-management challenges. According to the Kenya National Bureau of Statistics (KNBS, 2025), gross premium income for life insurance increased by 18.5 per cent, from KSh 170.1 billion in 2023 to KSh 201.6 billion in 2024, while benefits paid increased from KSh 94.1 billion to KSh 102.9 billion over the same period. The broader financial and insurance sector also grew 7.6 per cent in 2024, demonstrating its increasing contribution to the Kenyan economy. More recent evidence from the Insurance Regulatory Authority indicates that by September 2025, total industry gross written premiums had reached Sh 352.29 billion, an 11.2 per cent increase from the corresponding period in 2024. However, general insurance claims stood at Sh 83.01 billion, and the claims loss ratio rose to 71.8 per cent, up from 69.2 per cent in the corresponding period in 2024. These figures highlight the ongoing importance of claims and underwriting outcomes to insurers' financial sustainability. The issue becomes more significant among insurance companies listed on the Nairobi Securities Exchange (NSE) because these firms operate under heightened expectations for profitability, shareholder value, transparency, and regulatory compliance. Listed insurers must manage underwriting activities effectively while maintaining sufficient capital and meeting policyholder obligations.

Although previous studies have examined insurance risks and financial performance in Kenya, much of the evidence has focused on insurance companies generally rather than specifically on NSE-listed firms. For instance, Mutua et al. (2023) found that underwriting risk had a negative and statistically significant effect on the financial performance of insurance companies in Kenya. Similarly, Kamau (2023) established that underwriting risk significantly reduced financial performance, while firm size further moderated the relationship. Despite these findings, an empirical gap remains concerning the specific effect of underwriting risk exposure on the financial performance of listed insurance companies at the Nairobi Securities Exchange. Listed insurers have distinctive governance structures, capital requirements, investment expectations, and reporting obligations that may differ from the broader insurance industry. Furthermore, existing studies have produced divergent findings on whether underwriting risk improves or reduces financial performance, creating a need for further investigation in the listed-insurer context. The present study therefore examines the effect of underwriting risk exposure on the financial performance of insurance companies listed at the Nairobi Securities Exchange. The study sought to provide empirical evidence to help insurance managers, investors, and regulators understand the financial implications of underwriting risk and develop strategies to maintain sustainable performance.

Statement of the Problem

The insurance industry plays an important role in Kenya's financial system by providing risk protection, mobilising savings and supporting investment. However, the ability of insurance companies to sustain financial performance depends partly on their capacity to manage underwriting risk effectively. Underwriting risk arises when claims and associated costs exceed the premiums anticipated when insurance policies are underwritten, potentially reducing underwriting profitability, earnings and overall financial performance. Recent industry statistics demonstrate the magnitude of this challenge. By September 2025, Kenya's insurance industry had recorded Sh 352.29 billion in gross written premiums, while general insurance claims incurred amounted to Sh 83.01 billion, resulting in a claims loss ratio of 71.8 per cent, compared with 69.2 per cent during the same period in 2024 (Insurance Regulatory Authority [IRA], 2026). This increase indicates that a larger proportion of premium income was being absorbed by claims, potentially placing additional pressure on insurers' profitability.

The challenge is particularly evident among insurance companies listed on the Nairobi Securities Exchange (NSE), where considerable differences in underwriting performance exist despite companies operating within the same regulatory and economic environment. In FY2025, the listed insurance sector recorded a weighted average loss ratio of 82.7 per cent, while the combined ratio increased from 127.3 per cent in 2024 to 146.0 per cent in 2025, indicating that underwriting claims and expenses substantially exceeded premium income. Consequently, weighted average core earnings per share declined by 4.9 per cent, compared with an increase of 52.3 per cent in FY2024 (Cytonn Investments, 2026). Company-level differences further illustrate the problem: CIC Insurance Group recorded a loss ratio of 95.8 per cent, compared with 73.5 per cent for Sanlam Kenya, while their respective combined ratios stood at 200.2 per cent and 113.5 per cent. These differences suggest that insurers face varying levels of underwriting risk exposure, with potentially different implications for their ability to generate earnings, control claims costs and maintain sustainable financial performance.

Despite the importance of underwriting risk management, the extent to which variations in underwriting risk exposure influence the financial performance of individual listed insurance companies remains insufficiently established. Existing studies have examined insurance risks, risk-management practices and financial performance in Kenya, but empirical findings remain inconclusive, particularly regarding the relationship between underwriting risk exposure and financial performance among NSE-listed insurers. Moreover, substantial differences in company-level loss ratios and combined ratios raise questions about whether higher underwriting risk exposure translates into weaker financial performance across listed firms. Without firm-level empirical evidence, insurance managers may face difficulties in identifying the extent to which underwriting risk affects financial outcomes, while investors and

regulators may lack sufficient evidence to assess underwriting efficiency and financial sustainability.

Therefore, this study examined the effect of underwriting risk exposure on the financial performance of insurance companies listed on the Nairobi Securities Exchange. By measuring underwriting risk exposure using the loss ratio and financial performance using return on assets (ROA), the study sought to provide empirical evidence on how variations in claims relative to premiums earned influence the financial performance of listed insurers. The findings are expected to inform underwriting risk-management practices, investment decisions and regulatory interventions aimed at strengthening the financial sustainability of Kenya's insurance industry.

Objective of the Study

To examine the effect of underwriting risk exposure on the financial performance of insurance companies listed at the Nairobi Securities Exchange.

Research Hypothesis

H_{01}: Underwriting risk exposure has no statistically significant effect on the financial performance of insurance companies listed at the Nairobi Securities Exchange.

Significance of the Study

The study was significant to insurance companies listed on the Nairobi Securities Exchange because it provided empirical evidence on how underwriting risk exposure affected their financial performance. The findings were expected to help insurance managers strengthen underwriting decisions, improve risk assessment and pricing, and develop appropriate strategies for controlling claims-related losses. This was particularly important given evidence that underwriting risk could significantly influence the financial performance of insurance firms in Kenya (Kamau, 2023). The study was also significant to regulators and policymakers, particularly the Insurance Regulatory Authority, because it provided evidence to inform the development and strengthening of policies on underwriting practices, risk management, and financial stability within the insurance sector.

The findings could support regulatory interventions to ensure insurers maintain sound underwriting practices and adequate capacity to meet policyholder obligations. Investors and shareholders also benefited from the study because the findings provided insights into the relationship between underwriting risk exposure and financial performance. This information could help investors evaluate the risk and profitability profiles of listed insurance companies when making investment decisions. The study was further significant to researchers and scholars, as it added to the existing body of knowledge on insurance risk and financial performance and provided a basis for future studies on underwriting risk among listed and non-listed insurance companies in Kenya.

LITERATURE REVIEW

This section reviewed theoretical and empirical literature on underwriting risk exposure and financial performance of listed insurance companies. It examined previous studies on the relationship between underwriting risk and financial performance across global, regional, and Kenyan contexts. The review identified variations in previous findings and established the empirical gap that the study addressed, particularly among insurance companies listed at the Nairobi Securities Exchange.

Theoretical Review

Jensen and Meckling (1976) developed Agency Theory and explained the relationship between principals, such as shareholders, and agents, such as managers, who are entrusted with managing organisational resources. The theory proposed that differences in interests and information asymmetry could create agency problems, making monitoring, accountability, and effective governance important for aligning managerial decisions with organisational objectives (Jensen & Meckling, 1976; Kiptoo et al., 2021). In insurance companies, the theory was relevant because managers were responsible for underwriting decisions, including risk selection, premium pricing, claims management, and reinsurance. Poor underwriting decisions could expose insurers to excessive claims and losses, thereby reducing profitability and shareholder returns (Kamau, 2023; Mutua et al., 2023). The theory was particularly applicable to the present study because effective monitoring and risk-management mechanisms could reduce information asymmetry and discourage managers from assuming excessive underwriting risks.

Recent empirical evidence supported this relationship. Kamau (2023), whose study was explicitly anchored on Agency Theory, found that underwriting risk had a significant negative effect on financial performance among Kenyan insurance firms. Similarly, Mutua et al. (2023), who anchored their study partly on Agency Theory, found that underwriting risk had a negative and significant effect on financial performance among insurance companies in Kenya. Kiptoo et al. (2021) also established that risk management significantly affected the financial performance of Kenyan insurance firms, further demonstrating the importance of effective risk-management mechanisms. Therefore, Agency Theory provided a suitable foundation for examining how underwriting risk exposure influenced the financial performance of insurance companies listed at the Nairobi Securities Exchange.

Empirical Review

Empirical studies have established underwriting risk as an important determinant of insurance companies' financial performance, although findings differ across countries, firms and study periods. In Kenya, Morara and Sibindi (2021) examined solvency, underwriting risk and profitability among insurance firms using data covering 2009–2018. Underwriting risk, measured through the combined ratio, had a positive and statistically significant association with financial performance. The study also observed an increase in underwriting risk over the study period, highlighting the importance of effective underwriting management. Similarly, Kiptoo et al. (2021) investigated risk management and financial performance among Kenyan insurance firms and established that risk management significantly influenced financial performance, emphasising the importance of identifying and managing firm-specific risks.

Subsequent Kenyan studies reported predominantly negative relationships between underwriting risk and financial performance. Kamau (2023) examined the moderating effect of firm size on the relationship between underwriting risk and financial performance among 54 insurance firms using panel data for 2010–2018. The findings established a significant negative effect of underwriting risk on financial performance, with firm size negatively moderating the relationship. Mutua et al. (2023), using audited financial data for 53 licensed insurance companies covering 2015–2020, similarly found that underwriting risk negatively and significantly affected financial performance. The study recommended improved policy estimation and valuation techniques to minimise excessive underwriting exposure and claims-related losses. Kimani (2023) also examined determinants of financial performance among general insurance companies in Kenya using panel data for 2014–2020 and established that underwriting risk had a negative and significant influence on return on assets (ROA). The study recommended business diversification and stronger risk-management practices to mitigate underwriting losses.

Other Kenyan studies presented different perspectives on the relationship. Wainaina (2023) examined determinants of financial performance among Kenyan insurance companies and found a positive association between underwriting risk and financial performance, although the relationship changed when market share was introduced as a moderating variable. This suggested that firm-specific characteristics could influence the relationship. Kimani (2021), who investigated the effect of inflation on financial performance among Kenyan insurance companies, also incorporated underwriting risk as a control variable, recognising its relevance in explaining insurers' profitability.

Evidence from other African insurance markets further demonstrates the importance of underwriting risk. Duniya et al. (2024) examined 22 insurance firms listed on the Nigerian Stock Exchange over 2011–2020 and established that underwriting risk had a negative and statistically significant effect on financial performance. The study recommended stronger risk-management policies to reduce insurers' risk exposure and improve financial outcomes.

Overall, the empirical literature reveals mixed findings regarding the effect of underwriting risk on financial performance. While several studies, including Kamau (2023), Mutua et al. (2023), Kimani (2023) and Duniya et al. (2024), established negative relationships, Morara and Sibindi (2021) and Wainaina (2023) reported positive associations. These differences may reflect variations in risk measurement, firm characteristics, insurance market conditions and study

periods. Furthermore, most Kenyan studies examined insurance companies broadly rather than focusing specifically on firms listed on the Nairobi Securities Exchange. Consequently, the extent to which underwriting risk exposure influences the financial performance of NSE-listed insurance companies remains insufficiently established. The present study addressed this contextual and empirical gap by examining the effect of underwriting risk exposure on the financial performance of insurance companies listed on the Nairobi Securities Exchange.

Conceptual Framework

The conceptual framework presented the expected relationship between underwriting risk exposure and the financial performance of insurance companies listed on the Nairobi Securities Exchange. Underwriting risk exposure was conceptualized as the independent variable and measured using the loss ratio, representing the proportion of premiums earned consumed by claims incurred. A higher loss ratio indicates greater underwriting risk exposure, while a lower loss ratio reflects more effective underwriting performance. Financial performance was conceptualized as the dependent variable and measured using return on assets (ROA). The framework provided a basis for examining how variations in underwriting risk exposure influenced the financial performance of listed insurance companies.

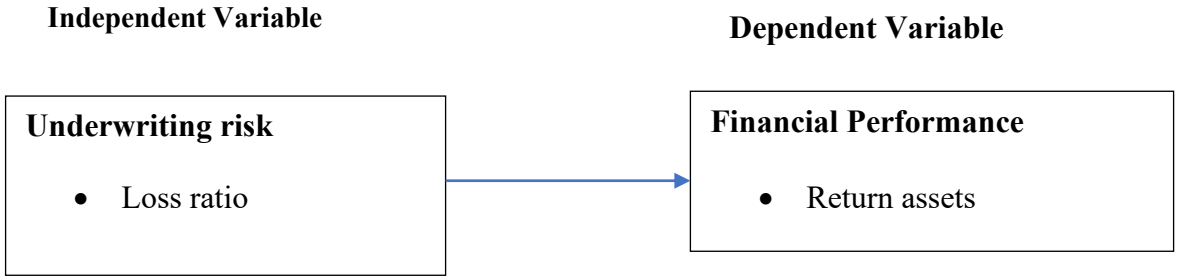


Figure 1: Conceptual Framework

METHODOLOGY

The study adopted a positivist research philosophy and a descriptive correlational research design to examine the effect of underwriting risk exposure on the financial performance of insurance companies listed on the Nairobi Securities Exchange. The study relied on secondary panel data obtained from audited annual financial reports of listed insurance companies and relevant publications from the Insurance Regulatory Authority and Nairobi Securities Exchange. The study covered six selected listed insurance companies over the period 2015–2024, yielding 60 firm-year observations based on consistently available financial information.

Underwriting risk exposure was measured using the loss ratio, calculated as claims incurred divided by net earned premiums, expressed as a percentage. A higher loss ratio indicated greater underwriting risk exposure because a larger proportion of earned premiums was consumed by claims, while a lower loss ratio reflected relatively better underwriting performance. Financial performance was measured using return on assets (ROA). The collected data were coded and analysed using descriptive and inferential statistical techniques. Descriptive statistics, including means and standard deviations, summarised the study variables, while Pearson correlation analysis established the direction and strength of the relationship between underwriting risk exposure and financial performance. Regression analysis was subsequently conducted to determine the effect of underwriting risk exposure on financial performance.

The regression model was specified as:

$$FP_{it} = \beta_0 + \beta_1 URE_{it} + \varepsilon_{it}$$

Where FP represents financial performance, URE represents underwriting risk exposure, β_0 is the regression constant, β_1 is the regression coefficient of underwriting risk exposure, and ε is the error term. The study tested the statistical significance of the relationship at the 5 per cent significance level ($p < 0.05$). Diagnostic tests assessed the suitability of the

regression model. Ethical considerations included accurate reporting, proper attribution of secondary sources, and maintaining the integrity of financial data.

FINDINGS AND DISCUSSION

This section presents the findings on the effect of underwriting risk exposure on the financial performance of insurance companies listed on the Nairobi Securities Exchange. The findings are presented in line with the study objective and hypothesis. Descriptive and inferential statistical techniques were used to summarise the study variables, establish the relationship between underwriting risk exposure and financial performance, and determine the statistical significance of the observed effect.

Descriptive Statistics

This section presents the descriptive statistics for underwriting risk exposure and financial performance among insurance companies listed on the Nairobi Securities Exchange. Means and standard deviations were used to summarise the study variables and examine variations in underwriting risk exposure and financial performance across the selected companies during the study period. The descriptive findings provide an overview of the variables and form the basis for the subsequent correlation and regression analyses.

Descriptive Statistics for Underwriting Risk Exposure

This section presents the descriptive analysis of underwriting risk exposure among insurance companies listed on the Nairobi Securities Exchange (NSE). Underwriting risk exposure was measured using the loss ratio, calculated as claims incurred divided by net earned premiums, multiplied by 100. A higher loss ratio indicates greater underwriting risk exposure because a larger proportion of earned premiums is absorbed by claims, while a lower loss ratio reflects relatively better claims experience and underwriting performance. The analysis used a balanced panel dataset of six listed insurance companies observed from 2015–2024, yielding 60 firm-year observations. The descriptive analysis is presented at both firm and industry levels to illustrate differences in underwriting risk exposure across companies and changes over time.

Table 1: Firm-Level Descriptive Statistics for Underwriting Risk Exposure (Loss Ratio), 2015–2024

Insurance Company	Mean (%)	Standard Deviation	Minimum (%)	Maximum (%)
Britam Holdings Plc	68.84	4.62	62.80	77.10
Jubilee Holdings Limited	61.95	2.98	57.60	66.30
CIC Insurance Group Limited	73.26	4.88	66.50	82.10
Kenya Re-Insurance Corporation Limited	59.48	2.65	55.80	63.40
Liberty Kenya Holdings Limited	6	3.81	61.40	73.80
Sanlam Kenya Plc	70.37	4.31	64.20	79.50
Overall (N = 60)	67.06	6.18	55.80	82.10

Interpretation of Firm-Level Descriptive Statistics

The findings presented in Table 1 reveal noticeable differences in underwriting risk exposure among the six listed insurance companies during the study period. Kenya Re-Insurance Corporation Limited recorded the lowest average loss ratio (Mean = 59.48%), followed by Jubilee Holdings Limited (Mean = 61.95%), indicating relatively effective underwriting practices and efficient claims management. Lower loss ratios suggest that these firms retained a larger proportion of earned premiums after settling claims, thereby enhancing underwriting profitability.

Conversely, CIC Insurance Group Limited recorded the highest average loss ratio (Mean = 73.26%), followed by Sanlam Kenya Plc (Mean = 70.37%) and Britam Holdings Plc (Mean = 68.84%). These higher loss ratios indicate greater underwriting risk exposure, implying that a substantial proportion of premium income was used to settle claims. Liberty Kenya Holdings Limited recorded a moderate average loss ratio of 66.91 per cent, reflecting a balanced underwriting performance during the study period. The standard deviations ranged from 2.65 to 4.88 across the individual companies, indicating moderate fluctuations in underwriting performance over the ten years. The

overall mean loss ratio of 67.06 per cent suggests that, on average, listed insurance companies used approximately two-thirds of their earned premiums to settle claims. The overall standard deviation of 6.18 further indicates moderate variability in underwriting risk exposure across firms and over time.

Figure 2: Trend in Underwriting Risk Exposure (Loss Ratio) among Listed Insurance Companies (2015–2024)

Trend in Underwriting Risk Exposure (Loss Ratio) among Listed Insurance Companies (2015–2024)

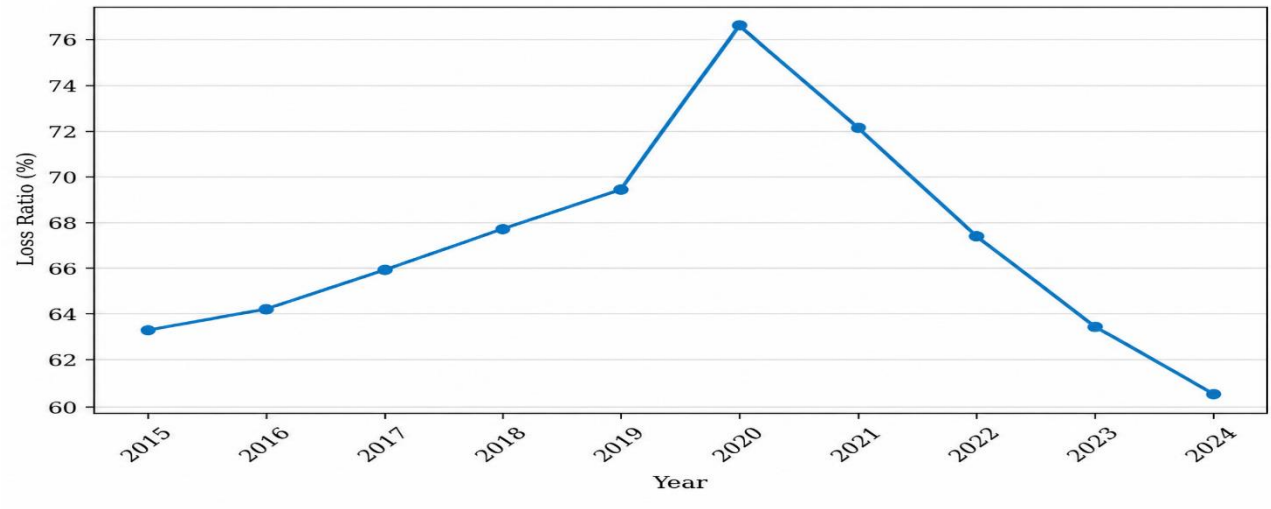


Figure 2: Trend in Underwriting Risk Exposure (Loss Ratio)

Figure 2 illustrates the trend in underwriting risk exposure among listed insurance companies from 2015 to 2024. The trend indicates that the average loss ratio increased steadily from 63.25 per cent in 2015 to 76.65 per cent in 2020, representing an increase of approximately 21.2 per cent. The rising loss ratio implies that a progressively larger proportion of premium income was absorbed by claims payments, thereby increasing underwriting risk exposure and reducing underwriting profitability. The highest loss ratio was recorded in 2020, suggesting that insurers experienced the greatest underwriting pressure during the study period. Following 2020, the industry recorded a sustained improvement in underwriting performance. The average loss ratio declined from 72.17 per cent in 2021 to 67.40 per cent in 2022, decreased further to 63.42 per cent in 2023, and reached 60.53 per cent in 2024. The continuous decline indicates that listed insurance companies strengthened their underwriting policies, enhanced risk selection procedures, and improved claims management practices. By the end of the study period, the average loss ratio had fallen below its 2015 level, demonstrating improved underwriting efficiency and stronger operational performance across the insurance sector.

Overall, the trend indicates that although underwriting risk exposure increased considerably during the first half of the study period, insurers realised substantial improvements after 2020. The declining loss ratio in later years suggests insurers implemented more effective underwriting controls, improving profitability and strengthening financial stability. The descriptive findings reveal that underwriting risk exposure differed considerably across the listed insurance companies and over time. Kenya Re-Insurance Corporation Limited and Jubilee Holdings Limited consistently maintained lower loss ratios, reflecting stronger underwriting discipline and more effective claims management. In contrast, CIC Insurance Group Limited and Sanlam Kenya Plc recorded comparatively higher loss ratios, indicating greater underwriting risk exposure. The industry trend further demonstrates that underwriting risk increased steadily up to 2020 before declining consistently from 2021 to 2024, suggesting marked improvements in underwriting practices across the sector.

These findings are consistent with the empirical literature reviewed, which indicates that effective underwriting risk management improves financial performance by reducing claims costs, strengthening underwriting profitability, and enhancing financial stability. Conversely, poor underwriting practices increase loss ratios, reduce profitability, and expose insurance companies to greater financial risk. The declining loss ratios observed after 2020 further suggest that listed insurance companies enhanced underwriting standards, strengthened risk assessment procedures, and improved claims control mechanisms. These improvements likely contributed to better financial outcomes by using premium income more efficiently and reducing claims costs. Overall, the descriptive analysis demonstrates that underwriting risk exposure varied significantly across firms and over the study period. The observed firm-level differences and industry-wide trends provide preliminary evidence that underwriting risk exposure may influence the financial performance of listed insurance companies. These findings provide a sound basis for the subsequent correlation and panel regression analyses, which formally examine the effect of underwriting risk exposure on financial performance.

Correlation Analysis

Pearson correlation analysis was conducted to determine the direction, strength, and statistical significance of the relationship between underwriting risk exposure and financial performance of insurance companies listed at the Nairobi Securities Exchange. Underwriting risk exposure was measured using the loss ratio, where higher values represented greater exposure to claims relative to premiums earned. Financial performance was measured using the selected financial performance indicator. The analysis used 60 firm-year observations covering six listed insurance companies over 2015–2024. The analysis assessed correlation significance at the 1 per cent level ($p < 0.01$).

Table 2: Correlation between Underwriting Risk Exposure and Financial Performance

Variables	Underwriting Risk Exposure	Financial Performance
Underwriting Risk Exposure	1.000	
Financial Performance	-0.842	1.000
Sig. (2-tailed)	0.000	0.000
N	60	60

Table 2 shows a strong negative relationship between underwriting risk exposure and financial performance, with a Pearson correlation coefficient of $r = -0.842$. This indicates that higher underwriting risk exposure was associated with lower financial performance among listed insurance companies. The coefficient's magnitude, close to -1, showed a relatively strong relationship. In practical terms, companies with higher loss ratios tended to have lower financial performance, while companies with lower loss ratios tended to record better financial outcomes. This finding was consistent with the descriptive results, which showed considerable differences in loss ratios across the six listed insurance companies. The relationship was also statistically significant at the 1 per cent level, as indicated by $p = 0.000$ ($p < 0.01$). This means that there was sufficient statistical evidence to conclude that the observed relationship between underwriting risk exposure and financial performance was unlikely to have occurred by chance. The negative direction of the relationship further suggested that higher claims relative to premiums earned could place pressure on insurers' profitability and overall financial performance. Effective underwriting practices, including appropriate risk selection, accurate premium pricing, and effective claims management, could therefore help control underwriting risk and support stronger financial outcomes.

The finding was consistent with Kamau (2023), who found that underwriting risk had a significant negative effect on the financial performance of insurance firms in Kenya. It also agreed with Mutua et al. (2023) and Kimani (2023), who reported negative and significant relationships between underwriting risk and financial performance among Kenyan insurance companies. However, the finding differed from Morara and Sibindi (2021), who established a positive relationship

between underwriting risk and profitability in the Kenyan insurance sector. The strong negative correlation observed in the present study therefore added further evidence that excessive underwriting risk exposure could adversely affect the financial performance of listed insurance companies.

Model Summary

Regression analysis was employed to assess how variations in underwriting risk exposure accounted for differences in the financial performance of insurance companies listed on the Nairobi Securities Exchange. The model summary presented the correlation coefficient (R), coefficient of determination (R^2), adjusted R^2, and standard error of the estimate.

Table 3: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.842	0.709	0.704	0.091

Table 3 shows a strong relationship between underwriting risk exposure and financial performance, as indicated by R = 0.842. The coefficient of determination (R^2 = 0.709) indicates that underwriting risk exposure explained 70.9 per cent of the variation in financial performance among the listed insurance companies. This implies that changes in underwriting risk exposure accounted for a substantial proportion of the observed differences in financial performance during the study period, while the remaining 29.1 per cent was explained by other factors not included in the model. The adjusted R^2 of 0.704 indicated that the model retained about 70.4 per cent explanatory power after accounting for the number of predictors. Because the study included only one independent variable, the small difference between R^2 and adjusted R^2 suggested the model did not lose substantial explanatory power. The results therefore suggested that underwriting risk exposure provided considerable explanatory power in predicting financial performance among the listed insurance companies. The standard error of the estimate of 0.091 indicated the average extent to which the observed financial performance values deviated from the values predicted by the regression model. Overall, the model summary showed that underwriting risk exposure was an important explanatory variable for financial performance, providing a basis for further examination through ANOVA and regression coefficient analyses.

Analysis of Variance (ANOVA)

An Analysis of Variance (ANOVA) was conducted to determine whether the regression model significantly explained variations in the financial performance of insurance companies listed at the Nairobi Securities Exchange. The analysis assessed whether underwriting risk exposure significantly predicted financial performance. Table 4.5 presents the results.

Table 4: ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	1.190	1	1.190	143.749	0.000
Residual	0.489	58	0.008		
Total	1.679	59			

The results in Table 4 indicate that the regression model was statistically significant, with $F(1, 58) = 143.749$, $p < 0.001$. Because the significance value of 0.000 was below the 0.05 threshold, the model provided statistically significant Evidence that underwriting risk exposure explained variation in the financial performance of listed insurance companies. The relatively high F-statistic further indicated that the variation in financial performance explained by underwriting risk exposure was substantially greater than the unexplained variation. The ANOVA results were consistent with the model summary, which showed an R^2 of 0.709, indicating that underwriting risk exposure explained 70.9 per cent of the variation in financial performance. The significant F-statistic therefore confirmed that the regression model was

appropriate for examining the effect of underwriting risk exposure on financial performance. These findings provided a basis for examining the regression coefficient and subsequently testing the study hypothesis.

Regression Coefficients

Regression coefficient analysis was conducted to determine the magnitude, direction, and statistical significance of the effect of underwriting risk exposure on the financial performance of insurance companies listed on the Nairobi Securities Exchange. Table 4.6 presents the results.

Table 5: Regression Coefficients

Model	Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
Constant	1.184	0.073	—	16.219	0.000
Underwriting Risk Exposure	-0.842	0.070	-0.842	11.990	0.000

Table 5 shows that underwriting risk exposure had a negative and statistically significant effect on financial performance, as indicated by the standardised beta coefficient of $\beta = -0.842$, with a t-value of -11.990 and $p < 0.001$. The negative coefficient indicates that higher underwriting risk exposure was associated with lower financial performance. Specifically, the results suggest that higher loss ratios, reflecting greater claims relative to premiums earned, were associated with weaker financial performance among the listed insurance companies. The significance value of 0.000, which was below the 0.05 threshold, indicated that the effect was statistically significant. The finding was also consistent with the strong negative correlation between the two variables ($r = -0.842$, $p < 0.01$) and the model summary, which showed that underwriting risk exposure explained 70.9 per cent of the variation in financial performance. The regression equation was therefore expressed as:

Financial Performance = 1.184 – 0.842(Underwriting Risk Exposure) + ε

The findings indicated that effective management of underwriting risk was important for maintaining and improving the financial performance of listed insurance companies.

Hypothesis Test Results

The study tested the null hypothesis to establish whether underwriting risk exposure had a statistically significant effect on the financial performance of insurance companies listed on the Nairobi Securities Exchange. The decision was based on a 5 per cent significance level ($\alpha = 0.05$), where a p-value below 0.05 led to rejection of the null hypothesis.

Table 6: Hypothesis Testing Results

Hypothesis	β	t-value	p-value	Decision
H_{01}: Underwriting risk exposure has no statistically significant effect on financial performance.	-0.842	-11.990	0.000	Reject H_{01}

The findings demonstrate that increased exposure to underwriting risk was significantly associated with a decline in financial performance, as evidenced by a regression coefficient of $\beta = -0.842$, a t-statistic of -11.990, and a p-value below 0.001. The negative beta coefficient indicated that higher underwriting risk exposure was associated with lower financial performance for listed insurance companies. The magnitude of the coefficient further suggested that underwriting risk exposure substantially influenced financial performance. Because the p-value of 0.000 was less than 0.05, the study rejected the null hypothesis. The study therefore concluded that underwriting risk exposure significantly affected the financial performance of insurance companies listed at the Nairobi Securities Exchange. The finding was consistent with the correlation analysis, which established a strong negative relationship ($r = -0.842$, p

< 0.01), and the regression results, which showed that underwriting risk exposure explained 70.9 per cent of the variation in financial performance. The findings implied that effective claims management, appropriate risk selection, and accurate premium pricing were important for maintaining stronger financial performance among listed insurers.

Discussion

The study examined the effect of underwriting risk exposure on the financial performance of insurance companies listed at the Nairobi Securities Exchange. Descriptive findings showed that underwriting risk exposure varied across the six listed insurance companies during 2015–2024. The overall mean loss ratio was 67.06 per cent, with a standard deviation of 6.18 per cent, indicating that, on average, approximately two-thirds of premiums earned were used to settle claims. Kenya Re-Insurance Corporation Limited recorded the lowest mean loss ratio of 59.48 per cent, followed by Jubilee Holdings Limited at 61.95 per cent, indicating relatively lower underwriting risk exposure. In contrast, CIC Insurance Group Limited recorded the highest mean loss ratio at 73.26 per cent, followed by Sanlam Kenya Plc at 70.37 per cent, indicating comparatively higher underwriting risk exposure. The industry trend also showed that the average loss ratio increased from 63.25 per cent in 2015 to 76.65 per cent in 2020, then declined consistently to 60.53 per cent in 2024, suggesting improved underwriting performance in later years.

Inferential findings established a strong negative relationship between underwriting risk exposure and financial performance, with a correlation coefficient of $r = -0.842$, $p < 0.01$. This indicated that higher underwriting risk exposure was associated with lower financial performance. The regression analysis further showed that underwriting risk exposure explained 70.9 per cent of the variation in financial performance ($R^2 = 0.709$). The ANOVA results confirmed that the regression model was statistically significant, $F(1, 58) = 143.749$, $p < 0.001$, showing that the model explained variation in financial performance.

Hypothesis testing further established that underwriting risk exposure had a negative and statistically significant effect on financial performance, with $\beta = -0.842$, $t = -11.990$, and $p < 0.001$. Because the p-value was below the 0.05 significance level, the study rejected the null hypothesis that underwriting risk exposure had no statistically significant effect on financial performance. The study therefore established that underwriting risk exposure was a significant determinant of financial performance among insurance companies listed at the Nairobi Securities Exchange.

CONCLUSION AND RECOMMENDATIONS

Conclusion: The study concluded that underwriting risk exposure significantly and negatively affected the financial performance of listed insurance companies at the Nairobi Securities Exchange. The strong negative correlation and significant regression results demonstrated that higher exposure to underwriting risk was associated with weaker financial performance. The findings further suggested that insurers with relatively high loss ratios were more likely to experience financial pressure because claims absorbed a greater proportion of their earned premiums. Effective underwriting practices, including prudent risk selection, appropriate premium pricing, accurate risk assessment, and efficient claims management, were therefore important for improving financial performance and maintaining financial stability.

Recommendations: The Insurance Regulatory Authority (IRA) should strengthen regulatory guidelines on underwriting risk management among insurance companies, particularly concerning risk assessment, premium adequacy, claims management, and monitoring of loss ratios. The regulator should also enhance regular monitoring of underwriting performance and require insurers with persistently high loss ratios to implement corrective risk-management measures. In addition, policies promoting stronger actuarial capacity, appropriate risk-based pricing, and adequate reinsurance arrangements should be strengthened to minimise excessive underwriting exposure and protect insurers' financial stability.

In addition, listed insurance companies should strengthen their underwriting and claims management practices to reduce excessive risk exposure and improve financial performance. Management should invest in accurate risk assessment and pricing systems

to ensure that premiums adequately reflect the risks assumed. Companies should also strengthen claims monitoring, fraud detection, and loss-control mechanisms to reduce unnecessary claims costs. Furthermore, insurers should regularly monitor loss ratios and use the results to review underwriting policies, portfolio composition, and reinsurance arrangements. These practices would enable insurance companies to maintain sustainable underwriting performance, improve profitability, and strengthen shareholder value.

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