

The Effect of the Early Warning System (EWS) Ratio on the Profitability of the Insurance Industry in Indonesia (Empirical Study of Indonesian Stock Exchange Insurance 2018-2022)

Puja Sakti Dewa Yudhis Rahmana¹, Elan Nurhadi Purwanto²

{pujadewasakti@gmail.com¹, elan.nurhadi@universitaspertamina.ac.id²}

Universitas Pertamina, Jalan Teuku Nyak Arief, Simprug, Kebayoran Lama, Jakarta Selatan, 12220^{1,2}

Abstract. This study examines the effect of insurance companies' early warning system ratios on return on earnings. The independent variables in this study include the margin solvency ratio, the underwriting ratio, and the premium growth ratio. At the same time, there is a ratio of return on earnings as the dependent variable. The samples in this study are eight insurance companies taken using the purposive sampling method from a total population of 22 insurance companies listed on the IDX from 2018-2022. The analytical method used is panel data analysis, descriptive statistics, classic assumption test, F test, and regression test using the fixed effect model (FEM) method—data processing using STATA 17. The results showed that the solvency and underwriting margin variables partially did not have a significant positive effect on return on earnings. In contrast, the premium growth ratio variable significantly positively impacted return on earnings. The findings showed that premium growth increased significantly due to economic recovery after the Covid-19 pandemic. Research also shows that all independent variables simultaneously have significant effect on return on earnings.

Keywords: EWS, early warning system, solvency margin, underwriting, premium growth, return on earnings, insurance

1 Introduction

The development of the insurance sub-sector in Indonesia over the past few years has experienced encouraging growth, although it seems slow compared to other financial sub-sectors. Based on research data from the Financial Services Authority (OJK) in 2021, the insurance penetration rate in Indonesia is still relatively low, only reaching 3.18%. If divided by type of insurance, the penetration of social insurance reaches 1.45%, life insurance is 1.19%, and general insurance is 0.47%, with the remainder being compulsory insurance. This low penetration rate shows the growth

potential of the insurance industry in Indonesia.

In terms of growth in premium income, data shows that premiums for the insurance sector from January 2022 to November 2022 reached IDR 280.24 trillion [1]. However, this figure shows stagnant growth compared to the same period in the previous year (YTM); the premium income growth rate was only 0.44%, indicating that the insurance industry in Indonesia needs to make further efforts to stimulate growth and overcome challenges to present better opportunities in the future. In the ASEAN Insurance Pulse report cited by the Economic Researcher Center of Reform on Economics (CORE) Indonesia in 2022, the insurance market share for both life and non-life insurance is the second largest after Singapore, indicating positive sentiment for Indonesia's post-pandemic economic growth—this Covid-19.

In terms of health insurance, what is commonly seen is through the side of the capital adequacy ratio, which is calculated using Risk-Based Capital (RBC). Based on OJK data as of April 2023, the capital for the Non-Bank Financial Industry (INKB) sector is still well maintained, namely in the life insurance and general insurance industries of 457.79% and 311.16%, respectively, above the minimum limit set by OJK of 120%. Nonetheless, based on the monthly RBC trend, it has decreased; for example, as of March 2023, it was at 460.06% and 315.79%. This trend shows that even though it is still within safe limits, there needs to be a principle of caution in absorbing corporate risk [2].

Table 1. The insurance industry's risk-based costing results in the first quarter.

<i>Risk Based Capital Ratio (RBC) Insurance 2023</i>			
Per	Life Insurance	Common Insurance	Trend
January '23	477.73%	321.77%	-
February '23	478.21%	320.81%	Down
March '23	460.06%	315.79%	Down
April '23	457.79%	311.16%	Down

In addition to calculating Risk-Based Capital (RBC) as a tool to measure the health of financial institutions, in many countries, especially the United States, there is also a company health

measurement tool called the Early Warning System (EWS), which was specially developed. by the insurance business supervisory body in the United States, namely the National Association of Insurance Commissioners. (NAIC) to assess financial performance and measure the soundness of insurance companies. This method is widely used in various countries because the measurement results of these ratios provide an early warning for an insurance company. The ratio in this method is the Liquidity Ratio, Technical Reserve Ratio. Premium Stability Ratio, Margin Solvability Ratio, and Profitability Ratio [3]. Based on research, the RBC measurement is considered incomplete in measuring company health compared to the EWS method because the RBC method only measures the level of solvency, even though in a company, the health measure is the same. They were Assessed from the group of liquidity, level of profitability, and others. [4]

As a business entity, the success of an insurance company is measured by its ability to generate profits (profitability). One instrument for measuring profitability is to use ROE. ROE relates to the commitment of shareholders to investing their capital, which is associated with the expected return. This study focuses on profitability on the ratio of return on equity (ROE); ROE can represent the insurance industry's profitability because the most common problem in insurance is the amount of capital used as an asset [5]. Based on these observations and from the results of the analysis of the phenomenon of a large number of default cases, declining RBC achievements, and incomplete health insurance calculations, it is necessary to research the effect of early warning system ratios on insurance company profitability.

2 Literature Review

2.1 Early Warning System

The early warning system is an insurance financial health early detection system that produces financial ratios from identifying financial reports. EWS aims to facilitate the identification of financial performance to measure the health of insurance companies. The Early Warning System ratio began to be developed by The National Association of Insurance Commissioners (NAIC) in the United States [6].

2.2 Company Growth

Healthy company growth is considered a fundamental requirement of company success. Companies that grow in size and market share will increase company profits [7]. Furthermore, companies with high growth will attract talent management and significant financial resources. Business growth is one of the dynamic critical indicators of the success of a business, especially in achieving the desired level of profit/prosperity. Of course, this must be supported by the selection of a productive and optimal business strategy [5]

2.3 Return on Earning (ROE)

Profitability is the company's ability to generate profits using company-owned sources such as assets

(assets), capital, company sales, and investments. One of the big problems for insurance to create profitability is that capital is significant and is constantly monitored by the Financial Services Authority as a regulator in the insurance sector. Of course, this is also related to the commitment of shareholders who want to see the expected return on capital from their investment.

One way to measure profitability by looking at capital utilization is to use Return on Equity (ROE). This ROE describes the company's ability to generate profits that shareholders can enjoy by distributing dividends and capital gains [8]. The purpose of using the Return on Equity ratio, which is helpful for internal and external companies, is to assess the company's productivity both from loans and own capital and the amount of net profit after tax (EAT) with own capital [9]. ROE is also an essential variable for investors to consider before investing because it shows the quality of management in maximizing returns to investors.

2.4 Solvency Margin Ratio

The solvency ratio used in this study was obtained from the ratio in the Early Warning System (EWS) guidelines, namely the Solvency Margin Ratio (SMR). SMR is used to measure the company's ability to bear the risks borne by the risk of claims. This ratio provides a meaningful picture of how much a company can afford to cover and the actual capital capacity of the company, which is purely seen from insurance operational activities.

2.5 Underwriting Ratio

One of the ratios in the EWS is the underwriting ratio. This ratio measures the difference between premium income and underwriting expenses. Underwriting expenses such as claims, commissions, and other expenses arise during the underwriting process. Underwriting is a process of grouping and settling risks that insurance companies will bear. [10] Underwriting is carried out so that the premium charge does not harm the company, where the premium charge is prepared based on a reasonable and appropriate risk distribution, which is expected to get a high profit. In other words, the underwriting ratio measures the level of pure profit from covering a risk that the insurance company will bear.

2.6 Premium Growth Ratio

Premium income is one of the activities of an insurance company in collecting income from public funds, which will be allocated to pay claims expenses, technical reserves, and investments. Sharp premium volume fluctuations illustrate the lack of stability in the company's operational activities [11]. This ratio is important in assessing the company's readiness and ability to increase profits from premium increases.

2.7 Conceptual Framework and Research Hypothesis

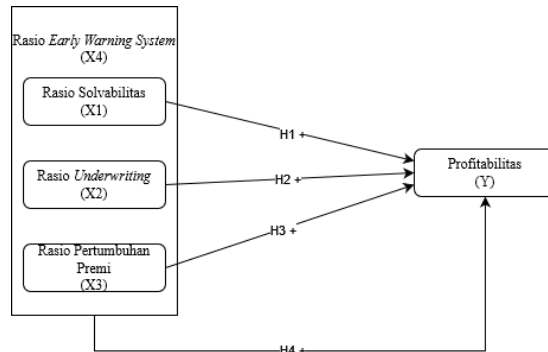


Fig. 1. Conceptual Framework

Hypothesis:

Hypothesis 1

H0: $\rho = 0$, The solvency margin ratio has no partial effect on the return on earnings of IDX insurance issuers 2018-2022

H α : $\rho > 0$, the solvency margin ratio partially has a significant positive effect on the return on earnings of IDX insurance issuers for 2018-2022

Hypothesis 2

H0: $\rho = 0$, Underwriting Ratio has no partial effect on return on earnings of IDX insurance issuers 2018-2022

H α : $\rho > 0$, Underwriting Ratio partially has a significant positive effect on the return on earnings of IDX insurance issuers 2018-2022

Hypothesis 3

H0: $\rho = 0$, Premium growth ratio has no partial effect on return on earnings of IDX insurance issuers 2018-2022

H α : $\rho > 0$, the premium growth ratio partially has a significant positive effect on the return on earnings of IDX insurance issuers 2018-2022

Hypothesis 4

H0: $\rho = 0$, Solvency margin ratio, Underwriting Ratio, and Premium growth ratio

simultaneously do not affect the return on earnings of IDX insurance issuers 2018-2022

H_a: $\rho > 0$, Solvency margin ratio, Underwriting Ratio, and Premium growth ratio simultaneously have a significant positive effect on the return on earnings of IDX insurance issuers 2018-2022

3 Methodology

This research uses a causal quantitative approach. Causal quantitative research aims to analyze the causal relationship between the variables that are the influencing factors and the variables that are influenced. [12]. This study used the linear regression method and used STATA 17 software. The equation of the linear regression method is:

$$ROE_{it} = \beta_0 + \beta_1 \text{SMR} + \beta_2 \text{UDW} + \beta_3 \text{PRG} + \varepsilon \quad (1)$$

Where:

ROE_{it} = Return on Earning of insurance company i in period t

β_0 : Constant

$\beta(1.2)$: Regression coefficient of the independent variable X1, ...etc.

X1 : Solvency Margin Ratio (SMR)

X2 : Underwriting Ratio (UDW)

X3 : Premium Growth Ratio (PRG)

i : Cross Section

t : Time Series

ε : Errors

In addition, this research is classified as a case study using a selected sample of the insurance industry. The population of this study is the financial sector companies in the insurance sub-sector that have conducted an IPO on the IDX. Then, the selection of the sample was determined using the purposive sampling method with the following criteria:

- a. Never had negative equity in that period to avoid misinterpretation.
- b. Companies whose shares are actively traded during that period or, in other words, have never been suspended.
- c. Companies that have a track record of Initial Public Offering (IPO) for approximately ten years

So, from the results of the sampling that has been done, the samples in this study were obtained from the entire population of 22 companies, namely eight insurance companies listed on the Indonesia Stock Exchange for the 2018-2022 period. From this sample, 6 out of 8 companies are general insurance companies, which include AMAG, ASRM, ASBI, ASDM, ASJT, and LPGI. At the same time, the rest is mixed insurance, including general insurance, reinsurance, financial insurance, and life insurance, namely PNIN and MREI.

The equations that used in selecting the samples are:

Return on Earning

$$\text{ROE} = (\text{Profit after tax}) / (\text{own capital}) \quad (2)$$

Solvency Margin Ratio

$$\text{SMR} = (\text{Own capital}) / (\text{net premium}) \quad (3)$$

Underwriting Ratio

$$\text{UDW} = (\text{Premium Income} - \text{Underwriting Expense}) / (\text{Gross Premium Income}) \quad (4)$$

Premium Growth Ratio

$$\text{PRG} = (\text{Change in Net Premium}) / (\text{Previous Year Net Premium}) \quad (5)$$

Table 2. Company Samples

No	Company's Name	Abbreviation	Market Cap.	IPO Date
1	Paninvest	PNIN	4.21T	20 Sep 1983
2	Maskapai Reasuransi	MREI	2.02T	4 Sep 1989
3	Lippo General Insurance	LPGI	1.92T	22 Jul 1997
4	Multi Artha Guna	AMAG	1.85T	23 Des 2005
5	Asuransi Ramayana	ASRM	508.15B	19 Mar 1990

6	Asuransi Bintang	ASBI	191.61B	29 Nov 1989
7	Asuransi Dayin Mitra	ASDM	183.36B	15 Des 1989
8	Asuransi Jasa Tania	ASJT	165.20B	23 Des 2003

4 Result and Discussion

4.1 Result

Descriptive Statistic

The descriptive statistic shows the maximum value, minimum value, mean, and standard deviation of each sample in the research object.

Table 3. Descriptive Statistic

Variable	Obs	Mean	Std. dev.	Min	Max
ROE	40	0.199085	0.3400538	-0.210439	1.805938
SMR	40	0.6986327	0.2410532	0.1491661	1.323823
UDW	40	0.3633368	0.2687567	-0.304791	0.8566229
PRG	40	0.0022774	0.1859551	-0.614758	0.317467

The result shows the highest ROE is 1.81, the lowest is -0.21, the mean is 0.1990, and the standard deviation is 0.34. The Solvency margin shows the highest is 1.32, the lowest is 0.15, the mean is 0.6986, and the standard deviation is 0.2410. The underwriting ratio shows the highest is 0.8566, the lowest value is -0.3047, the mean is 0.3633, and the standard deviation is 0.2687. Furthermore, the premium growth shows the highest is 0.3174; the lowest is -0.6147, and the mean of 0.0022, and

the standard deviation is 0.1859.

Specification Model Test

Chow Test

Table 4. Chow Test Result

α	5%
Prob>F	0.0183

H0 = OLM

H1 = FE

From the results of the Chow test, it was obtained that the P-value was 0.0183, which had a value smaller than the alpha value of 5% or 0.05, so on that basis, reject H0, accept H1, that is, choose the Fixed Effect Model (FEM) model.

Hausman Test

The follow-up test from the Chow test is the Hausman test. The Hausman test was carried out when the FEM results were obtained during the Chow test.

Table 5. Hausman Test Result

α	5%
Prob>chi2	0.0407

H0 = REM

H1 = FEM

In the first Hausman test, the t-statistic value was negative -29.92. This could generally happen

because the sample size was too small. Ultimately, it was retested using xlogit, and the results are shown in the table above. The results show that if the t-statistic has a value smaller than alpha, H0 is rejected, and H1 is accepted. From these results, the model chosen in this study is the Fixed Effect Model (FEM).

Classical Assumption Test

Multicollinearity Test

This study uses the Variance Inflation Factor (VIF) value as a measure of multicollinearity test

Table 6. Multicollinearity Test Result

Variable	VIF	1/VIF
udw	1.33	0.753658
smr	1.2	0.834249
prg	1.12	0.893641
Mean VIF	1.21	

From the calculation results above, the VIF values for all independent variables were <10, which means that all variables in this panel are free from multicollinearity.

Heteroscedasticity Test

A heteroscedasticity test needs to be done for the FE and OLM methods. Research is said to have symptoms of heteroscedasticity if the P-value is < alpha.

Table 7. Heteroscedasticity Test Result

Chi2 (8)	1.2e+05
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Prob>chi2	0.0000
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In the heteroscedasticity test in this study, a P-value of 0.0000 was obtained with a significance level of 5%. This shows that the model in this study is affected by heteroscedasticity. Heteroscedasticity can occur for several reasons, one of which is the existence of outlier data [12]. In this study, there are some outlier data, such as capital growth, which is stable, and between companies having a much different capital size.

Autocorrelation Test

Table 8. Autocorrelation Test Result

F (1,7)	10.875
Prob>F	0.0132

From the results of the autocorrelation calculations in this study, a P-value of 0.0008 was obtained, which is smaller than the alpha value of 5%. It means that this research is not free from autocorrelation.

Multiple Linear Regression (Robust)

Table 9. Multiple Linear Regression

Variable	Coefficient	Prob.
SMR ₁	0.112484	0.568
UDW ₂	0.152561	0.278
PRG ₃	0.216517	0.041

_cons	1.266435	0.719
<i>Number of Observations</i>		40
<i>Number of Groups</i>		8
F (4,7)		21.59
Prob>F		0.0006
<i>R-Square</i>		0.1314

$$Y = 1.266 + 0.1124 \text{ SMR} + 0.1525 \text{ UDW} + 0.2165 \text{ PRG} \quad (6)$$

Where:

Y : Return on Earning

X1 : Solvency Margin Ratio

X2 : Underwriting ratio

X3 : Premium Growth Ratio

The above equation can be interpreted as follows:

1. The results of the constants in this regression model show the firm value constant is 1.2664. This shows that if the variables of solvency margin ratio, underwriting ratio, premium growth and liabilities to liquid asset are constant, the ROE is 1.2664.
2. The coefficient of solvency margin ratio is 0.112484. This shows that if the solvency margin (SMR) increases by one unit, the value of the ROE will increase by 0.1124.
3. The coefficient of underwriting ratio is 0.152561. This shows that if the underwriting ratio increases by one unit, the value of the ROE will increase by 0.1525.
4. The coefficient of premium growth ratio is 0.216517. This shows that if premium growth increases by one unit, the value of the ROE will increase by 0.2165.

F Test

Table 10. F Test Result

F (4,7)	21.59
Prob>F	0.0006

From the F test obtained a significance of 0.0006. This shows a sign of < 0.05 or rejects H_0 . So, it can be concluded that there is a simultaneous significant effect between solvency margin ratio, underwriting ratio, premium growth and liabilities to liquid asset on the return on earning of Insurance companies listed in IDX 2018-2022.

T Test

Table 11. T Test Result

Variable	Coefficient	Prob.
SMR ₁	0.112484	0.568
UDW ₂	0.152561	0.278
PRG ₃	0.216517	0.041
_constant	1.266435	0.719

Solvency Margin Ratio

From the results, the significance is $0.568 > 0.05$. So, it shows that solvency margin ratio partially has no significant effect on the return on earning. Then based on the results of the coefficient 0.112484, solvency margin has no positive effect on return on earning.

Underwriting Ratio

From the results, the significance is $0.278 < 0.05$. So, it shows that underwriting ratio partially has a significant effect on the return on earning. Then based on the results of the coefficient 0.152561, underwriting ratio has a positive effect on return on earning.

Premium Growth Ratio

From the results, the significance is $0.041 > 0.05$. So, it shows that premium growth ratio partially has no significant effect on the return on earning. Then based on the results of the coefficient 0.216517, premium growth ratio has no positive effect on return on earning.

Coefficient Determination Test

The determinant coefficient test aims to produce an R-squared (R^2) to measure the magnitude of changes in the dependent variable that the role of the independent variables can explain. The R^2 value was obtained at 0.1314 or 13.14%, which indicates that the change in the value of the ROE variable can be explained by 13.14% by the independent variables (SMR, UDW, PRG). In comparison, the other 86.86% is explained by other variables not used in this study. The investment income ratio is another variable expected to increase the accuracy of the research results. The higher the investment income of an insurance company, the higher the company's profitability. A high amount of assets (investment) and capital is required to ensure the payment of customer claims. The higher the profitability, the greater the ability to pay claims [13].

4.2 Discussion

The Effect of Solvency Margin Ratio to Return on Earning

The results of these calculations indicate that SMR has no significant effect on profitability. This happens because the minimum limit of SMR for insurance companies is set at 33.33%, meaning that no matter how significant the company's SMR is, it will only affect profitability if it is under the limit rules. This fact can also be found in the financial statements of all insurance companies that are the research sample for the 2018-2023 period, where it can be seen that almost all companies have a very high SMR level above the 33.33% limit but have a profitability value that is not too high. The achievement of high profitability is strongly influenced by good asset and capital management, not just the company's financial ability. The management of insurance company capital in national obligation (Bahasa: Surat Berharga Negara (SBN)) and stock investments is implemented as an operational strategy. Besides that, the company's policy is to maintain the amount of risk through reinsurance mechanisms. The fact found in the study is that of the 8 samples, the majority of companies have a very high SMR ratio, but it needs to be balanced with a high increase in ROE ratio. This supports the argument that SMR has no significant effect on ROE.

Although the SMR shows a significant level of company financial capability, management policies

in managing the distribution of funds need to be appropriately implemented to achieve optimal profit results. The study results indicate that even though the company has sufficient financial capacity, as reflected in the size of the SMR, the management policies implemented in allocating and managing funds could be more effective in creating the expected profit. The premium solvency ratio has no significant effect on loss ROE. A decrease in ROE is often caused by management failure in determining investment and re-investment strategies, so the size of a company's financial strength does not significantly affect an insurance company's ROE [14].

The Effect of Underwriting Ratio to Return on Earning

In the results of this study, the probability value obtained by the Underwriting Ratio (UDW) variable is 0.278 or greater than the 5% significance value. At the same time, the coefficient value obtained 0.152561. This shows that the Return on Equity will increase by 15.25% if the Underwriting results increase by one unit.

These results indicate that underwriting results have no significant effect on ROE. This absence of significant effect occurs because the other components making up the ROE are high. In this study, a fact was found where high underwriting results were offset by high underwriting expenses, such as in the MREI financial statements. In addition, underwriting is a company's managerial strategy to mitigate risks and impacts received by conducting assessments and selection (selection) of insurance participants. This is necessary so that the company gets participants who match the risk criteria that the insurance company will bear. However, managing funds and investments is separated from the underwriting process so that it does not affect insurance profits.

Evidence that underwriting does not affect ROE can also be explained by the phenomenon where investment returns are another component that influences ROE. Based on quarterly research conducted by OJK in the general insurance financial performance report published by AAUI for 2022, it was also found that the source of insurance profit is not only dominated by underwriting results. Investment results are one of the most significant profit contributors in an insurance company [15]. The facts also show a disproportionate value of underwriting results to net profit, which will be projected with ROE. Most of the sample shows symptoms where fluctuations in underwriting results do not affect the company's profit achievements. So, in this case, the return on investment has a large enough role on company profits.

The Effect of Premium Growth Ratio to Return on Earning

The Premium Growth Ratio (PRG) variable in this study has a lower probability than the 5% degree of significance, which is 0.041. This value indicates a significant influence on ROE. Significant premium growth from year to year allows insurance companies to earn much income, increase efficiency, and increase company capital. Premium growth indicates good company activity and revenue growth. Facts found in research with evidence during the study period that there was a growth in sample premiums in 2019-2020, there were two significant declines, while in 2021-2022, there was a significant increase accompanied by an increase in profits. Maximum managerial

management, oriented towards increasing market share proxied by premium growth, will increase profitability (ROE) [16].

Premium growth affects financial performance as measured using ROE and ROA. Good management of premium growth must also be balanced with good management of claims expense, which helps minimize risk and payment of claims, which is beneficial for the company's profit growth [17].

The Effect of All of The Independent Variables to Return on Earning

Based on the probability value, the result is 0.0006 with a significance of 5%. These results provide an interpretation that accepts H1, or there is simultaneous positive significant effect of the independent variables on the dependent variable. EWS ratios are ratios that look at the health of the company not only by looking at the health of liquidity but also by the company's performance and achievements.

5 Conclusions and Recommendation

5.1 Conclusions

The SMR variable (X1) has no positive significant effect on the company's ROE. The level of pure company financial strength from insurance activities in managing risk does not directly affect ROE. The company's profitability (ROE) is not only influenced by the company's financial strength but also by good asset and capital management. The achievement of the company's SMR, which reflects the strength of risk management, is also limited to 33.33%, regulated by PSAK 28. The UDW variable (X2) also has no positive effect on the ROE variable. High underwriting results indicate the company's appropriate business activities but cannot explain the effect on profitability because underwriting is an insurance company's internal strategy. So, underwriting is considered less relevant for calculating insurance company profits. On the other hand, the premium growth variable (X3) has a positive effect on ROE because it is an indication of income growth. Good premium growth must be balanced with good claim expense management to minimize risks and claim payments so that significant profit growth also occurs.

5.2 Recommendation

1. For practitioners, this research opens up new perspectives related to health insurance, which has often been assessed using Risk Based Costing (RBC) results, which only assess an insurance company's liquidity level. The level of insurance liquidity is an essential part of assessing the risk and financial strength of a company. However, there are other benchmarks for assessing the health of insurance companies. For this reason, it is necessary to have another assessment that can better represent the factual condition of the company as a 'company' that is engaged in maximizing profits.
2. Investors are expected to be able to examine prospectuses financial reports in more detail, use

ratio calculations, and combine them with economic growth reports in deciding portfolio investment in financial sector issuers, especially IKNB (Bahasa: Industri Keuangan Non-Bank), considering that this industry is a 'fragile' industry in which all business activities stick to finances. It is also expected to be able to use EWS ratios to invest in assessing the health of insurance companies.

3. For academics, the results of this research can be additional knowledge and become a supporting reference for research. Future researchers are expected to be able to provide a more comprehensive analysis by adding other variables or providing investment recommendations for investors regarding portfolios in the insurance industry so that in future research, excellent and accurate results can be obtained.

References

- [1] Asosiasi Asuransi Umum Indonesia. Laporan Tahunan Kinerja Asuransi Umum & Reasuransi Tahun 2022. Laporan Tahunan. AAUI. 2022
- [2] Data Indonesia.id: <https://dataindonesia.id/bursa-keuangan/detail/kinerja-asuransi-kuartal-12023lpgi-catat-laba-rp214-miliar> (accesed 4-7-2023)
- [3] Anggraini, Melisa, Bonaventura Hendrawan Maranata, and Febe Tri Sinta Dewi. "Pengaruh Rasio Pertumbuhan Premi Dan Rasio Beban Klaim Terhadap Tingkat Kesehatan Perusahaan Asuransi Di Masa Pandemi Covid-19." *Applied Research in Management and Business* 2.1 (2022): 1-8.
- [4] Syahida, Farah Aima; Hasanah, Alfiah; Adam, Asep Muhammad. Perbandingan Kinerja Keuangan Perusahaan Asuransi Jiwa Full Syariah dan Unit Usaha Syariah di Indonesia Berdasarkan Rasio EWS dan RBC. *Jurnal Ekonomi Syariah Teori Dan Terapan*, 2022, 9.3.
- [5] Agus, Susi Surya, et al. Pengaruh pertumbuhan modal dan aset terhadap Rasio Risk Based Capital (RBC), pertumbuhan premi neto dan profitabilitas perusahaan asuransi umum di Indonesia. *PEKBIS*, 2011, 3.01.
- [6] Satria, Salusra. Pengukuran kinerja keuangan perusahaan asuransi kerugian di Indonesia: dengan analisis rasio keuangan" early warning system". Kerjasama Lembaga Penerbit, Fakultas Ekonomi, Universitas Indonesia dengan Pusat Antar Universitas, Fakultas Ekonomi, Universitas Indonesia, 1994.
- [7] Simanjuntak, B. Hennis. Kegagalan Strategi Perusahaan, *Jurnal Asuransi*. Th XII No. 26. 2008. Hal. 12-16.
- [8] Halim, Abdul; Tandelilin, Eduardus. Analisis Investasi dan Manajemen Portofolio. Edisi Pertama, BPF, Yogyakarta, 2001.
- [9] Kasmir, S. E. Studi Kelayakan Bisnis: Edisi Revisi. Prenada Media, 2015.
- [10] Darmawi, Herman. Manajemen Asuransi, edisi pertama. Jakarta: PT Bumi Aksara, 2004.
- [11] Dipoyanti, Nia. Pengaruh Pendapatan Premi, Hasil Investasi, Underwriting, Beban Klaim, dan Beban Operasional Terhadap Laba Asuransi Jiwa Syariah di Indonesia. PhD Thesis. Universitas Islam Negeri Sultan Syarif Kasim Riau. 2014
- [12] Sugiyono. Metode Penelitian Kuantitatif, Kualitatif dan R&D. Bandung: Alfabeta. 2017
- [13] Putra, Zaka Yahya; Fidiana, Fidiana. Pengaruh Arus Kas Bebas, Profitabilitas dan Ukuran Perusahaan Terhadap Kebijakan Utang. *Jurnal Ilmu dan Riset Akuntansi (JIRA)*, 2017, 6.3.
- [14] Syuhada, Putri; Muda, Iskandar; Rujiman, F. N. U. Pengaruh Kinerja Keuangan dan Ukuran Perusahaan Terhadap Financial Distress Pada Perusahaan Property dan Real Estate di Bursa Efek Indonesia. *Jurnal Riset Akuntansi Dan Keuangan*, 2020, 8.2: 319-336.
- [15] Sastri, I. A. I. P., Edy Sujana, S. E., Msi, A. K., & Sinarwati, N. K. Pengaruh Pendapatan Premi, Hasil Underwriting, Hasil Investasi Dan Risk Based Capital Terhadap Laba Perusahaan Asuransi (Studi Empiris pada Perusahaan Asuransi yang Terdaftar di Bursa Efek Indonesia periode 2011-2015). *JIMAT (Jurnal Ilmiah Mahasiswa Akuntansi) Undiksha*. 2017. 7(1).

- [16] Zamachsyari, Awad Zam'i; Amanah, Lailatul. Pengaruh Kinerja Keuangan dan Ukuran Perusahaan terhadap Financial Distress. *Jurnal Ilmu dan Riset Akuntansi (JIRA)*, 2016, 5.12.
- [17] Syaqi Firdaus, Ahmad. Analisis Profitabilitas Dengan Menggunakan Rasio Return On Equity (ROE) Pada PT. Asuransi Ramayana TBK. Periode 2010-2014. PhD Dissertation. Universitas Komputer Indonesia, 2017.
- [18] Markonah, Markonah, et al. The effect of corporate governance and premium growth on the performance of insurance companies in Indonesia. 2019.