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The Role of Investment Profitability, Actuarial Back up and Capital, on Financial Soundness: A Study on Indonesia General Insurance Industry

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Abstract

This study investigates the role of investment profitability, actuarial back up and capital, on financial soundness: a study on indonesia general insurance industry. We apply panel data econometric to a dataset comprised of 74 companies, annual frequency from 2006 to 2019; (General insurance companies have acquired 19 companies). We find that the results of this study indicate that investment profitability has a positive effect on financial soundness, actuarial back-up has a negative effect on financial soundness, capital has a negative effect on financial soundness. This study has important implications for business practices/regulations for the regulators of the Financial Services Authority. This research is expected to provide a reference for further research related to insurance.

Keywords
investment profitability; actuarial backup; capital; financial soundness

I. Introduction

Economic growth is still an important goal in a country's economy, especially for developing countries like Indonesia (Magdalena and Suhatman, 2020). The insurance industry has an important role in the Indonesian economy by involving individuals and companies to transfer risk through insurance and reinsurance activities thereby increasing the financial stability of general insurance companies, which has an impact on economic growth in Indonesia, especially the impact on stakeholders or investors, and becomes a pillar important for the financial sector, increased interaction between the insurance sector, financial markets and other financial intermediaries, as well as financial innovation, globalization and regulation of the financial system implementing procedures are becoming more complex and potentially risky. Therefore, the financial soundness of general insurance companies becomes very important for general insurance companies to have an impact on the welfare of the financial sector and various stakeholders but also for the stability of the economy as a whole (Moreno, Parrado-Martinez and Trujillo-Ponce, 2021). In the business world there are many risks when operating (Camino-Mogro and Bermúdez-Barrezueta, 2019). Disasters and misfortunes that may befall company or individual property are unexpected things and if an accident occurs at an unexpected time, general insurance can provide protection for company or individual property, so insurance companies need to make procedures to reduce risk

Bankruptcy and increase confidence in the financial stability of information insurance companies (Zanotto and Clemente, 2021). The insurance industry needs an understanding and analysis related to financial soundness, this can be measured using the Z-Score, which is a risk measure commonly used in the empirical banking literature to reflect the possibility of bank failure. However, in this study, the Z-score used to measure general insurance companies plays an important role in assessing the individual risk of

general insurance companies and overall financial stability. Its use in cross-sectional studies has become widespread because of its simplicity and its ability to construct it using only accounting information; The Z-score is used in the panel study as a measure that varies over time with the application of market-based risk measures. Despite this increasing popularity, so far there seems to be a lack of consensus on the best way to build variants. The researcher then compared these measures using general insurance data covering the years 2006-2019. Next, we will examine which of the various moment estimation methods are used in the various methods of calculating change. This method for the subsequent construction of time-varying Z-Score sizes is easy to implement and does not throw away initial observations, a problem inherent in the rotating moment method (Lepetit and Strobel, 2013) works when applied in the insurance sector. The Z-Score relates a firm's level of profitability, risk level and capital with the variability in returns on assets, revealing how much variability in returns the capital can absorb without the firm becoming insolvent.

The popularity of the Z-score stems from its relative simplicity and the fact that it can be calculated using accounting alone. In contrast to market-based risk measures, this indicator applies when dealing with a large number of unlisted and listed companies (Moreno, Parrado-Martinez and Trujillo-Ponce, 2021) and there are several other important factors that can affect financial soundness including investment profitability is related to the company's revenue generated from revenue after deducting all costs incurred during a certain period (Alarussi and Alhaderi, 2018). As for premium income as another indicator that affects investment profitability, general insurance companies determine the amount of money that must be paid by each customer registered with a general insurance company as an insurer. The amount of money that must be paid every month taking into account the condition of the Customer. This indicates that the premium between one customer and another is not the same. Investment profitability is very important for investors. It is hoped that the funds that have been invested can return and earn profits, so an innovative general insurance company is needed and needs to develop a strong, inclusive and oriented strategy in order to compete on a global scale. The company's financial soundness is the benchmark for insurance companies general, because clear regulations will arouse customer trust and interest in the safety of the assets insured (Ismail, 2021).

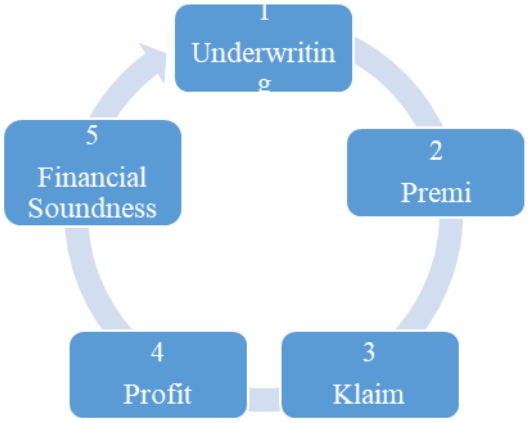
Actuarial back up as a capital reserve for general insurance companies in Indonesia, this is related to capital and its impact on the risk-taking behavior of general insurance companies can be classified that the high level of capital requirements serves as a stimulus for general insurance companies to carry out risky activities (Harkati, Alhabshi and Kassim, 2020). Therefore, we make assets as risky portfolios, the application is to reduce risk, by reinsuring the risk to an insurance company known as reinsurance, so that insurance companies can protect their financial soundness and assets from losses due to payment of claims to customers. Insurance companies must also conduct a strong fundamental analysis. This is an effort to reduce investment risk and create value for company assets and become an important pillar for predicting credit risk and can control the payment history. Actuarial back up can be used by companies in analyzing the determination of company assets and as an evaluation material in increasing premiums in developing investment profitability of general insurance companies.

This study focuses on measuring financial soundness which can be measured using the Z-Score. Besides that, researchers also choose Investment profitability and Actuarial back up an Capital variables to be used as factors to determine the company's health. This study uses samples from general insurance companies, which in previous studies rarely combined these variables, therefore it is hoped that this research can be a reference

material in supporting the literature for future research related to the general insurance industry.

II. Review of Literature

2.1 General Insurance Business Model



Source: Author's, 2022

General insurance companies apply a business model on assumptions and risk diversification. The essential insurance model involves collecting risk from individual payers and the company redistributing it across a larger portfolio. Most insurance companies generate income in two ways: Collect premiums in exchange for insurance coverage, then reinvest those premiums into other interest-generating assets, such as all administrative expenses. The insurance company plan has reciprocity between the policy holder or the insured in paying premiums or mandatory deposits within a certain period of time, and policy holders can freely choose an investment plan that suits their needs. This amount is adjusted according to the written contract from the policyholder that was made by insurance companies. Each policyholder will be charged a reasonable premium for the proposed insurance, underwriting is very important in conducting accurate risk selection. Underwriting includes collecting information and evaluating policyholder reports to determine whether prospective policyholders meet the standards according to the procedures that have been classified and the rate of liability for policyholders will be determined, in accordance with individual risk assessments made for prospective policyholders. In addition, the insurance company will collect premium funds, and according to the agreement in the insurance policy, if the customer is in an accident, the insurance company will use it to pay claims or compensation. Good investment decisions will increase profits so that it will have an impact on the financial soundness of general insurance companies.

2.2 Financial Soundness

In financial soundness there are important indicators, namely adequate capital and solvency to determine the company's financial position, aiming to control insurance companies who view that capital adequacy is the main indicator of an insurance company. Because the company must have a minimum capital so that the company can be said to be financially healthy to make payments on time. The insurance company must have sufficient capital to fund its losses arising from claims made by the insured to prevent the company from going bankrupt this also promotes the stability and efficiency of the

company's financial system. Meanwhile, other indicators that are made for a specific purpose are referred to as technical reserves, which can include payments for unforeseen circumstances, claims payable, unexpected expenses needed to run the company's business, helping the business run smoothly without affecting the company's profit and loss position. In insurance, technical reserves are intended to enable the insurer to pay the claims made by the insured with confidence. Insurance companies make technical reserves to cover liabilities for claims arising from the policies the company offers. However, there is no set limit on how much insurance companies must set aside, but they must set aside an amount equal to the amount of loss that can result from the number of policies issued during the year (Surya and Sudha, 2020). This is considered a guarantee of increasing profitability, meeting risks, the basis for attracting assets and general insurance companies (Almayatah, 2018).

2.3 Investment Profitability

Investment profitability is a description of the results of business operations within a certain period of time expressed in financial terms where the income profit is reduced by all expenses or costs that have been incurred in a certain period. The results of the study (Ben Dhiab, 2021) stated that the results showed that the premium growth rate had a positive effect on profitability. (Zainudin, Mahdzan and Leong, 2018) stated that the research results showed a positive effect on profitability. (Alamsyah and Lutfi, 2021) stated that the research results showed a positive effect on profitability. (Morgo and Bermudez-Barrezueta, 2019) stated that the research results had a significant positive effect on profitability. (Alarussi and Alhaderi, 2018) stated that the results of the study had a positive effect on financial health. (Maulana and Mulyana, 2020) stated that the results of the study showed a significant positive effect on profitability. From the results of this study, the researchers determined the hypothesis regarding investment profitability on financial soundness

H1: It is suspected that Investment Profitability has a positive effect on financial soundness.

2.4 Actuarial Back up

Reinsurance companies are also adapting offerings aimed at meeting the growing needs of general insurance customers. Actuarial back up as an important indicator for financial soundness in general insurance companies to consider several aspects when carrying out the necessary calculations to determine an adequate and reasonable reinsurance premium rate, aiming at sufficient funds to pay policy benefits so that each policyholder is charged a reinsurance premium that reflects the level the risk borne by general insurance companies in providing liability (Zanotto & Clemente, 2021). Actuarial back up will have a negative effect on financial soundness (Culp and O'Donnell, 2009) because if all incoming general reinsurance premiums and policyholder funds are owned, where the funds are deducted by the company's fees for premium fund management services according to the agreement, the premium value is determined with the percentage of policyholders seen from how big the level of risk is and can be affected by the law of supply and demand. The amount of revenue from the sale of insurance policies can be measured over a period of one year, an important aspect of setting reinsurance premiums is managing the results of setting premiums after the introduction of a new product. Determination of premium rates includes comparing the actual operational experience of insurance companies. If actual experience is in accordance with actuarial assumptions, then these assumptions can be the basis for the technical design stage of insurance company

development. From the results of this study, the researchers determined the hypothesis regarding actuarial back up on financial soundness

H2: It is suspected that actuarial back-up has a negative effect on financial soundness.

2.5 Capital

Capital as an important indicator for financial soundness bears two types in business activities, namely customer obligations and obligations to investors, in general insurance companies financial capital can be deposited and must provide funds to insurance companies to replace claims on business cash flows. Capital will have a negative effect on the financial soundness of general insurance companies (Culp and O'Donnell, 2009). Since total asset equity is tied to the policyholder's ability to benefit from the general insurance company's risk capital, if the customer is rarely willing to pay a higher premium for the risk of default, the insurance company is at risk of bearing all the economic costs of risk capital. Insurance companies also benefit from risk capital. This procedure is important as global equity turnover and significant losses are experienced by some general insurance companies and increases the insurer's internal cost of risk capital. Many insurers have reinsured and have weathered the storm and remain an efficient and robust provider of external risk capital. Losses by some reinsurers, however, have accelerated downgrades, balance sheet weakness, and reduced capacity, impacting insurers' choices of external risk capital providers. From the results of this study, the researchers determined the hypothesis regarding capital on financial soundness

H3: It is suspected that capital has a negative effect on financial soundness.

2.6 Size

Size is an important indicator of financial soundness, such as profit sharing to ownership, capital adequacy ratio and capital structure of general insurance companies while operating in Indonesia. The size of the company will make it easier for a company to obtain sources of funding, both external and internal. The bigger a company, the greater the risk it accepts, the company tends to protect assets more, so the company will implement a more stringent risk management than small companies (Shukla, Narayanasamy and Krishnakumar, 2020). The results of the study (Shukla, Narayanasamy and Krishnakumar, 2020) showed a positive effect on size. (Kocher, Martinsson and Schindler, 2017) the results of this study have a significant positive effect on size.

2.7 Underwriting

Underwriting as an activity to control risk, the better the risk control, the better the underwriting results which can have an impact on financial soundness. Underwriting is a process to maximize company profit through letter of request, company risk analysis, policy issuance. The decline in underwriting results indicates that the company's performance is getting worse over a certain period, which can be measured in an annual period. Good or bad underwriting performance depends on how the company makes optimal and objective decisions towards policyholders, each policyholder will be charged a reasonable premium for the proposed insurance, underwriting is very important in conducting accurate risk selection (Alamsyah and Lutfi, 2021). Underwriting includes collecting information and evaluating policyholder reports to determine whether prospective policyholders meet the standards according to the procedures that have been classified and the policyholder's liability rates will be determined, in accordance with individual risk assessments made for prospective policyholders (Mustafa and Rahman, 2018). Underwriting results will be informed to the ownership.

2.8 Ownership

Ownership of general insurance consists of two private (private) and government (BUMN). Private Ownership (PRIVATE) has relative power in general insurance companies and implements strategic procedures. Meanwhile, government ownership (BUMN) stands in an effort to organize state government. The development of state-owned enterprises includes fostering entities controlled by the government (BUMN) either directly or indirectly in accordance with government regulations (Widyawati, Trinugroho and Untoro, 2018). The difference between Private (PRIVATE) and Government (BUMN) from the source of capital, these differences have an impact on the public perception that every insurance company, Private (PRIVATE) and Government (BUMN) must optimize financial soundness has an impact on the level of public confidence in choosing insurance services by making comparisons This can provide superior results from each company, both from the Private (PRIVATE) and Government (BUMN) sectors.

III. Research Method

The research model used in this study is a panel data regression model (Hill et al., 2017). Regression analysis is used to predict and to estimate the population average or the average value of the dependent variable Findsound, Interest variables in this study IPFT, BUPACT, EQTA and control variables in this study are SZ, UWRT, OWN. In regression analysis, in addition to measuring the strength of the relationship between two or more variables on the dependent variable with the variable of interest. The data collection method used is Cross section. The source comes from general insurance companies in Indonesia. The regression model developed to test the hypotheses that have been formulated in this study are:

$$FINSOUND = a0 + a1\text{IPRFT} + a2\text{ACTBUP} + a3EQTA + a4CV1SZ + a5CV2UWRT + a6CV3OWN + e$$

The population that will be the object of this research is general insurance company. This research uses secondary data sources obtained from www.ok.go.id from 2006-2019. The reason the author uses insurance companies as research objects is because the insurance companies listed on www.ok.go.id consist of two categories, namely BUMN and PRIVATE, and the problems in general insurance companies are more complex, so it is hoped that they will be able to better describe the state of general insurance companies in Indonesia.

This research uses a documentation study which is carried out by collecting secondary data from tracing using a computer for data in electronic format. The data presented in this electronic format is the statistical condition of the financial statements of general insurance companies registered at www.ok.go.id.

This research data analysis method uses descriptive statistics, which are intended to make conclusions at the end of the study. In addition, this study uses panel data regression analysis, namely the Common Effect Model, Fixed Effect Model, Random Effect Model, F Test (Chow Test). This regression analysis aims to obtain a comprehensive picture of the relationship between the Interest variable and the dependent variable for the performance of each insurance company. Before performing panel data regression analysis, the method requires to test the classical assumptions in order to get the best results.

In table 1 testing the results of the estimation of observation data on general insurance companies in Indonesia consists of two criteria, namely BUMN and PRIVATE with a total of 73 companies, with a total of 1022 samples and we shorten the data by eliminating 84 samples so that the total observation data becomes 938 statistically this is because In the study, in the middle of the company's journey from 2006-2019, general insurance companies experienced events such as the acquisition of 19 companies.

Table 1. Observation Data

OWN	Freq	Percent	Cum
SOE	56	5.97	5.97
PRIVATE	882	94.03	100.00
Total	938	100	

IV. Results and Discussion

In this chapter, we will discuss the estimation results, and we will explain in this study, how we process the original data and determine the data that will be used to make estimates. The results of the discussion are supported by descriptive statistical data and correlations between variables and we will present the results of a baseline regression consisting of all statistical data starting from the dependent variable, the variable of interest and supported by several control variables by making one of each control variable as a guide variable other controls. We also present in this section an examination of robustness by varying the variables of interest (Ariefianto et al., 2020).

4.1 Descriptive Estimation Results

After reviewing the data, we find that there is a significant share of zero, zero or N/A observations. In this study we categorize these events as zero and exclude them (filter) from the estimate if they occur: the dependent variable FINDSOUND. The independent variables are IPFT, ACTBUP, EQTA and control variables are SZ, UWRT, OWN. After performing this filter, we found an unbalanced panel (938 Observations).

Table 2 presents descriptive statistics of the variables used in the study, FINSOUND with a mean of 17,896, a standard deviation of 7,170, a value minimum 9,706, maximum value, 36,198. IPRFT proxy1 with mean 0.063 proxy2 0.144, standard deviation of proxy1 0.029, proxy2 0.136, minimum value of proxy1 0.018 proxy2 0.571. ACTBUP with mean 0.135, standard deviation 0.106, minimum value 0.003, maximum value 0.380. EQTA with mean 0.455, standard deviation 0.178, minimum value 0.177, maximum value 0.826. SZ with a mean of 12,930, a standard deviation of 1,326, a minimum value of 10,713, a maximum value of 15,467. UWRT with a mean value of 1.041, a standard deviation of 0.541, a minimum value of 0.433, a maximum value of 2.764. OWN with a mean value of 1.941, standard deviation of 0.238, a minimum value of 1, a maximum value of 2.

Table 2. Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
FINSOUND	938	17.896	7.170	9.706	36.198
IPRFT1	938	0.063	0.029	0.018	0.133
IPRFT2	938	0.144	0.136	0.015	0.571
ACTBUP	938	0.135	0.106	0.003	0.380

EQTA	938	0.455	0.178	0.177	0.826
SZ	938	12.930	1.326	10.713	15.467
UWRT	938	1.041	0.541	0.433	2.764
OWN_n	938	1.941	0.238	1	2

4.2 Person Correlation Estimation Results

Table 3. Pearson Correlation

	FINSOU~	IPRFT1	IPRFT2	ACTBUP	EQTA	SZ	UWRT	OWN_n
FINSOUND	1.0000							
IPRFT1	0.0644	1.0000						
IPRFT2	-0.1636	0.4557	1.0000					
ACTBUP	-0.1359	-0.0148	-0.2002	1.0000				
EQTA	-0.7756	-0.0811	0.2740	0.0289	1.0000			
SZ	0.4562	0.1475	0.1096	-0.3317	-0.4443	1.0000		
UWRT	-0.1206	0.1566	0.2189	-0.0569	0.1123	-0.2170	1.0000	
OWN_n	0.0754	-0.1742	-0.1783	0.0237	-0.1388	-0.1951	0.0239	1.0000

This table reports the simple correlation (Pearson correlation) of the variables used in the study. The presentation of the correlation is in the form of a triangle in the lower half.

4.3 Regression Results

Tipe	Name	Proxy	Hypothesis	Name of Researcher and Year of Research
Dependen Variabel	*Financial soundness*	Z Score it =(ROEit + (Technical Reserve+ Equity/Total Assets)it)/Standard deviation (ROEi)	-	1. Lepetit and Strobel (2013)
Variabel Interest	*Investment Profitability*	Investment yield/Total Investment (IPRFT1)	Positive	1. Zainudin, Mahdzan and Leong (2018) 2. Ben Dhiab (2021) 3. {Formatting Citation}
		Investment yield/Premium Income (IPRFT2)		
	Actuarial back up	Reinsurance/Total Asset (ACTBUP)	Negative	1. Culp and O'Donnell (2009)
	Capital	Equity/Total Asset (EQTA)	Negative	1. Culp and O'Donnell (2009)
Control Variabel	*Size*	ln Total Asset (SZ)	Positive	1. Kocher, Martinsson and Schindler (2017) 2. Shukla, Narayanasamy and Krishnakumar (2020)
	Underwriting	Operating expenses/Income (UWRT)	Negative	1. Lyu and Yang (2020)
	Ownership	BUMN, SWASTA (OWN)	Positive	1. Doddy Setiawan Bandi Bandi Lian Kee Phua Irwan Trinugroho (2016) 2. Widyawati, Trinugroho and Untoro (2018)

In table testing the estimation results specifications: Fixed Effect Model (FEM), IPRFT 1 and 2 proxies show support for the IPRFT coefficient estimate for a positive correlation, this is in line with research (Ben Dhiab, 2021), (Zainudin, Mahdzan and Leong, 2018) (Alamsyah and Lutfi, 2021) Our research shows that investment profitability can be interpreted as a company that is successful in finding profitable investment opportunities when it leads to higher profitability, increasing profits can be through more effective investments and increasing customer demand can be seen from premium growth, determine the profitability performance of general insurance companies. implies that the human resource capabilities of general insurance companies play an important role in capturing customers and influencing the company's profits, theoretically, this finding is that to remain competitive in this industry.

Testing the specification of the estimation results: Fixed Effect Model (FEM), ACTBUP proxy shows support for the estimated ACTBUP coefficient of a negative correlation, this is in line with research (Culp and O'Donnell, 2009) Our research shows that risk capital owned by insurance companies, customers those who are rarely willing to pay a higher premium to reduce the risk of default on incoming general reinsurance premiums and the policyholder's own funds, where the funds are deducted by the company's fees for premium fund management services according to the agreement, the premium value is determined by the percentage of the policyholder as seen from the how much risk is borne and can be affected by the law of supply and demand. The amount of income from the sale of insurance policies can be measured over a period of one year, an important aspect of setting reinsurance premiums is managing the results of setting premiums after the introduction of a company product.

Testing the specification of the estimation results: Fixed Effect Model (FEM), the EQTA proxy shows that the EQTA coefficient estimation supports a negative correlation. This is in line with research (Culp and O'Donnell, 2009) Free turnover in global equity markets and losses experienced by some insurance companies have increased their internal cost of risk capital. Fortunately, many reinsurers have weathered the storm and remain efficient and powerful providers of external risk capital. Losses by some reinsurers, however, have accelerated downgrades, balance sheet weakness, and reduced capacity, all of which should also impact the choice of external risk capital providers by insurers. In our view, it is critical for insurers to compare external and internal risk capital in consistent conceptual framework.

Testing the specification of the estimation results: Fixed Effect Model (FEM) as expected, the estimated SZ coefficient is significantly positively correlated, this is in line with research (Shukla, Narayanasamy and Krishnakumar, 2020) and (Kocher, Martinsson and Schindler, 2017) Our research shows that , asset turnover is an indicator that affects general insurance company profits. The results motivate companies to improve their efficiency and manage their assets properly to increase their sales and profitability. This shows that if the general insurance company gets high asset sales and its profitability increases so that it is able to produce good financial soundness, it will have an impact on the reputation of the general insurance company which will result in more investment in this company.

Testing the specifications of the estimation results: Fixed Effect Model (FEM), the estimated UWRT coefficient has a negative correlation. This is in line with research (Lyu and Yang, 2020). Our research shows that the amount of the insured. Currently, general insurance companies provide not too strict limits on the size of the insured. However, the large number has three indicators, namely, the closer it is to the assumed actuarial back up

figure, does not have high premium fluctuations and the management costs more administrative costs.

Testing the specifications of the estimation results: Fixed Effect Model (FEM), OWN proxy the estimated OWN coefficient is positively correlated, this is in line with research (Widyawati, Trinugroho and Untoro, 2018) and (Doddy Setiawan Bandi Lian Kee Phua Irwan Trinugroho, 2016). Our research shows that shareholder ownership can control insurance companies, the greater the incentive to monitor company management and to ensure that investment returns are realized, that large shareholders are more willing to bear monitoring costs to ensure a return on their investment and the higher the percentage of ownership, the higher the dividend received by shareholders.

Table 5. Regression Results

VARIABLES	FE		RE		OLS	
	(1)	(2)	(3)	(4)	(5)	(6)
IPRFT1	2.132		-0.319		-2.123	
	(4.975)		(5.009)		(5.305)	
IPRFT2		1.068		0.713		0.811
		(1.170)		(1.165)		(1.199)
ACTBUP	-1.287	-1.104	-4.183***	-4.110**	-5.593***	-5.512***
	(1.747)	(1.748)	(1.603)	(1.605)	(1.486)	(1.493)
EQTA	-24.21***	-24.50***	-27.14***	-27.32***	-29.40***	-29.61***
	(1.260)	(1.283)	(1.106)	(1.141)	(0.953)	(1.007)
SZ	2.417***	2.403***	1.334***	1.315***	0.551***	0.521***
	(0.224)	(0.224)	(0.178)	(0.179)	(0.141)	(0.144)
UWRT	-0.319	-0.347	-0.243	-0.282	-0.267	-0.338
	(0.287)	(0.288)	(0.281)	(0.283)	(0.282)	(0.285)
SWASTA	0.603	0.581	0.956	0.997	-0.142	-0.0649
	(1.467)	(1.467)	(1.078)	(1.072)	(0.652)	(0.647)
Constant	-1.903	-1.545	12.92***	13.12***	25.45***	25.66***
	(3.368)	(3.366)	(3.150)	(3.148)	(2.477)	(2.504)
Observations	938	938	938	938	938	938
R-squared	0.740	0.740			0.623	0.623
Number of PERUSAHAAN_n			73	73		
R2	0.7401	0.7403	0.5662	0.5664	0.6231	0.6232
Chow (F Stat)	5.46	5.46				
Hausman test			0.00	0.00		
			(0.0000)	(0.0000)		

This table reports the baseline regression results for the proxies: The dependent variable (FINSOUND) was regressed against the independent proxies (IPRFT, ACTBUP, EQTA) and control variables (SZ, UWRT, OWN). The table presents the estimated coefficients and p-values in parentheses. Each regression (indicated by numbers in the table header row) according to the estimation techniques (FEM, REM and Pooled OLS) statistical significance was used: * at the 10% level, ** at the 5% level, *** at the 1% level.

Robustness check testing of the estimated specifications: Fixed Effect Model (FEM), IPRFT1 proxy, IPRFT2 shows that it is not robust at specification changes, ACTBUP proxy shows no robustness at specification changes, EQTA proxy shows robustness at specification changes, SZ proxy shows robustness at specification changes change of

specifications, UWRT experienced robust changes in specifications, PRIVATE did not experience changes in specifications.

VARIABLES	(1) FE	(2) FE	(3) FE	(4) FE	(5) FE	(6) FE	(7) FE	(8) FE	(9) FE	(10) FE
IPRFT1	2.132		1.885		10.40*		2.636		1.203	
	(5.215)		(5.149)		(5.909)		(5.680)		(5.268)	
IPRFT2		1.068		1.129		-3.542**		1.987		0.805
		(1.260)		(1.271)		(1.417)		(1.311)		(1.211)
ACTBUP	-1.287	-1.104			0.531	0.289	-10.11***	-9.705***	-1.007	-0.858
	(2.130)	(2.092)			(2.211)	(2.183)	(2.039)	(2.007)	(2.092)	(2.064)
EQTA	-24.21***	-24.50***	-24.16***	-24.47***			-31.26***	-31.69***	-24.21***	-24.42***
	(2.138)	(2.221)	(2.099)	(2.189)			(1.817)	(1.898)	(2.135)	(2.216)
SZ	2.417***	2.403***	2.494***	2.468***	4.647***	4.647***			2.443***	2.434***
	(0.298)	(0.300)	(0.261)	(0.264)	(0.250)	(0.250)			(0.296)	(0.297)
UWRT	-0.319	-0.347	-0.289	-0.326	-0.327	-0.0657	-0.638	-0.700*		
	(0.367)	(0.379)	(0.360)	(0.374)	(0.402)	(0.419)	(0.390)	(0.404)		
SWASTA	0.603	0.581	0.525	0.514	3.138**	3.135***	2.029*	1.974*	0.535	0.514
	(0.737)	(0.738)	(0.739)	(0.742)	(1.216)	(1.191)	(1.127)	(1.128)	(0.711)	(0.712)
Constant	-1.903	-1.545	-2.969	-2.455	-43.26***	-42.50***	31.81***	32.03***	-2.489	-2.294
	(4.692)	(4.760)	(4.089)	(4.155)	(3.231)	(3.230)	(1.489)	(1.487)	(4.620)	(4.665)
Observations	938	938	938	938	938	938	938	938	938	938
R-squared	0.740	0.740	0.740	0.740	0.629	0.630	0.705	0.706	0.740	0.740
R2	0.7401	0.7401	0.7403	0.7403	0.7401	0.7401	0.7403	0.7403	0.7401	0.7401
Chow (F Stat)	5.46	5.46	5.46	5.46	5.46	5.46	5.46	5.46	5.46	5.46

This table reports the baseline regression results for the proxies: The dependent variable (FINSOUND) was regressed against the independent proxies (IPRFT1, IPRFT2, ACTBUP, EQTA) and control variables (SZ, UWRT, OWN). The table presents the estimated coefficients and p-values in parentheses. Each regression (indicated by numbers in the table header row) according to the estimation techniques (FEM, REM and Pooled OLS) statistical significance was used: * at the 10% level, ** at the 5% level, *** at the 1% level.

V. Conclusion

The purpose of this study is to empirically test the factors that influence financial soundness using a database from www.ojk.go.id. This analysis is based on a data set of 73 general insurance companies from 2006-2019. The results of this study indicate that investment profitability has a positive effect on financial soundness, actuarial back-up has a negative effect on financial soundness, capital has a negative effect on financial soundness, and the control variable, Size has a significant positive effect on financial soundness, underwriting has a negative effect on financial soundness, ownership has an effect positive on financial soundness.

Our research shows that companies are successful in finding profitable investment opportunities leading to higher profitability, in increasing profits through more effective investments and increasing customer demand as seen from premium growth, determining the profitability performance of general insurance companies. implies that the human resource capabilities of general insurance companies play an important role in capturing customers and influencing the company's profits, As for the risks that insurance companies have, those customers rarely willing to pay a higher premium to reduce the risk of default on the incoming general reinsurance premium as well as the policyholder's own funds, where the funds are deducted by the company's fees for premium fund management services according to the agreement, the premium value is determined by the percentage of the policyholder seen from how much the level of risk that is borne and can be affected by the laws of supply and demand. The amount of income from the sale of insurance policies can be measured over a period of one year, an important aspect of setting reinsurance premiums is managing the results of setting premiums after the introduction of a company product. This will have an impact on equity turnover resulting in motivating companies to improve their efficiency and manage company assets properly to increase sales and profitability. Currently, general insurance companies provide not too strict limits on the size of the insured. However, the large number has three indicators, namely, the closer it is to the assumed actuarial back up figure, does not have high premium fluctuations and the management costs more administrative costs. the greater the incentive to monitor the company's management and to ensure that investment returns are realized, the more willing large shareholders are to bear monitoring costs to ensure the company's return on investment.

Our research also conducted a robustness check where the investment profitability variable did not experience robustness at specification changes, Actuarial back up did not experience robustness at specification changes, equity total assets showed robust at specification changes, size showed robust at specification changes, underwriting experienced robust at specification changes. , and PRIVATE does not experience robustness at specification changes.

References

Alamsyah, R. and Lutfi, A. (2021) 'The effect of insurance premiums, claims, underwriting results, on profitability with a risk-based minimum capital ratio (RBMC) as an intervening variable in general insurance companies', *The Accounting Journal of Binaniaga*, 6(1), p. 61. doi: 10.33062/ajb.v6i1.434.

Alarussi, A. S. and Alhaderi, S. M. (2018) 'Factors affecting profitability in Malaysia', *Journal of Economic Studies*, 45(3), pp. 442–458. doi: 10.1108/JES-05-2017-0124.

Almayatah, S. A. A. (2018) 'The Impact of Islamic Banks On Financial Soundness Indicators', *International Journal Review of Management and Marketing*, 8(3), pp. 26–31.

Ariefianto, M. D. *et al.* (2020) 'The effect of competition and capacity on intermediation cost: A country level study', *International Journal of Economics and Management*, 14(1), pp. 13–26.

Camino-Mogro, S. and Bermúdez-Barrezueta, N. (2019) 'Determinants of profitability of life and non-life insurance companies: evidence from Ecuador', *International Journal of Emerging Markets*, 14(5), pp. 831–872. doi: 10.1108/IJOEM-07-2018-0371.

Culp, C. L. and O'Donnell, K. J. (2009) 'Catastrophe reinsurance and risk capital in the wake of the credit crisis', *Journal of Risk Finance*, 10(5), pp. 430–459. doi: 10.1108/15265940911001367.

Ben Dhiab, L. (2021) 'Determinants of Insurance Firms' Profitability: An Empirical Study of Saudi Insurance Market', *Journal of Asian Finance*, 8(6), pp. 235–0243. doi: 10.13106/jafeb.2021.vol8.no6.0235.

Doddy Setiawan Bandi Bandi Lian Kee Phua Irwan Trinugroho (2016) 'Ownership structure and dividend policy in Indonesia', *The Eletronic Library*, 34(1), pp. 1–5.

Harkati, R., Alhabshi, S. M. and Kassim, S. (2020) 'Does capital adequacy ratio influence risk-taking behaviour of conventional and Islamic banks differently? Empirical evidence from dual banking system of Malaysia', *Journal of Islamic Accounting and Business Research*, 11(9), pp. 1989–2015. doi: 10.1108/JIABR-11-2019-0212.

Hill, R. C., Griffiths, W. E. and Lim, G. C. (2017) *Principles of Econometrice*, *Wiley*.

Ismail, M. (2021) 'The magnitude of the investment yield of sharia insurance in Indonesia', *Accounting*, 7(3), pp. 497–506. doi: 10.5267/j.ac.2021.1.009.

Kocher, M. G., Martinsson, P. and Schindler, D. (2017) 'Overpricing and stake size: On the robustness of results from experimental asset markets', *Economics Letters*, 154, pp. 101–104. doi: 10.1016/j.econlet.2017.02.035.

Lepetit, L. and Strobel, F. (2013) 'Bank insolvency risk and time-varying Z-score measures', *Journal of International Financial Markets, Institutions and Money*, 25(1), pp. 73–87. doi: 10.1016/j.intfin.2013.01.004.

Lyu, H. and Yang, C. (2020) 'Third-party underwriting and its effects on credit spreads and earnings management: Evidence from China's financial bond market', *China Finance Review International*, 10(1), pp. 75–94. doi: 10.1108/CFRI-07-2018-0067.

Magdalena, S., Suhatman, R. (2020). The Effect of Government Expenditures, Domestic Invesment, Foreign Invesment to the Economic Growth of Primary Sector in Central Kalimantan. *Budapest International Research and Critics Institute-Journal (BIRCI-Journal)*. Volume 3, No 3, Page: 1692-1703.

Maulana, D. and Mulyana, B. (2020) 'Factors Affecting Profitability of General Insurance Companies in Indonesia', *The Economics and Finance Letters*, 7(2), pp. 236–246. doi: 10.18488/journal.29.2020.72.236.246.

Moreno, I., Parrado-Martinez, P. and Trujillo-Ponce, A. (2021) 'Using the Z-score to analyze the financial soundness of insurance firms', *European Journal of Management and Business Economics*. doi: 10.1108/EJMBE-09-2020-0261.

Morgo, S. C. and Bermudez-Barrezueta, N. (2019) 'Determinants of profitability of life and non-life insurance companies: evidence from Ecuador', *International Journal of Emerging Markets*, 14(5), pp. 831–872. doi: 10.1108/IJOEM-07-2018-0371.

Mustafa, A. and Rahman, A. A. (2018) 'The Islamic perspective on the underwriting of health takaful products: A study of selected takaful operators in Malaysia', *New Developments in Islamic Economics: Examples from Southeast Asia*, pp. 135–150. doi: 10.1108/978-1-78756-283-720181009.

Shukla, A., Narayanasamy, S. and Krishnakumar, R. (2020) 'Impact of board size on the accounting returns and the asset quality of Indian banks', *International Journal of Law and Management*, 62(4), pp. 297–313. doi: 10.1108/IJLMA-12-2018-0271.

Surya, M. and Sudha, B. (2020) 'Insurance financial soundness indicator-CARAMEL model', *International Journal of Advanced Science and Technology*, 29(1), pp. 1234–1242.

Trinugroho, D. S. B. B. L. K. P. I. (2018) 'Ownership Structure and divident policy in Indonesia', *The Eletronic Library*, 34(1), pp. 1–5.

Widyawati, N., Trinugroho, I. and Untoro, W. (2018) 'Family Ownership, Women in Top Management and Risk Taking: Evidence from Indonesia', *Jurnal Keuangan dan Perbankan*, 22(4), pp. 606–613. doi: 10.26905/jkdp.v22i4.2452.

Zainudin, R., Mahdzan, N. S. A. and Leong, E. S. (2018) 'Firm-specific internal determinants of profitability performance: An exploratory study of selected life insurance', *Journal of Asia Business Studies*, 133(5), pp. 578–597.

Zanotto, A. and Clemente, G. P. (2021) *An optimal reinsurance simulation model for non-life insurance in the Solvency II framework*, *European Actuarial Journal*. Springer Berlin Heidelberg. doi: 10.1007/s13385-021-00281-2.