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THE INFLUENCE OF RISK MANAGEMENT ON FIRM PERFORMANCE IN THE INSURANCE SECTOR IN INDONESIA

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Abstract:
This study aims to analyze the effect of underwriting risk, reinsurance risk, technical provision risk, firm size, and leverage on the financial performance of conventional insurance companies in Indonesia. Financial performance is measured using return on equity. The study applies a quantitative approach using secondary data obtained from the financial statements of insurance companies listed on the Indonesia Stock Exchange during the period of 2020 to 2024, with a total of 200 observations. Panel data regression was employed, and the Hausman test indicated that the fixed effect model was the most appropriate. The results show that firm size has a positive and significant effect on return on equity. Meanwhile, underwriting risk and reinsurance risk have negative but insignificant effects, while technical provision risk and leverage have positive but insignificant effects. These findings suggest that company size plays an important role in increasing profitability, while risk-related variables do not significantly influence financial performance during the observation period.

Keywords: Firm Performance, Reinsurance Risk, Technical Provision Risk, Underwriting Risk.

INTRODUCTION

Insurance company performance is a key indicator in assessing the effectiveness of non-bank financial institutions in managing various forms of risk and maintaining sustainable profits. Profitability reflects a company's ability to optimize risk intermediation activities through efficient management of underwriting risk, technical provision risk, and reinsurance risk. Internal factors such as firm size and leverage also play a role in determining a company's ability to achieve optimal financial performance. Return on Equity (ROE) is a measure of profitability used to assess an insurance company's financial performance, as this ratio reflects the extent to which shareholders' capital can efficiently generate net income. ROE also demonstrates management's effectiveness in utilizing equity to create value and maintain long-term financial stability (Sooriyaarachchi & Buddhika, 2024).

Underwriting risk is one of the primary risks faced by insurance companies. This risk arises from uncertainty in determining premiums and covering claims for policies issued. Inaccuracies in the underwriting process can lead to an imbalance between premium income and claims expenses, ultimately eroding the company's profitability. According to Mohamed & Elden (2023), underwriting risk reflects the extent to which a company is able to appropriately manage the risk underwriting process to maintain financial stability and profit sustainability. Therefore, careful and measured underwriting risk management is crucial for maintaining competitiveness and gaining policyholder trust.

Technical provision risk relates to uncertainty in estimating the amount of technical reserves a company must maintain to pay future claims. Technical reserves serve as protection against long-term liabilities, so errors in estimating them can disrupt financial stability and lead to an imbalance

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between assets and liabilities. Insurance companies need to ensure that reserve calculations are accurate and align with market conditions and the characteristics of their risk portfolios (Siddik M, Hosen M, Miah M, Kabiraj S, Joghee S, Ramakrishnan Sl., 2022).

Reinsurance risk is also a crucial aspect in maintaining an insurance company's financial performance. Reinsurance is a mechanism for transferring risk to a third party to mitigate the potential for significant losses. However, excessive reliance on reinsurers can create new financial risks if the reinsurance agreement structure is unbalanced. In practice, inefficient reinsurance management can reduce a company's profit margins and reduce its ability to maintain adequate financial reserves (Lalon & Das, 2022).

This study also considers company characteristics, namely firm size and leverage, as control variables. Company size reflects the scale of operations and financial capacity, which can influence a company's ability to absorb risk and generate profits. Leverage describes the funding structure, reflecting the extent to which a company relies on debt to conduct its operations. These two variables play a crucial role in providing a more comprehensive picture of the financial condition and stability of an insurance company (Wahua L & Mapfeka S., 2025).

Risk management is a key factor in maintaining the profitability and stability of the insurance industry. Financial performance, as measured by Return on Equity (ROE), not only reflects the results of risk management strategies but also indicates the extent to which a company is able to adapt to the dynamics of the ever-evolving business and regulatory environment. Research by Sooriyaarachchi & Buddhika (2024) confirms that underwriting risk, technical provision risk, and reinsurance risk are important components that require integrated analysis to understand how these risks affect the financial performance of the insurance sector. By adding firm size and leverage as control variables, this study seeks to provide a new perspective in assessing the effectiveness of risk management on the return on Equity (ROE) of insurance companies in Indonesia.

This study aims to examine the impact of technical reserve risk, reinsurance risk, underwriting risk, company size and leverage on company performance with the aim of increasing understanding of the factors that influence profitability.

Financial Performance. Financial performance reflects a company's effectiveness in managing financial resources to achieve profitability goals. In the insurance industry, financial performance indicates the extent to which shareholders' capital is able to generate returns through efficient operational activities and risk management. The Return on Equity (ROE) ratio is used as a measure of profitability because it reflects a company's effectiveness in managing equity capital to generate net income (Sooriyaarachchi & Buddhika, 2024).

Underwriting Risk. Underwriting risk is the primary risk faced by insurance companies, arising when claims paid exceed premiums received. This risk can erode profit margins and reduce the company's ability to generate profitability. Mohamed & Elden (2023) stated that underwriting risk negatively impacts insurance company profitability. Similar findings were presented by Kiplang'at & Njaramba (2025), who showed that high underwriting risk reduces financial efficiency. Research by Sulaiman Al-Ali M, Aboualhasan H, Al-Ali M, Alibrahim N, and Al-Abdulhadi A. (2024) also confirmed that ineffective underwriting can weaken the stability of a company's profitability. Ningsih & Leon (2024) also showed that underwriting risk is related to insurance company profitability, which in their study was measured using Return on Assets (ROA). These findings reinforce the importance of underwriting risk management in maintaining stable financial performance.

Technical Provision Risk. Technical provision risk arises from uncertainty in determining technical reserves to pay future claims. If reserves are too low, the company faces the risk of default,

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while reserves that are too high can hinder capital efficiency. Siddik M, Hosen M, Miah M, Kabiraj S, Joghee S, Ramakrishnan Sl. (2022) showed that weaknesses in reserve estimation negatively impact profitability. Sooriyaarachchi & Buddhika (2024) stated that inefficient technical reserves weaken financial stability. Worku A, Bayleyegne Y, Tafere Z. (2024) also emphasized that suboptimal reserves reduce capital efficiency.

Reinsurance Risk. Reinsurance risk occurs when a company relies too heavily on reinsurance, depressing net income through decreased premiums received and increased reinsurance expenses. Sulaiman AlAli M, Aboualhasan H, Al Ali M, Alibrahim N, Al Abdulhadi A. (2024) showed that reinsurance risk negatively impacts insurance profitability. Ningsih & Leon (2024) also found that the reinsurance ratio negatively impacts insurance profitability, indicating that an increasing portion of premiums transferred to reinsurers can suppress a company's ability to generate profits. Mohamed & Elden (2023) added that high reinsurance costs can erode profit margins. Lalon & Das (2022) also showed that increased reinsurance risk weakens long-term financial performance.

Firm Size. Firm size indicates the scale of operations and financial capacity of an insurance company. The larger the company, the stronger its ability to absorb risk, expand funding sources, and strengthen profitability. Lalon & Das (2022) state that larger company size increases profit stability. Kiplang'at & Njaramba (2025) found a positive relationship between firm size and financial performance. Olarewaju & Msomi (2022) also stated that larger companies are better able to withstand market pressures and financial risks.

Leverage. Leverage reflects the extent to which a company uses debt financing in its capital structure. Well-managed leverage can increase investment capacity and strengthen financial performance, while excessive leverage can lead to financial stress. Mohamed & Elden (2023) show that leverage can increase returns on capital when balanced. Lalon & Das (2022) found that leverage plays a significant role in increasing investment capacity. Wahua L & Mapfeka S. (2025) added that a balanced capital structure strengthens a company's profitability. The consistency of these findings is also evident in research showing that leverage has a positive effect on profitability when debt is used productively (Utami R, Pramesti A, Leon F., 2025).

Conceptual Framework. Research by Mohamed & Elden (2023) shows that underwriting risk negatively impacts financial performance because increased claims can reduce insurance companies' profit margins. Research by Sulaiman Al Ali M, Aboualhasan H, Al Ali M, Al Ibrahim N, and Al Abdulhadi A. (2024) also confirms that high claims burdens can reduce a company's ability to generate profits, while Kiplang'at & Njaramba (2025) found that high underwriting risk consistently lowers ROE. Siddik M, Hosen M, Miah M, Kabiraj S, Joghee S, Ramakrishnan Sl. (2022) state that technical provision risk positively impacts financial performance, where adequate technical reserves can strengthen financial stability. Sooriyaarachchi & Buddhika (2024) found that effective technical reserve management can increase profitability, while Lalon & Das (2022) emphasized that optimal technical reserves support sustainable financial performance. Furthermore, research by Sulaiman Al-Ali M, Aboualhasan H, Al-Ali M, Alibrahim N, and Al-Abdulhadi A. (2024) states that reinsurance risk negatively impacts profitability because reliance on reinsurance increases costs and reduces profits. Mohamed & Elden (2023) support this finding by showing that a high proportion of reinsurance depresses returns on capital. Lalon & Das (2022) also conclude that an inefficient reinsurance structure negatively impacts financial performance. Olarewaju & Msomi (2022) show that firm size has a positive effect on profitability because a larger business scale allows for broader access to funding. Lalon & Das (2022) also confirm that large company size strengthens competitiveness, and Park J, Choi B, Ho C. (2021) state that large companies are better able to withstand market volatility. Mohamed & Elden (2023) state that leverage has a positive effect on

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financial performance because an efficient capital structure increases returns on capital. Findings. Lalon & Das (2022) also support that optimal leverage strengthens profitability, while Wahua L & Mapfeka S. (2025) show that well-managed leverage drives financial performance growth. Based on these studies, the conceptual framework in this study confirms that financial risk variables (underwriting risk, reinsurance risk, technical provision risk) and control variables (firm size and leverage) influence insurance company financial performance, as measured by Return on Equity.

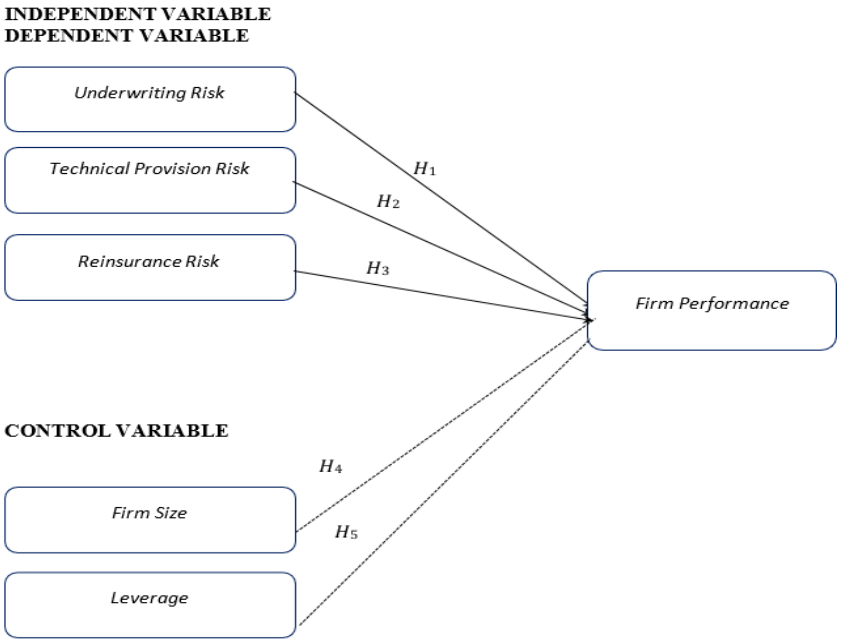

Figure 1. Conceptual Framework Chart

The Effect of Underwriting Risk on Firm Performance. According to research by Mohamed & Elden (2023), underwriting risk negatively impacts firm performance because increased claims burden can reduce insurance companies' profit margins. Sulaiman Al-Ali M, Aboualhasan H, Al-Ali M, Alibrahim N, Al-Abdulhadi A. (2024) also showed that a high claims-to-premium ratio negatively impacts profitability. Kiplang'at & Njaramba (2025) corroborate this finding by demonstrating that high underwriting risk reduces an insurance company's return on equity. It illustrates that the higher the underwriting risk, the lower the insurance company's performance. Based on this explanation, the following research hypothesis is formulated:
H1: Underwriting risk affects firm performance

The Effect of Technical Provision Risk on Firm Performance. Siddik M, Hosen M, Miah M, Kabiraj S, Joghee S, Ramakrishnan Sl. (2022) found that technical provision risk has a positive effect on firm performance, as adequately managed technical reserves can strengthen the financial resilience of insurance companies. Sooriyaarachchi & Buddhika (2024) also showed that proper technical reserve management can increase profitability. Worku A, Bayleyegne Y, Tafere Z. (2024) confirmed that optimal technical reserves support long-term profit sustainability. Therefore, good technical reserve management will increase a company's return on equity. Based on this description, the following research hypothesis is formulated:
H2: Technical provision risk affects firm performance

The Effect of Reinsurance Risk on Firm Performance. Research by Sulaiman Al-Ali M, Aboualhasan H, Al-Ali M, Alibrahim N, and Al-Abdulhadi A. (2024) shows that reinsurance risk

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negatively impacts firm performance because high reliance on reinsurance increases financial burdens and depresses profit margins. Mohamed & Elden (2023) also state that a high proportion of reinsurance reduces the rate of return on capital and the financial flexibility of insurance companies. Lalon & Das (2022) found that an inefficient reinsurance structure negatively impacts firm performance. Therefore, the higher the reinsurance risk, the lower the profitability of an insurance company. Based on this description, the following research hypothesis is formulated:
H3: Reinsurance risk affects firm performance

The Influence of Firm Size on Firm Performance. Wahua L & Mapfeka S. (2025) state that firm size has a positive influence on firm performance because larger companies have greater access to funding and operational efficiency. Lalon & Das (2022) also show that large firm size increases competitiveness and the ability to withstand market pressures. Park J, Choi B, Ho C. (2021) add that large firms are more resilient to market volatility and thus able to maintain profitability. Therefore, the larger the firm size, the higher the firm performance achieved. Based on this explanation, the following research hypothesis is formulated:
H4: Firm size affects firm performance.

The Effect of Leverage on Firm Performance. Mohamed & Elden (2023) show that leverage has a positive effect on firm performance because an optimal capital structure can increase profits and capital efficiency. Lalon & Das (2022) support this finding by showing that well-managed leverage can strengthen profitability. Wahua L & Mapfeka S. (2025) also found that effective leverage drives growth in firm performance in insurance companies. Therefore, optimal leverage can strengthen return on equity. Based on this description, the following research hypothesis is formulated:
H5: Leverage affects firm performance.

METHODS

The research design used in this study is hypothesis testing, which aims to examine the influence of independent variables consisting of underwriting risk, reinsurance risk, and technical provision risk, as well as control variables consisting of firm size and leverage on the dependent variable, namely firm performance (ROE). The type of data used in this study is quantitative data with a secondary data collection method. Data sources were obtained from the Indonesia Stock Exchange (www.idx.co.id) and the official websites of each company. The research sample includes 200 observations from 40 non-Sharia insurance companies over 5 years (2020–2024). The analytical method used in this study is panel data regression with the help of EViews software version 9.

Table 1. Variables and Measurements

Variable Types	Variable Name	Formula	Reference
Dependent Variable	*Return on Equity*	$\frac{Profit\ After\ Tax}{Total\ Equity}$	Sooriyaarachchi & Buddhika (2024).
Independent Variables	*Underwriting Risk*	$\frac{Paid\ Claims}{Written\ Premiums}$	Sooriyaarachchi & Buddhika (2024).
	Technical Provision Risk	$\frac{Technical\ Provisions}{Incurred\ Claims}$	Sooriyaarachchi & Buddhika (2024).
	Reinsurance Risk	$\frac{Reinsurance\ Premiums\ Issued}{Total\ Assets}$	Mohamed & Elden (2023)
Control Variables	*Firm Size*	$In(Total\ Assets)$	Mohamed & Elden (2023)

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Leverage	$\frac{Technical\ Liabilities}{Total\ Assets}$	Mohamed & Elden (2023)

Sampling Method. This study used purposive sampling as the sampling method. The data used in this study is quantitative, with secondary data collection methods. Data sources came from the websites of the Indonesia Stock Exchange (www.idx.co.id) and the Indonesian Life Insurance Association (https://aaji.or.id/), as well as from the websites of each company.

The sample for this study covers 200 financial reporting periods, consisting of 40 insurance companies over five years (2020-2024).

Table 2. Results of Purposive Sampling

Information	Amount
Conventional insurance companies operating in Indonesia are registered with AAJI and do not include Sharia insurance companies (2020-2024 period).	60
Companies that do not have complete financial reports for the period 2020–2024	(20)
Total research sample companies	**40**
Total observation data (40 companies × 5 years of research)	**200**

Hausman Test. There are two possible results of the Hausman test: random effects or fixed effects. The Hausman test can be used in this study to determine which model is more accurate and better. Furthermore, the purpose of the Hausman test is to determine whether each model exhibits heterogeneity.

The Hausman test formula is as follows:

$H0$: Random Effect Model

Ha: Fixed Effect Model

Decision:

- If the random cross-section probability is ≥ 0.05 (alpha 5%), then $H0$ is accepted. It means the appropriate model is the Random Effects Model.
- If the random cross-section probability is <0.05 (alpha 5%), then $H0$ is rejected. It means the appropriate model is the Fixed Effects Model.

Based on the Hausman Test, the random cross-section probability is 0.0177 <0.05, so H0 is rejected (Ha is accepted), and it can be concluded that the appropriate model to use is the Fixed Effects Model.

Coefficient of Determination Test (R2). This test aims to determine the extent to which the independent variables explain the dependent variable in a regression model. Based on the data processing results, the Adjusted R^2 value was 0.4088, indicating that the independent variables underwriting risk, reinsurance risk, technical provision risk, firm size, and leverage were able to explain 40.88% of the variation in the dependent variable (firm performance), as measured by return on equity. Meanwhile, the remaining 59.12% was explained by factors outside the research model. The Adjusted R^2 value indicates that the model has strong explanatory power for changes in insurance companies' financial performance.

Simultaneous Test (F Test). This test is used to determine whether the independent variables simultaneously have a significant effect on the dependent variable. If the F test's sig. <0.05, it means that the independent variables simultaneously influence the dependent variable, thus the regression

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model is suitable for use. If the F test's sig. >0.05, it means that the independent variables simultaneously have no effect on the dependent variable, thus the regression model is not suitable for use. The F test statistic is used to measure the sample regression function in estimating the actual value (Goodness of Fit). The F test in this study used a significance level of 5%.

Based on the F test results, the p-value of F is 0.000000 <0.05, which means that $H0$ is rejected (Ha failed to be rejected / Ha accepted), thus it can be concluded that at least one independent variable has a significant effect on the dependent variable.

RESULT AND DISCUSSION

Descriptive Statistical Analysis. The results of the descriptive statistical analysis of the Firm Performance variable, proxied by Return on Equity (ROE), show that Prudential achieved a maximum value of 0.797140 in 2020, while Tokio Marine achieved a minimum value of -0.582270 in 2024. The average ROE value of 0.049539 is smaller than the standard deviation of 0.148427, indicating that the profitability levels of insurance companies in the study sample are relatively varied or heterogeneous. It indicates that there are significant differences in financial performance among insurance companies during the study period, with some companies achieving high profits while others experienced losses.

The results of descriptive statistical analysis of the Underwriting Risk variable show that the maximum value of 5.633105 was achieved by Asuransi Multi Artha Guna Tbk in 2024, while the minimum value of -0.589430 was achieved by Nusantara Re in 2020. The average value of Underwriting Risk is 0.536435, while the standard deviation is 0.548291. This average, which is close to the standard deviation, indicates that there is a large spread of data between insurance companies, reflecting differences in the companies' ability to manage underwriting risk effectively.

The results of the descriptive statistical analysis of the Technical Provision Risk variable show that the maximum value of 15.889270 was achieved by Asuransi Dayin Mitra Tbk in 2021, while the minimum value of -5.588630 was achieved by Nusantara Re in 2024. The average value of Technical Provision Risk is 3.387712, while the standard deviation is 2.560572. The higher average value than the standard deviation indicates that, in general, the level of technical reserves is relatively high, but there is still significant variability among insurance companies in maintaining sufficient reserves to pay claims.

The results of descriptive statistical analysis of the Reinsurance Risk variable show that the maximum value of 1.192630 was achieved by PT Dayin Mitra Tbk in 2022, while the minimum value of -3.950360 was achieved by Nusantara Re in 2020. The average value of Reinsurance Risk is 0.014528, with a standard deviation of 0.454677, which indicates a fairly large spread in the data. It indicates a significant difference in the company's dependence on reinsurance, where some companies have high exposure to reinsurance while others have low.

The descriptive statistical analysis of the Firm Size variable shows a maximum value of 34.02682 and a minimum value of 21.71691. The mean value for Firm Size is 29.28278, with a standard deviation of 1.699225. This mean value, which is significantly above the standard deviation, indicates that the insurance companies in the study sample are relatively homogeneous in size, with most companies having comparable asset sizes throughout the study period.

The descriptive statistical analysis of the Leverage variable shows a maximum value of 0.967130 and a minimum value of 0.000000. The mean value for Leverage is 0.644095, which is higher than the standard deviation of 0.207477. It indicates that the distribution of Leverage data is relatively low, resulting in a relatively uniform level of dependence on debt financing among

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insurance companies. Therefore, most companies have a relatively stable leverage structure, with no significant differences between companies.

Table 3. Descriptive Statistics

	Mean	Median	Maximum	Minimum	Std. Dev
ROE	0.049539	0.051285	0.797140	-0.582270	0.148427
Underwriting Risk	0.536435	0.479005	5.63310	- 0.589430	0.548291
Technical Provision Risk	3.387712	2.933160	15.88927	-5.588630	2.560572
Reinsurance Risk	0.014528	0.004380	1.192630	-3.950360	0.454677
Firm Size	29.28278	29.41091	34.02682	21.71691	1.699225
Leverage	0.644095	0.669910	0.967130	0.000000	0.207477

The Effect of Underwriting Risk on Firm Performance. Based on the analysis of the effect of the underwriting risk variable on firm performance (ROE), the estimated coefficient is 0.003385 with a probability of 0.5406 (>0.05), meaning H_0 is accepted (H_a is rejected). Therefore, it can be concluded that underwriting risk has a negative but insignificant effect on ROE.

This study aligns with the findings of Mohamed & Elden (2023), who stated that underwriting risk negatively impacts firm performance because increased claims expenses can reduce insurance companies' profit margins. These findings are also supported by Sulaiman Al-Ali M, Aboualhasan H, Al-Ali M, Alibrahim N, and Al-Abdulhadi A. (2024), who showed that a high claims-to-premium ratio negatively impacts profitability by reducing the company's ability to maintain financial stability. Kiplang'at & Njaramba (2025) also concluded that high underwriting risk can reduce an insurance company's return on equity.

The results of this study did not show statistical significance, but the direction of the effect is consistent with previous literature, indicating that higher underwriting risk leads to lower financial performance for insurance companies. This difference in significance may be due to underwriting risk management factors and differences in market structure during the study period.

The Effect of Reinsurance Risk on Firm Performance. Based on the analysis, the estimated coefficient value of reinsurance risk on firm performance (ROE) is -0.023077 with a probability of 0.0869 (>0.05), meaning H_0 is accepted (H_a is rejected). Therefore, it can be concluded that reinsurance risk has a negative but insignificant effect on ROE. A negative coefficient value indicates that the greater a company's reliance on reinsurance, the lower its profitability tends to be.

This study aligns with findings by Sooriyaarachchi & Buddhika (2024), who explain that reinsurance risk is a financial risk that has the potential to degrade company performance. Mohamed & Elden (2023) found that the greater the proportion of premiums transferred to reinsurers, the lower the company's return on capital. Research by Lalon & Das (2022) also shows that an inefficient reinsurance structure negatively impacts company profitability.

This negative influence is also consistent with the findings of Sulaiman AlAli M, Aboualhasan H, Al Ali M, Alibrahim N, and Al Abdulhadi A. (2024), who stated that high reliance on reinsurance increases financial burdens and suppresses insurance companies' profit margins. The insignificance of the results of this study indicates that reinsurance management practices in the sample companies are likely still within acceptable limits and therefore do not significantly impact ROE. Thus, increased reinsurance risk tends to decrease firm performance, although this study did not prove statistically significant.

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The Effect of Technical Provision Risk on Firm Performance. Based on the analysis, the estimated coefficient value of the technical provision risk variable on firm performance (ROE) is 0.002275 with a probability of 0.2363 (>0.05), meaning H_0 is accepted (H_a is rejected). Therefore, it can be concluded that technical provision risk has a positive but insignificant effect on ROE. A positive coefficient value indicates that an increase in a company's ability to manage technical reserves tends to be followed by an increase in profitability, although this relationship is not statistically strong.

This study aligns with Siddik M, Hosen M, Miah M, Kabiraj S, Joghee S, Ramakrishnan Sl. (2022), who found that adequate technical reserves contribute to strengthening the financial condition of insurance companies. Worku A, Bayleyegne Y, and Tafere Z. (2024) also showed that properly managed technical reserves can maintain long-term profit sustainability. Sooriyaarachchi & Buddhika (2024) stated that technical provisions are a crucial factor in supporting the financial performance of insurance companies.

The positive direction of the effect in this study indicates that the better a company manages technical reserves, the greater the potential for increased profitability. The insignificant results may be due to variations in provisioning policies between different companies and the presence of other operational risk factors that more dominantly influence financial performance. Therefore, although technical provision risk tends to improve firm performance, its effect is not significant in the context of this study.

The Effect of Firm Size on Firm Performance. Based on the analysis, the estimated coefficient value of firm size on firm performance (ROE) is 0.007461 with a probability of 0.0263 (<0.05), meaning H_0 is rejected (H_a is accepted). Therefore, it can be concluded that firm size has a positive and significant effect on ROE. A positive coefficient value indicates that the larger the company size, the greater the company's ability to increase profitability.

This study aligns with the findings of Lalon & Das (2022) and Kiplang'at & Njaramba (2025), which state that larger companies have broader access to funding and better operational efficiency, thus improving firm performance. Park J, Choi B, Ho C. (2021) also found that larger companies are better able to withstand market volatility and maintain profitability due to their stronger organizational structure and resources. Therefore, the findings of this study reinforce the importance of company size as a significant factor in increasing insurance company profitability.

The implication is that larger companies have a competitive advantage in terms of funding capacity and risk management, thus resulting in better firm performance.

The Effect of Leverage on Firm Performance. Based on the analysis, the estimated coefficient value of leverage on firm performance (ROE) is 0.035492 with a probability of 0.1692 (>0.05), meaning H_0 is accepted (H_a is rejected). Therefore, it can be concluded that leverage has a positive but insignificant effect on ROE. The positive coefficient value indicates that increased debt usage tends to increase profitability, although the effect is not statistically strong.

These results align with research by Mohamed & Elden (2023), which states that well-managed leverage can positively impact financial performance by increasing funding capacity. Research by Lalon & Das (2022) also found that proportional debt use can increase capital turnover and support profitability growth. Wahua L & Mapfeka S. (2025) confirmed that optimal leverage can strengthen financial performance and maintain the sustainability of a company's profits.

The insignificance in this study may be due to variations in funding strategies between companies, where increasing debt does not necessarily have a direct impact on ROE due to interest expenses and financial risks. Therefore, despite its positive direction, leverage was not a dominant

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factor determining firm performance in insurance companies. During this study period, companies need to maintain healthy leverage levels to avoid excessive financial risk.

Table 4. T-Test (Partial Test)

Variable	Coefficient	Prob.	Results
C	-0.237322	0.0177	
UNDERWRITING	-0.003385	0.5406	Not significant to ROE
REINSURANCERISK	-0.023077	0.0869	Not significant to ROE
TECHNICALPROVISIONRISK	0.002275	0.2363	Not significant to ROE
FIRMSIZE	0.007461	0.0263	Significant Positive on ROE
LEVERAGE	0.035492	0.1692	Not Significant to ROE

Source: Processed Data (2025)

Research Regression Model. The panel data regression model used is as follows: Model 1:

ROE = -0.237322 - 0.003385 URISKit + 0.002275 TPRISKit - 0.023077 RERISKit +0.007461 FSIZEit + 0.035492 LEVit

Where:
ROE = Return on Equity
URISK = Underwriting Risk
TPRISK = Technical Provision Risk
RERISK = Reinsurance Risk
FS = Firm Size
LEV = Leverage
B_0 = Constant
$\beta_1\beta_2$ β_3 = Regression Coefficient

CONCLUSION

Based on the test results, the following conclusions were obtained:

1. The underwriting risk variable has no significant effect on firm performance.
2. The reinsurance risk variable has a negative and significant effect on firm performance.
3. The technical provision risk variable has a positive and significant effect on firm performance.
4. The firm size variable has a positive and significant effect on firm performance.
5. The leverage variable has a positive and significant effect on firm performance.

Implications. Based on the research results obtained, the implications of these findings are as follows:

a. For Insurance Company Management. Based on the research results, firm size has a positive and significant effect on firm performance. Therefore, companies need to increase business capacity through asset expansion, network expansion, or increasing operational scale to boost profitability. Add two paragraphs.
b. For Investors. The implications of this research result indicate that larger companies have a better ability to generate profitability, so that firm size can be used as an indicator in investment decision-making.

Limitations And Suggestions. The results of this study have several limitations that can serve as input for related parties and future researchers. For future researchers, it is recommended to

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conduct research in different sectors or time periods to obtain more diverse results and provide a more comprehensive understanding of the factors influencing firm performance. Future researchers can add other variables such as corporate governance or board characteristics, as demonstrated by Lalon & Das (2022) and Wahua L & Mapfeka S. (2025), who found that corporate governance has a significant influence on company stability and profitability. The addition of these variables is expected to provide a more comprehensive picture of the determinants of insurance company financial performance.

REFERENCES

Kiplang'at, D., & Njaramba, J. (2025). Firm-Specific Factors and the Profitability of Listed Non-Life Insurance Firms in Kenya. *Cradle of Knowledge: African Journal of Educational and Social Science Research (The), 12*(2), 69–77. https://doi.org/10.4314/ajessr.v12i2.3

Lewi, W., & Smith, M. (2025). Risk-Return Tradeoff and Sustainability of the Insurance Industry. *British Journal of Management and Marketing Studies, 8*(1), 95–105. https://doi.org/10.52589/bjmms-w87sjcyr

Lalon, R. M., & Das, J. (2022). Investigating the dynamic impact of firm-specific and macroeconomic drivers on the profitability of general insurance companies in Bangladesh. *International Journal of Research in Business and Social Science (2147- 4478), 11*(5), 304–313. https://doi.org/10.20525/ijrbs.v11i5.1869

Mohamed, S., & Elden, G. (2023). Measuring the Impact of Financial Risks on The Financial Performance of Property and Casualty Insurance Companies in the Egyptian Insurance Market Using a Panel Data Regression Analysis... Measuring the Impact of Financial Risks on The Financial Performance of Property and Casualty Insurance Companies in the Egyptian Insurance Market Using a Panel Data Regression Analysis. *Journal of Global Scientific Research, 8*(10), 2023–3268. https://doi.org/10.5281/jgsr.2023.10015286

Ningsih, S. C., & Leon, F. M. (2024). Determinants Affecting Profitability in Insurance Companies in Indonesia. https://doi.org/10.17509/jrak.v12i2.69273

Olarewaju, O. M., & Msomi, T. S. (2022). Factors affecting the profitability of reinsurance companies in sub-Saharan Africa: Evidence from dynamic panel analysis. *Cogent Business and Management, 9*(1). https://doi.org/10.1080/23311975.2022.2093485

Park, J., Choi, B. P., & Ho, C. L. (2021). The impact of internal and external reinsurance on insurers' performance and price. *Managerial Finance, 47*(7), 937–950. https://doi.org/10.1108/MF-12-2019-0619

Siddik, M. N. A., Hosen, M. E., Miah, M. F., Kabiraj, S., Joghee, S., & Ramakrishnan, S. (2022). Impacts of Insurers' Financial Insolvency on Non-Life Insurance Companies' Profitability: Evidence from Bangladesh. *International Journal of Financial Studies, 10*(3). https://doi.org/10.3390/ijfs10030080

Sooriyaarachchi, S. K. R. N., & Buddhika, H. J. R. (2024). The Impact of Insurance-Specific Risk on Firm Performance of Listed Insurance Companies in Sri Lanka. *Journal of Management Matters, 11*(1), 41–54. https://doi.org/10.4038/jmm.v11i1.66

Sulaiman AlAli, M., Aboualhasan, H. S., Al Ali, M. S., Alibrahim, N. F., & Al Abdulhadi, A. J. (2024). Factors Affecting Profitability of Insurance Companies: Evidence from Kuwait. The International Journal of Business Management and Technology, 8. www.theijbmt.com

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Utami, R., Pramesti, A., & Leon, F. M. (2025). The Effect of Company Liquidity and Efficiency on Profitability in the Food and Beverage Sub- Sector on the Indonesia Stock Exchange. In Indonesian. *Interdisciplinary Journal of Sharia Economics (IIJSE) (Vol. 8*, Issue 2).

Worku, A. T., Bayleyegne, Y. W., & Tafere, Z. B. (2024). Determinants of profitability of insurance companies in Ethiopia: evidence from insurance companies from 2011 to 2020. *Journal of Innovation and Entrepreneurship, 13*(1). https://doi.org/10.1186/s13731-023-00357-1

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