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Determinants Affecting Profitability in Insurance Companies in Indonesia

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ABSTRACT

This study aims to identify variables that affect insurance profitability in Indonesia. The addition of tangibility of asset variable as an independent variable is a novel part of this study. This research method involves collecting data from 25 insurance companies over a five-year period (2018-2022), and applying data processing analysis using panel data regression analysis techniques. The results found that underwriting risk has a negative impact on ROA, while reinsurance ratio has a negative impact on ROA. In contrast, tangibility of asset has a positive effect on ROA. Implications for financial managers to evaluate financial conditions and increase understanding of what factors can affect the profitability of insurance companies.

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1. INTRODUCTION

The insurance sector is an integral part of any business, especially the financial sector of a country. Insurance companies are essential for economic prosperity for businesses and individuals. Insurance companies are needed to compensate for losses and put individuals or businesses in the same position as before the loss. Insurance companies provide social and economic benefits, such as reducing losses, reducing fear and uncertainty, and creating jobs. (Ambaw & Lijuan, 2021). The insurance sector not only focuses on improving the lives of individuals by hedging the risks of companies, but also rotates financial flows in the economy. As such, the profitability of the company is the most important concern for researchers. Profitable financial institutions promote economic stability as the economy can be considered healthy. Insurance companies are considered as major financial institutions that play an important role in the economic development of developed and developing countries. (Tsvetkova L, Bugaev Y, Belousova T, Zhukova O., 2021)

The profitability of an insurance company refers to the level of financial objectives that evaluate the overall financial health of the company. Profitability is used as a method to calculate a company's productivity, valuation, and monetary growth. Numerous studies have been conducted in many countries and regions around the world to analyze the factors affecting the profitability of the insurance sector (Sasidharan S, Ranjith V, Prabhuram S., 2023). In the context of insurance companies, return on assets is used in measuring the company's ability to generate profits and ensure the payment of claims and economic benefits to policyholders. In addition, ROA can be seen as an indicator of the company's capacity to recruit and retain policyholders (Msomi & Nzama, 2023).

There are several factors that can affect the profitability of insurance companies, namely insurance size, underwriting risk, financial leverage, investment income, reinsurance ratio, solvency ratio, premium growth (Horvey S, Odei-Mensah J, Mushai A., 2024). According to Kumar R, Stauvermann P, Patel A, Prasad S, Kumar N. (2022) explained that an increase in insurance size, such as the opening of new branches and the use of new technology, helps insurance companies will underwrite more policies, thereby increasing efficiency which can increase company profits. Legass H, Mulatie M, Adem Shikur A. (2021) mentions underwriting risk, which is the ratio of claims incurred to net premiums earned. It is also expressed as loss ratio. It was found that underwriting risk has a negative and significant effect on ROA. This suggests that, a high claims ratio indicates the premium rate is too low and the profitability of the company will be jeopardized, as higher underwriting risk causes insurance companies to pay higher unexpected payments or costs. Shiferaw & Gujral (2022) said that the leverage ratio is a big concern for companies. Companies that have high leverage may be at risk of bankruptcy if the company cannot make payments on corporate debt. The company may also be unable to find new lenders in the future. Horvey et al. (2024) Investment income is an important factor in the financial stability of insurance companies. Insurance companies generate income from two main sources, namely through underwriting and investment activities. Short-term insurance companies generate almost no underwriting profits. The overall profitability of these companies depends on investment income.

Soye Y, Olumide R, Adeyemo D. (2022) mentioned that the reinsurance ratio can help the cedent (insurer) to minimize equity limits, and manage the allocation of capital resources efficiently. Reinsurance can assist insurance companies in maintaining the financial flexibility of companies that aim to spread risk. Stated by Li & Shiu (2021) that the effect of reinsurance

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depends on the financial viability of the insurer and continue to analyze why insurers with different levels of financial flexibility tend to make opposite debt ratio decisions. Morara & Sibindi (2021) says solvency ratio refers to the ability of an insurance company to meet the company's financial obligations as they fall due. It is a metric that assesses the long-term financial viability of insurance companies. Olarewaju & Msomi (2022) said that premium growth rate (PGR) is a premium growth rate to measure the main source of income generated by insurance companies. A higher premium growth rate represents financial growth and progress which is a consequence of a larger market share. According to research conducted by Ambaw & Lijuan (2021) A positive and significant effect of premium growth rate on the profitability of insurance companies was found, meaning that insurance providers receive premiums from policyholders, invest the money (usually in low-risk investments), and then reimburse the money until the individual dies or the policy matures. Therefore, an increase in premiums provides insurance companies with more investment opportunities.

The novelty of this research is the addition of tangibility of assets (TAN) variables in accordance with research conducted by Worku A, Bayleyegne Y, Tafere Z. (2024) who stated that tangibility of assets is positively related to ROA and the similarity of the exact expectation of a positive relationship between tangibility and profitability of insurance companies in Ethiopia. The impact of tangibility of assets on profitability can be positive due to the fact that companies with many tangible assets tend to be more profitable. This research will be conducted from 2018-2022 on insurance companies in Indonesia. This study is conducted aiming to find factors that can affect the profitability of insurance companies. This study will investigate insurance companies in Indonesia during the period 2018 to 2022.

Relantionship between Variables

The effect of insurance size on insurance profitability.

The research findings by Ahmeti & Iseni (2022) found a positive influence between insurance size and return on assets (ROA), meaning that the size of the insurance company can be interpreted as larger is better in utilizing economies of scale in transactions and enjoying a higher level of profit. In line with research conducted by Zainudin et al. (2018) *insurance size is a significant variable and positively affects the profitability of insurance companies in Asia examined in the study. The positive results indicate that the profitability of the company can be improved if the premiums of insurance products increase, which can lead to higher revenues for insurance companies in Asian countries. However, in contrast to the research conducted by* Horvey et al. (2024) It was found that the insurance size variable showed a significant negative effect with return on assets (ROA), meaning that a smaller insurance size can cause a lower return on insurance investment which has an impact on reducing company profitability. Based on this description, the formulation of the first hypothesis of this study is:

H_1: There is an effect of insurance size on insurance profitability

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The effect of underwriting risk on insurance profitability.

According to the findings Zainudin et al. (2018) It was found that underwriting risk has a positive influence with the company's return on assets (ROA), it can be interpreted that the company managed to find profitable investment opportunities when underwriting risky business, this leads to higher profitability for the company. However, according to research Chandra Meher & Zewudu (2020) Underwriting risk shows a negative and significant effect with return on assets (ROA), increasing underwriting risk by compensating for insurance policies reduces the profitability of insurance companies. This means that the research is in line with Horvey et al. (2024) It was found that underwriting risk has a significant negative effect on return on assets (ROA). Research Sukarya & Margaretha (2018) revealed that high underwriting risk can jeopardize the profitability of insurance companies. undewriting risk in the form of loss ratio (paid claims per net premium) to ROA. Based on this description, the formulation of the second hypothesis of this study is:

H_2 *:* There is an effect of underwriting risk on insurance profitability

The effect of financial leverage on insurance profitability.

According to the findings Mwangi & Murigu (2015) Leverage has a significant influence with profitability in general insurance companies in Kenya. Increasing leverage can improve financial performance, as it was found to be positively associated with profitability. In line with research by Horvey et al. (2024) It was found that leverage showed a significant positive effect. However, this research is not in line with previous research by Msomi (2022) It was found that financial leverage has a negative and significant effect on the profitability of non-life insurance companies in Africa. This means that the more African non-life insurance companies use higher debt to run the company's operations, which leads to the lower financial performance of the company. However, according to research Ahmeti & Iseni (2022) Insurance company leverage has a negative and significant influence between leverage and ROA. Based on this description, the formulation of the third hypothesis of this study is:

H_3 : There is an effect of financial leverage on insurance profitability

The effect of investment income on insurance profitability.

According to the findings Morara & Sibindi (2021) found that there is a positive influence between investment income and return on assets (ROA) of insurance companies. This means that most insurance companies with strong investment results reduce the risk of company losses by reinsuring part of the insurance company's profits which have an impact on increasing insurance profitability. In line with the results of research by Horvey et al. (2024) that investment income with return on assets has a positive and significant influence, this shows that higher investment returns can increase the profitability of insurance companies. According to the research results Kočović & Paunović (2014) found a positive and significant influence on ROA. Based on this description, the formulation of the fourth hypothesis of this study is:

H_4 : There is an effect of investment income on insurance profitability

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The effect of reinsurance ratio on insurance profitability.

According to the findings Morara & Sibindi (2021) reinsurance ratio has a positive and significant effect on the profitability of insurance companies. This means that an increase in the reinsurance ratio will increase the profitability of insurance companies because most insurance companies with good investment results reduce the risk of company losses by reinsuring some percentage of the insurance company's products. In line with research conducted by Wosti & Sumit Pradhan (2023) where it was found that the reinsurance ratio had a positive and significant effect. In contrast to research conducted by Siopi & Poufinas (2023) found that the reinsurance ratio has a negative and significant effect. This means that the reinsurance ratio reduces risk (bankruptcy), but at the same time reduces potential profitability. Based on this description, the formulation of the fifth hypothesis of this study is:

H_5 : There is an effect of reinsurance ratio on insurance profitability

The effect of solvency ratio on insurance profitability.

According to previous research conducted by Horvey et al. (2024) found that the solvency ratio has a positive and significant effect on the profitability of insurance companies. In line with research conducted by Morara & Sibindi (2021) There is a positive and significant influence between solvency ratio has a positive and significant influence on the profitability of insurance companies. This implies that insurance companies must maintain the level of solvency of the company because insurance companies are more likely to enjoy higher profits, thus maintaining the long-term viability of the company. Research results by Burca & Batrinca (2014) It was found that the solvency ratio has a positive influence on the profitability of insurance companies, because the financial stability of insurance companies is an important benchmark for potential customers. Based on this description, the formulation of the sixth hypothesis of this study is:

H_6: There is an effect of solvency ratio on insurance profitability

The effect of premium growth on insurance profitability.

According to previous research conducted by Ambaw & Lijuan (2021) Premium growth has a positive and significant effect on the profitability of insurance companies. This means that premium growth has a major effect on the profitability of insurance companies. Higher growth rates are considered a sign of the company's financial strength and can encourage increased demand for external equity funding. Insurance providers receive premiums from policyholders, and invest the money. In line with research conducted by Olarewaju & Msomi (2022) premium growth rate (PGR) dianggap memiliki pengaruh positif dengan ROA. Namun, penelitian lain yang dilakukan oleh Charumanthi (2012) Thus, that insurance companies with more premium growth will have lower profitability due to increased underwriting risk and related provision for solvency margins. Based on this description, the formulation of the seventh hypothesis of this study is:

H_7 : There is an effect of premium growth on insurance profitability

The effect of tangibility of assets on insurance profitability.

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According to the findings Hussanie & Joo (2019) This study found that tangibility of assets has a significant relationship with ROA in the profitability of life insurance companies in India. This study found that tangibility is one of the factors that significantly explain the profitability of life insurance companies, as measured by ROA. In line with research by P V Pathirana et al. (2021) The findings revealed a significant and positive relationship between tangibility and profitability of life insurance companies in Sri Lanka. However, research conducted by Zainudin et al. (2018) The eighth hypothesis of this study is: : The tangibility of assets and ROA is a negative relationship, because this insurance company has fewer tangible assets and relies more on liquid assets in the company's operations so as to increase profitability. Based on this description, the formulation of the eighth hypothesis of this study is:

H_8 : There is an effect of tangibility of assets on insurance profitability

Different empirical evidence suggests that insurance profitability can be influenced by internal factors. Therefore, this study uses internal determinants of insurance company profitability including insurance size, Underwriting risk, financial leverage, Investment income, Reinsurance ratio, Solvency ratio, Premium growth, tangibility of assets while the dependent variable is insurance profitability as measured by Return on Assets (ROA). So the conceptual framework in research can be described as follows:

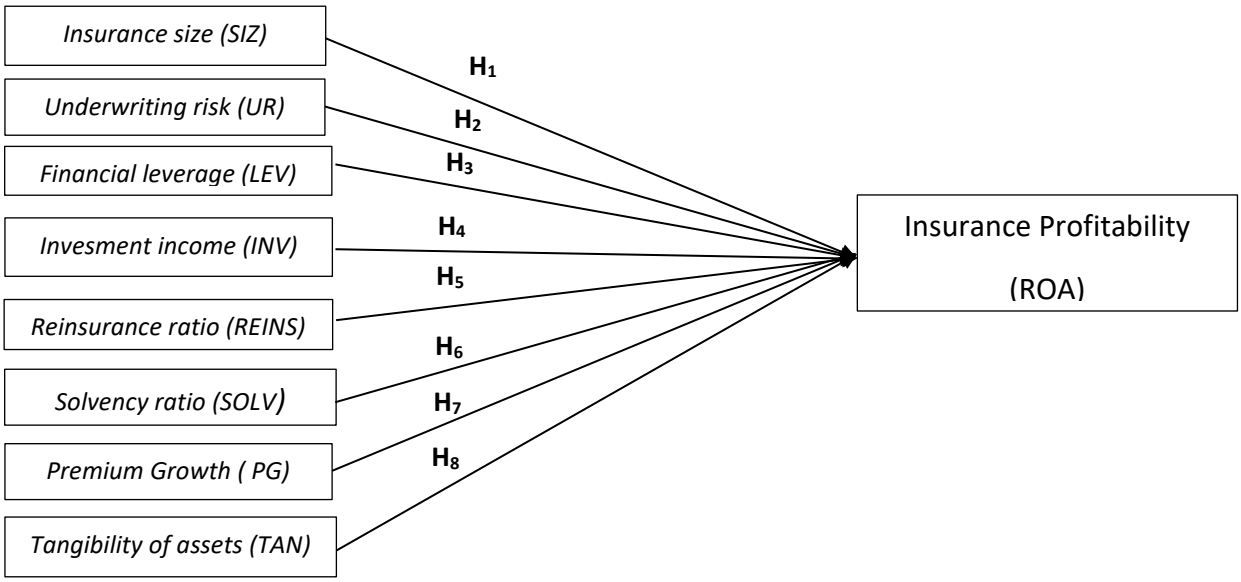

Figure 1. Conceptual Framework Chart

2. METODOLOGI PENELITIAN

Variables and Variable Measurement

This study aims to determine and examine the effect of insurance size, Underwriting risk, financial leverage, Investment income, Reinsurance ratio, Solvency ratio, Premium growth, tangibility of assets on insurance profitability. The secondary data obtained and collected were previously taken over five years (2018-2022). Here are some measurements of each variable

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Table 1. Variable Operational Definition

Variable Type	Variables	Description	Reference
Dependent Variable	*insurance profitability*	$\frac{Net\ profit}{Total\ assets}$	Vojinović et al. (2022)
Independent Variables	*insurance size*	*Natural logarithm of total assets*	Ahmeti & Iseni (2022)
	underwriting risk	$\frac{claims\ paid}{net\ premium}\ x\ 100$	Olarewaju & Msomi (2022)
	financial leverage	$\frac{total\ liabilities}{total\ assets}$	Msomi & Nzama (2023)
	investment income	$\frac{Total\ Invesment\ Income}{Gross\ Written\ Premium}$	Morara & Sibindi (2021)
	reinsurance ratio	$\frac{ceded\ reinsurance\ premium}{total\ premium}$	Morara & Sibindi (2021)
	solvency ratio	$\frac{Total\ Assets}{Total\ Liabilities}$	Agar (2018)
	premium growth	$\frac{GWP(t) - GWP(t-1)}{GWP(t-1)}$	Oscar Akotey et al. (2013)
	Tangibility assets	$\frac{Fixed\ assets}{total\ asset}$	Msomi & Nzama (2023)

Sampling Method

In this study, the sampling method used was purposive sampling. The type of data used in the study is quantitative. The data collection method in the research is the secondary data collection method. The data source comes from the Indonesia Stock Exchange website (https://www.idx.co.id/) and from the website of each company. The sample of this study includes 125 periods of financial statements, consisting of 25 insurance companies in Indonesia for 5 years (period 2018-2022).

Table 2. Sampling Criteria

Description	Total
Insurance companies listed on the IDX during the period 2018 - 2022	72
Insurance companies that do not have complete financial reports during 2018 - 2022	(47)
The number of research samples	25
Number of observations over 5 years x number of research samples	125

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Data Analysis Technique

Hypothesis testing and data analysis techniques in this study used panel data regression analysis with the help of Eviews 10 software. Panel data regression analysis with the help of Eviews 10 software. This panel data regression model has the purpose of measuring the extent of the strength of the relationship between two or more variables, showing the direction of the relationship with the dependent variable. Show the direction of the relationship with the dependent variable. The regression equation in this research is as follows:

$$\mathbf{ROA}_{it} = \alpha + \beta_2\mathbf{SIZE}_{it} + \beta_3\mathbf{UR}_{it} + \beta_4\mathbf{LEV}_{it} + \beta_5\mathbf{REINS}_{it} + \beta_6\mathbf{SOLV}_{it} + \beta_7\mathbf{INV}_{it} + \beta_8\mathbf{PG}_{it} + \beta_9\mathbf{TAN}_{it} + \varepsilon_{it}$$

Description:

α = coefficient constant
β = coefficient
ROA = *return on asset*
SIZE = *insurance size*
LEV = *financial leverage*
REINS = *reinsurance*
UR= *underwriting risk*
SOLV = *insurance solvency*
INV = *investment income*
PG = *insurance premium growth*
TAN = *tangibility of asset*
ε = Error

The following are the steps for testing the regression model in this study:

Chow Test

There are two possible results from the Chow test results, namely common effect or fixed effect. The chow test can be used in this study to determine which model is more effective and acceptable. The chow test is based on two hypotheses, namely the null hypothesis that there is no individual heterogeneity and the alternative hypothesis that there is cross-sectional heterogeneity.

Based on the chi-square value of 34.085130 and p-value of 0.0832 or less than the alpha used (0.05), there is not enough evidence to reject the null hypothesis. Therefore, the conclusion is that it fails to reject the null hypothesis (H0) which states that the common effect model is better than the fixed effect model.

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Langrange Multiplier test

The Langrange Multiplier (LM) test in panel data analysis is used to determine whether the Common Effects Model (CEM) or Random Effects Model (REM) is more appropriate. If the LM test shows significance, then the REM model is more appropriate because it accommodates random individual effects. However, if the LM test is not significant, then the CEM model is more appropriate, indicating that no individual effects need to be included in the model.

Based on the Langrange Multiplier test, the resulting chi-square statistical value is 0.013294 with a probability (p-value) of 0.8481. The alpha value used as the threshold in this study is 5%. The obtained p-value (0.8481 > alpha (0.05). Therefore, the decision obtained H0 failed to be rejected for the ROA model, so the model to be used in this study is the Common Effects Model (CEM).

Goodness of Fit test (R^2)

This test aims to determine how much contribution the influence of the independent variable has on the dependent variable provided that the F test results in the regression analysis are significant. Adjusted R-square has a range of values between 0 and 1 (0 < R2> 1), an adjusted R-square value close to 1 indicates that the regression model accounts for most of the variation in the dependent variable using the independent variables in the model. Conversely, a value close to 0 indicates that the model is not able to explain the variation in the dependent variable well. In practice, the higher the adjusted R-square value, the better the regression model fits the data, with values close to 1 indicating a higher level of fit. However, it is important to remember that the interpretation of the adjusted R-square value should be done taking into account the specific context of the data and the model used.

Based on the Goodness Of Fit test results, the adjusted R-square value of 0.154620 indicates that approximately 15.46% of the variation in return on assets (ROA) can be explained by the combination of independent variables in the model. This means that factors such as insurance size, underwriting risk, financial leverage, investment income, reinsurance ratio, solvency ratio, premium growth, and tangibility of assets, together contribute 15.46% in explaining the variability of ROA. Meanwhile, about 84.54% of the variation in ROA cannot be explained by the independent variables in the model.

F-test

F-Test is a statistical tool used to test the overall significance of a regression model or the difference between two models. It tests whether the independent variables jointly affect the dependent variable in the regression model. If the F-Test value is significant, then at least one independent variable affects the dependent variable significantly. The F-Test is also used to compare two regression models and determine whether a more complex model is significantly better at explaining the data compared to a simpler model. The alpha used in this study is 0.05. Alpha, or significance level, determines the decision threshold in statistical tests. In the F-Test, if the sig of F < 0.05 means that simultaneously the independent variables have an influence on the dependent variable, so the regression model is suitable for use. Conversely, if the sig of F > 0.05 means that simultaneously the independent variables have no influence on the dependent variable, so the regression model is not suitable for use.

The F-test result with a p-value of 0.000535 shows that the p-value is much smaller than the alpha used in this study, which is 0.05. In this context, since the resulting p-value is smaller than alpha, we reject the null hypothesis (H0). Rejection of H0 indicates that at least one independent variable in

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the regression model significantly affects the dependent variable as a whole. In other words, this F-test result indicates that there is a simultaneous influence of the independent variables on the dependent variable.

3. RESULTS AND DISCUSSION

Descriptive Statistical Analysis

Return on Assets (ROA), the mean value is 0.0284 with a standard deviation value of 0.0059. The minimum value of ROA is -0.1983, which is owned by AHAP in 2019, while the maximum value is 0.5316, which is owned by ASRM in 2022. Insurance size has a mean value of 12.7237 with a standard deviation value of 0.7689. AMI in 2022 has a minimum size value of 10.3258, while AHAP in 2022 has a maximum value of 14.97. Underwriting Risk has a mean value of 0.6338 with a standard deviation value of 0.2566. BRI in 2019 has a minimum Underwriting Risk value of 0.8408, while BLI in 2021 has a maximum value of 1.5482. Financial Leverage has a mean value of 0.6676 with a standard deviation value of 0.1559. CTII in 2021 has a minimum Leverage value of 0.0521, while GELI in 2022 has a maximum value of 0.9573.

Investment income has a mean value of 0.1311 with a standard deviation value of 0.1688. PUK in 2018 has a minimum investment income value of -0.0384, while LIFE in 2021 has a maximum value of 0.9880. Solvency has a mean value of 1.5634 with a standard deviation value of 0.4075. GELI in 2022 has a minimum solvency value of 1.0446, while VINS in 2018 has a maximum value of 3.1814. Premium Growth has a mean value of 0.0893 with a standard deviation value of 0.2905. AVCE in 2020 has a minimum Premium Growth value of -0.6452, while AJT in 2019 has a maximum value of 1.9656. Finally, Tangibility of Assets has a mean value of 0.0088 with a standard deviation value of 0.0106. CTII in 2021 has a minimum Tangibility of Assets value of 0.0001, while ASRM in 2021 has a maximum value of 0.0655.

Table 3. Descriptive Statistics Test Results

Variables	Mean	Median	Maximum	Minimum	Std Dev.
ROA	0.0284	0.0235	0.5316	-0.1983	0.0559
Size	12.7237	12.6394	14.9700	10.3258	0.7689
Underwriting Risk	0.6338	0.6059	1.5482	0.0841	0.2566
Leverage	0.6676	0.6756	0.9573	0.0521	0.1559
Invesment Income	0.1311	0.0673	0.9880	-0.0384	0.1688
Reinsurance	0.3367	0.1889	1.8775	0.0003	0.4305
Solvency	1.5634	1.4747	3.1814	1.0446	0.4075
Premium Growth	0.0893	0.0754	1.9656	-0.6452	0.2905
Tang	0.0088	0.0051	0.0655	0.0001	0.0106

Source: Data processed using E-views (2024)

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Individual Test (T-test)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SIZE	-0.009445	0.006526	-1.447336	0.1505
UNDERWRITING_RISK	-0.051118	0.022335	-2.288658	0.0239
LEVERAGE	-0.048133	0.037720	-1.276066	0.2045
INVESMENT_INCOME	-0.027322	0.031038	-0.880277	0.3805
REINSURANCE	-0.042197	0.013205	-3.195576	0.0018
SOLVENCY	4.70E-05	0.000506	0.092841	0.9262
PREMIUM_GROWTH	0.008202	0.016698	0.491202	0.6242
TANG	1.313047	0.445016	2.950563	0.0038
C	0.218575	0.078486	2.784888	0.0063

Source: Data processed using E-views (2024)

H_1: There is an effect of insurance size on insurance profitability

Based on the results of the regression analysis, a p-value of 0.1975 was obtained. This value indicates that the p-value > alpha used in this study, which is 0.05. In this context, because the resulting p-value is greater than alpha, H0 is rejected. H0 in the t-test is that the regression coefficient of the insurance size variable is equal to zero, which means that the independent variable has no significant effect on the insurance profitability (ROA) variable. When the p-value > alpha, this indicates that this study does not have enough statistical evidence to state that the insurance size regression coefficient significantly affects insurance profitability in the regression model. In line with research conducted by Msomi & Nzama (2023) shows that insurance size does not substantially affect profitability. meaning that the scale of the company does not reflect the effectiveness of management in managing assets to generate profits, so that company size does not significantly affect financial performance. Contrary to research Horvey et al. (2024) There is a significant influence between insurance size on the profitability of insurance companies, meaning that larger companies will have difficulty maintaining company profitability.

H_2: There is an influence of underwriting risk on insurance profitability.

The effect of underwriting risk on insurance profitability (ROA) is reflected in the regression analysis results, where the p-value is 0.0214 (p-value < alpha) used is 0.05, with a negative regression coefficient. The significant p-value indicates that underwriting risk has a significant effect on ROA. The negative regression coefficient indicates that the higher the level of underwriting risk, the lower the ROA generated by the insurance company. This is in line with research Horvey et al. (2024) also shows that underwriting risk has a significant negative effect on return on assets (ROA). This means that higher underwriting costs can have a negative impact on the profitability of insurance companies. Supported by other research by Chandra Meher & Zewudu (2020) which found that underwriting risk shows a negative and significant effect with return on assets (ROA), an increase in underwriting risk by compensating for insurance policies reduces the profitability of insurance companies. Contrary to research by Zainudin et al. (2018) It

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was found that underwriting risk has a positive influence on the company's return on assets (ROA), it can be interpreted that the company managed to find profitable investment opportunities when underwriting risky business, this leads to higher profitability for the company.

H_3 : There is an effect of financial leverage on insurance profitability

The effect of financial leverage on insurance profitability (ROA) is reflected in the regression analysis results, where the p-value obtained is 0.6661. The p-value < alpha (0.05) indicates that there is insufficient statistical evidence to reject H0, therefore it can be concluded that financial leverage has no significant effect on ROA. In line with the research conducted by Hussanie & Joo (2019) It was found that leverage has an insignificant effect on profitability This research contradicts Horvey et al. (2024) which shows leverage has a significant effect, where companies should not rely on debt to increase profitability other research by (Mwangi & Murigu, 2015) Leverage has a significant influence on profitability in general insurance companies in Kenya. Increasing leverage can improve financial performance. In this context, financial leverage does not significantly affect the level of profitability as it can be seen from the effects of the use of debt may not be directly reflected in ROA because the interest costs associated with debt may reduce net profits.

H_4 : There is an effect of inevesment income on insurance profitability

The effect of investment income on insurance profitability (ROA) is reflected in the regression analysis results, where the p-value obtained is 0.3603. In the context of the alpha used of 0.05, the p-value > the set significance level, which means that this study does not have enough statistical evidence to reject H0. Thus, there is insufficient evidence to state that investment income has a significant influence on insurance companies' ROA in this study. This study is in line with Burca & Batrinca (2014) that investment income has no effect on the profitability of insurance companies. This study contradicts Horvey et al. (2024) There is a significant effect of investment income on the profitability of insurance companies, which means that the company's investment income is an important factor in the financial stability of insurance companies, which comes from a portfolio of different assets invested by the company to get higher income.

The insignificant effect of investment income on insurance profitability can be influenced by several factors, the source of income from investment may be one of the factors that contribute to the total income of insurance companies, but its impact may not be significant on profitability when compared to premium income or claim costs.

H_5: There is an effect of reinsurance ratio on insurance profitability

The effect of reinsurance ratio on insurance profitability (ROA) is reflected in the regression analysis results, where the p-value obtained is 0.0016. In the context of the alpha used of 0.05, this p-value < alpha indicates that there is sufficient evidence to reject the null hypothesis. The negative regression coefficient indicates that the higher the reinsurance ratio, the lower the ROA generated by the insurance company. In other words, the greater the proportion of risk transferred through reinsurance, the lower the company's ROA is likely to be. In line with research by Horvey et al. (2024) There is a negative and significant effect of reinsurance ratio on the profitability of insurance companies, indicating that high reinsurance risk can harm the

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profitability of insurance companies. This is not in line with research by Morara & Sibindi (2021) which found that the reinsurance ratio has a positive and significant effect on the profitability of insurance companies. This means that an increase in the reinsurance ratio will increase the profitability of insurance companies because most insurance companies with good investment returns reduce the risk of company losses by reinsuring some percentage of the insurance company's products.

H_6: There is an effect of solvency ratio on insurance profitability

The effect of solvency risk on insurance profitability (ROA) is reflected in the regression analysis results, where the p-value obtained is 0.6465. In the context of the alpha used of 0.05, this p-value of more than alpha indicates that there is not enough statistical evidence to reject the null hypothesis, which states that solvency risk has no significant effect on ROA. Thus, there is not enough evidence to state that the level of solvency risk has a significant impact on the profitability of insurance companies in this study. This study contradicts the research Horvey et al. (2024) which found that the solvency ratio has a significant effect on the profitability of insurance companies. As well as research conducted by Morara & Sibindi (2021) which found a positive and significant influence between the solvency ratio has a positive and significant influence on the profitability of insurance companies.

There are several factors that may cause solvency risk to have no effect on insurance profitability (ROA). solvency risk level may be a factor that is strictly regulated and monitored by regulatory authorities. As such, insurance companies may be required to adhere to certain solvency standards, which may make variations in solvency risk limited among insurance companies. In addition, solvency risk may also be reflected in the premium price charged to customers, which may affect the company's revenue, but the impact is not directly reflected in ROA due to other factors affecting profitability.

H_7 : There is an effect of premium growth on insurance profitability

The effect of premium growth on insurance profitability (ROA) is reflected in the regression analysis results, with a p-value of 0.6127. In the context of an alpha set at 0.05, the p-value > alpha, indicating that there is insufficient statistical evidence to reject H0, which states that premium growth has no significant effect on ROA. In other words, the results of the analysis show that there is no significant influence between insurance premium growth and the profitability of insurance companies in this study. This research is in line with Horvey et al. (2024) This finding indicates that an increase in the rate of premium growth does not directly affect the profitability of insurance companies, and that an excessive focus on premium growth without appropriate allocation of resources to manage the company's portfolio can have a negative impact on the profitability of insurance companies. Supported by research Msomi & Nzama (2023) because in this study it was found that the effect of premium growth rate (PGR) on ROA was not statistically significant. This is not in line with research conducted by Ambaw & Lijuan (2021) which found that premium growth has a significant effect on the profitability of insurance companies. This means that premium growth has a major effect on the profitability of insurance companies. Higher growth rates are considered a sign of the company's financial strength and can

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encourage increased demand for external equity funding. Insurance providers receive premiums from policyholders, and invest the money.

H_8: There is an effect of tangibility of assets on insurance profitability

The effect of tangibility of assets on insurance profitability (ROA) is reflected in the regression analysis results, with a p-value of 0.0035. In the context of the alpha set at 0.05, the p-value < alpha, this indicates that there is sufficient evidence to reject H0, which states that tangibility of assets has a significant effect on ROA. In addition, the positive regression coefficient indicates that the higher the level of tangibility of assets, the higher the ROA generated by insurance companies. This indicates that fixed assets, such as property or investment in physical infrastructure, tend to contribute positively to the company's profitability. This study is in line with research by P V Pathirana et al. (2021) who revealed a significant and positive relationship between tangibility and profitability of life insurance companies in Sri Lanka. Asset tangibility is explained as fixed assets of total assets and tangibility of the company. In addition, research Hussanie & Joo (2019) also found that tangibility of assets has a significant relationship with ROA in the profitability of life insurance companies in India.

Table 4. Regression Model Results

Variables	ROA MODEL		Conclusion
	COEFF	PROB	
(1)	(2)	(3)	(4)
Konstanta	0.1765	0.1378	Insignificant
Size	-0.0085	0.1975	Insignificant
Underwriting Risk	-0.0526	0.0214	Negatively significant to ROA
Leverage	-0.0264	0.6661	Insignificant
Reinsurance	-0.0420	0.0016	Negatively significant to ROA
Solvency	0.0104	0.6465	Insignificant
Invesment Income	-0.0285	0.3603	Insignificant
Premium Growth	0.0085	0.6127	Insignificant
Tang	1.3236	0.0035	Significant positive to ROA

Source: Data processed using E-views (2024)

The panel data regression model used in this study can be written as follows:

$$ROA = 0.1765 - 0.0085SIZE_{it} - 0.0526UR_{it} - 0.0264LEV_{it} - 0.0420REINS_{it} + +0.0104SOLV_{it} + 0.0285INV_{it} + 0.0085PG_{it} + 1.3236TAN_{it}$$

4. CONCLUSION

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In this research study found several conclusions, namely underwriting risk has a significant negative effect on insurance profitability, reinsurance ratio has a significant negative effect on insurance profitability and tangibility of assets has a significant positive effect on insurance profitability. Meanwhile, the variables of insurance size, financial leverage, solvency ratio, investment income, premium growth have no influence on insurance profitability. This can provide implications for company financial managers that by utilizing tangible assets such as land, buildings, or equipment that can be used as investments to generate income through leasing or direct utilization to provide additional cash flow for insurance companies. Financial managers can increase operational efficiency which aims to offset the negative impact of underwriting risk and high reinsurance costs.

It is recommended for future researchers who will conduct the same research to examine other sectors and over a longer period of time in order to find other factors that can affect the company's financial performance. In addition, it is hoped that further researchers will add other variables, namely the Liquidity ratio as researched by the authors (Msomi & Nzama, 2023).

5. BIBLIOGRAPHY

Agar, O. T. (2018). *Effect Of Firm Specific Characteristics On Financial Performance Of Firms; Evidence From General Insurance Companies In Kenya*.

Ahmeti, Y., & Iseni, E. (2022). *Factors Affecting Profitability of Insurance Companies. Evidence from Kosovo*, Vol. 25, pp. 122-142, doi: 10.7336/ academicus.2022.25.08.

Ambaw, Z. M., & Lijuan, S. (2021). The Micro Economic Determinants of Insurance Profitability in Ethiopian Insurance Industry-Evidenced from Life and Non-Life Insurance Products. In *Journal of Insurance and Financial Management* (Vol. 5).

Burca, A.-M., & Batrinca, G. (2014). The Determinants of Financial Performance in the Romanian Insurance Market. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, *4*(1). https://doi.org/10.6007/ijarafms/v4-i1/637

Chandra Meher, K., & Zewudu, T. (2020). Determinants of Firm's Internals & Macroeconomic Factors on Financial Performance of Ethiopian Insurers. In *DLSU Business & Economics Review* (Vol. 29, Issue 2).

Charumanthi, B. (2012). *On the Determinants of Profitability of Indian Life Insurers - An Empirical Study*. Newswood Ltd.

Horvey, S. S., Odei-Mensah, J., & Mushai, A. (2024). The determinants of life insurance companies profitability in South Africa: new evidence from a dynamic panel threshold estimation technique. *International Journal of Emerging Markets*. https://doi.org/10.1108/IJOEM-08-2022-1225

Hussanie, I., & Joo, B. A. (2019). Determinants of Profitability of Life Insurers in India- Panel Evidence. *International Journal of Management Studies*, *VI*(1(7)), 58. https://doi.org/10.18843/ijms/v6i1(7)/07

Kočović, J., & Paunović, B. (2014). DETERMINANTS OF BUSINESS PERFORMANCE OF NON-LIFE INSURANCE COMPANIES IN SERBIA. In *Original Scientific*.

DOI: http://dx.doi.org/10.17509/xxxx.xxx
p- ISSN 2338-1507 e- ISSN 2541-061X

Kumar, R. R., Stauvermann, P. J., Patel, A., Prasad, S., & Kumar, N. N. (2022). Profitability Determinants of the Insurance Sector in Small Pacific Island States: A Study of Fiji's Insurance Companies. *Engineering Economics*, *33*(3), 302–315. https://doi.org/10.5755/j01.ee.33.3.19583

Legass, H. A., Mulatie1, M., & Adem Shikur, A. (2021). Impact Of Financial Factors On Financial Performance Evidence From Insurance Companies In Ethiopia. In *An Open Access Journal • ISSN* (Vol. 6, Issue 1). www.arabianjbmr.com

Li, X., & Shiu, Y. M. (2021). Reinsurance, debt capacity and financial flexibility. *Geneva Papers on Risk and Insurance: Issues and Practice*, *46*(4), 664–687. https://doi.org/10.1057/s41288-020-00190-7

Morara, K., & Sibindi, A. B. (2021). Determinants of Financial Performance of Insurance Companies: Empirical Evidence Using Kenyan Data. *Journal of Risk and Financial Management*, *14*(12). https://doi.org/10.3390/jrfm14120566

Msomi, T. S. (2022). Evaluating the influence of leverage and liquidity on the financial performance of general insurance companies in Sub-Saharan Africa. *Insurance Markets and Companies*, *13*(1), 36–46. https://doi.org/10.21511/ins.13(1).2022.04

Msomi, T. S., & Nzama, S. (2023a). Analyzing firm-specific factors affecting the financial performance of insurance companies in South Africa. *Insurance Markets and Companies*, *14*(1), 8–21. https://doi.org/10.21511/ins.14(1).2023.02

Msomi, T. S., & Nzama, S. (2023b). Analyzing firm-specific factors affecting the financial performance of insurance companies in South Africa. *Insurance Markets and Companies*, *14*(1), 8–21. https://doi.org/10.21511/ins.14(1).2023.02

Mwangi, M., & Murigu, J. W. (2015). the Determinants of Financial Performance in General Insurance Companies in Kenya. *European Scientific Journal*, *11*(1), 288–297.

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

Oscar Akotey, J., Sackey, F. G., Amoah, L., & Frimpong Manso, R. (2013). The financial performance of life insurance companies in Ghana. *Journal of Risk Finance*, *14*(3), 286–302. https://doi.org/10.1108/JRF-11-2012-0081

P V Pathirana, A. P., Ruwan Buddhika, H., P P V, P. A., & J R, B. H. (2021). *Impact of Internal Factors towards Financial Performance of Life Insurance Companies in Sri Lanka IMPACT OF INTERNAL FACTORS TOWARDS FINANCIAL PERFORMANCE OF LIFE INSURANCE COMPANIES IN SRI LANKA Sri Lankan Journal of Banking and Finance* (Vol. 4, Issue 2). https://www.researchgate.net/publication/351245851

Sasidharan, S., Ranjith, V. K., & Prabhuram, S. (2023). Determinants of Factors Affecting the Financial Performance of Indian General Insurance Firm: Panel Data Evidence. *Contemporary Economics*, *17*(2), 237–251. https://doi.org/10.5709/ce.1897-9254.508

Shiferaw, T., & Gujral, T. (2022). Determinants of the Profitability of Insurance Companies in Ethiopia. In *Journal of Positive School Psychology* (Vol. 2022, Issue 6). http://journalppw.com

DOI: http://dx.doi.org/10.17509/xxxx.xxx
p- ISSN 2338-1507 e- ISSN 2541-061X

Siopi, E., & Poufinas, T. (2023). Impact of Internal and External Factors on the Profitability and Financial Strength of Insurance Groups. *International Advances in Economic Research*, *29*(3), 129–149. https://doi.org/10.1007/s11294-023-09873-y

Soye, Y. A., Olumide, R. O., & Adeyemo, D. L. (2022). Reinsurance: A Risk Management Instrument for Insurance Companies' Profitability (A Case of Non-Life Insurance in Nigeria). *Economic Insights – Trends and Challenges*, *2022*(2), 21–36. https://doi.org/10.51865/EITC.2022.02.02

Sukarya, O., & Margaretha, F. (2018). MASIH TEPATKAH ROA SEBAGAI PENGUKURAN KINERJA KEUANGAN INDUSTRI ASURANSI DI INDONESIA? *Maret*, *11*(1), 81–94. https://doi.org/10.25105/jmpj.v10i1.2508

Tsvetkova, L., Bugaev, Y., Belousova, T., & Zhukova, O. (2021). Factors affecting the performance of insurance companies in Russian federation. *Montenegrin Journal of Economics*, *17*(1), 209–218. https://doi.org/10.14254/1800-5845/2021.17-1.16

Vojinović, Ž., Milutinović, S., Sertić, D., & Leković, B. (2022). Determinants of Sustainable Profitability of the Serbian Insurance Industry: Panel Data Investigation. *Sustainability (Switzerland)*, *14*(9). https://doi.org/10.3390/su14095190

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 years. *Journal of Innovation and Entrepreneurship*, *13*(1). https://doi.org/10.1186/s13731-023-00357-1

Wosti, M. N., & Sumit Pradhan, M. (2023). *Effect of firm specific factors and reinsurance on performance of Nepalese Insurance Companies*.

Zainudin, R., Ahmad Mahdzan, N. S., & Leong, E. S. (2018). Firm-specific internal determinants of profitability performance: an exploratory study of selected life insurance firms in Asia. *Journal of Asia Business Studies*, *12*(4), 533–550. https://doi.org/10.1108/JABS-09-2016-0129

DOI: http://dx.doi.org/10.17509/xxxx.xxx
p- ISSN 2338-1507 e- ISSN 2541-061X

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