THE INFLUENCE OF CAPITAL STRUCTURE, NET PREMIUM GROWTH AND PROFITABILITY ON THE SOLVENCY OF INDONESIAN LIFE INSURANCE COMPANIES

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Abstract - This study aims to examine how the influence of capital structure on the level of solvency of life insurance companies, the effect of net premium growth of companies on the level of solvency of life insurance companies, and the effect of company profitability on the level of solvency of life insurance companies in Indonesia.

This study uses quantitative research, which is measured using the multiple regression analysis panel data model. The population of this study is life insurance companies in Indonesia and insurance companies in the FSA in 2015 to 2018. The sample is determined based on the purposive sampling method, with a total sample of 25 insurance companies. The data used in this research is secondary data. . The method of data collection is taken from data in the Indonesia Stock Exchange through the official website www.idx.co.id and from the Indonesian Life Insurance Association via the official website www.aaji.com.

The results of the research prove that (1) capital structure significantly influences the solvency level of life insurance companies in Indonesia. (2) net premium growth of capital companies significantly influences the level of solvency of life insurance companies in Indonesia.

(3) company profitability significantly influences the level of solvency of life insurance companies in Indonesia.

Keywords: Capital Structure, Net Premium Growth, Profitability, Life Insurance.

Abstrak - Penelitian ini bertujuan untuk menguji bagaimana pengaruh struktur modal terhadap tingkat solvabilitas perusahaan asuransi jiwa, pengaruh pertumbuhan premi neto perusahaan terhadap tingkat solvabilitas perusahaan asuransi jiwa, dan pengaruh profitabilitas perusahaan terhadap tingkat solvabilitas perusahaan asuransi jiwa di Indonesia.

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Penelitian ini menggunakan penelitian kuantitatif, yang diukur dengan menggunakan metode analisa regresi berganda model data panel. Populasi dari penelitian ini adalah perusahaan asuransi jiwa di Indonesia dan perusahaan asuransi yang ada di OJK pada tahun 2015 sampai dengan 2018. Sampel ditentukan berdasarkan metode purposive sampling, dengan jumlah sampel sebanyak 25 perusahaan asuransi. Data yang digunakan dalam penelitian ini adalah data sekunder. . Metode pengumpulan data di ambil dari data yang berada dalam Bursa Efek Indonesia melalui situs resmi www.idx.co.id dan dari Asosiasi Asuransi Jiwa Indonesia lalui situs resmi www.aaji.com.

Hasil penelitian membuktikan bahwa (1) struktur modal berpengaruh secara signifikan terhadap tingkat solvabilitas perusahaan asuransi jiwa di Indonesia. (2) pertumbuhan premi neto perusahaan modal berpengaruh secara signifikan terhadap tingkat solvabilitas perusahaan asuransi jiwa di Indonesia. (3) profitabilitas perusahaan berpengaruh secara signifikan terhadap tingkat solvabilitas perusahaan asuransi jiwa di Indonesia.

Kata Kunci : Struktur Modal, Pertumbuhan Premi Neto, Profitabilitas, Asuransi Jiwa.

I. INTRODUCTION

The Life Insurance Company is one of the non-bank financial institutions that is engaged in services and insurance services that help people overcome the risks that occur by binding themselves to the company, to get protection in the future, where the strength of the life insurance company lies on increasing company assets, services, number of customers, and the amount of premium income collected from customers. The life insurance industry in Indonesia is growing from year to year and awareness of the importance of protection and investment attracts the public to buy life insurance premiums. Life insurance can also be an alternative for people in choosing investments where there are two elements offered by life insurance, namely the element of protection as the main element and investment as an additional element.

According to the Financial Services Authority, the number of life insurance users in Indonesia is not more than 2% of the total population of around 250 million people, so the potential for the continued growth of life insurance in Indonesia is very large. As the life insurance industry develops, the government must exercise close supervision of the life insurance industry. Providing comfort to the public for any funds invested in life insurance companies is also the government's responsibility.

In September 2019, the World Bank last week presented to the government regarding the condition of the national economy. In addition, the financial condition of two life insurance companies, namely Jiwasraya and AJB Bumiputera, is also in the spotlight. Jiwasraya has recorded financial problems, including due to the payment of claims forproducts *saving plan* worth Rp802 billion which was delayed since October 2018. Based on Jiwasraya's financial reports, there was a decrease in RBC from 200.15% in 2016 to 168.22% in 2017. At the end of 2018, Bumiputera's assets were recorded at IDR 10.279 trillion while its liabilities reached IDR 31.008 trillion, so there was a difference of IDR 20.72 trillion. The difference has increased from previous years, namely 2016

amounting to IDR 19.14 trillion and 2017 amounting to IDR 18.87 trillion. As of September 2019, Jiwasraya still suffered a loss of Rp. 13.74 trillion and the capital adequacy ratio or risk based capital (RBC) also dropped to minus 80.5 percent. In fact, based on the rules for the solvency of life insurance companies, the minimum RBC for life insurance companies is 120 percent. Jiwasraya is currently facing a lawsuit from its customers.

In 2019 the OJK made a statement that there were 3 life insurance companies that received special attention because their solvency level (RBC) did not meet OJK regulations. In 2017, the Financial Services Authority stated that there were four life insurance companies that were unable to meet the minimum or insolvent capital requirements, at the end of 2014 based on data from the Indonesian Life Insurance Association (AAJI) there were at least 10 companies that did not meet the solvency ratio standard of 55 life insurance company. The regulator carries out strict supervision if a life insurance company is unable to carry out its business management properly, the regulator will revoke its insurance business license. One example in 2013 the Financial Services Authority closed Bumi Asih Jasa Insurance. This phenomenon encourages life insurance companies in Indonesia to be able to increase their solvency value through good business management. The following is a summary table of the level of solvency as measured by theratio *risk-based capital* where each life insurance company must exceed the 120% ratio from 2014-2017:

Table 1.1. RBC Life Insurance Company

Description	Years			
	2014	2015	2016	2017
Number of Life Insurance Companies	50	55	55	61
Number of Life Insurance Companies that are RBC > 120%	45	53	52	57
Number of Life Insurance Companies that are RBC < 120%	**10**	**2**	**3**	**4**

Source: Indonesian Life Insurance Association

Based on the phenomena described above, one of the main things that can be observed is the solvency of life insurance companies. The level of solvency of life insurance companies in Indonesia is determined by the value of Risk Based Capital (RBC). According to the Minister of Finance Regulation No.53 / PMK.10 / 2012, it is stated that every year life insurance companies are required to set a target of a minimum solvency level of 120% of the minimum risk-based capital. Risk-based minimum capital is the amount of funds needed to anticipate the risk of loss that may arise as a result of deviations in the management of assets and liabilities.

Life insurance companies that experience a state of insolvency with a lower RBC value tend to be indicated to be bankrupt than life insurance companies that have a high RBC value. Therefore, the RBC score provides information about the financial strength of a life insurance company in conducting its business operations. Researchers will take several life insurance companies in Indonesia and there are financial components used in assessing the solvency of life insurance companies, including total investment, total equity, total liabilities, premiums, income, expenses, and

profit before tax. This research will conclude whether the capital structure, net premium growth and profitability affect the solvency level of life insurance companies.

Research conducted by Haan and Kakes in 2007 in the research journal The Effect of ROA,Risk *Underwriting*, and Reinsurance Against the Solvency of Life Insurance Companies by Nur Aniseh in 2018, concluded that company size, profitability contributed to the high solvency of life insurance companies. Meanwhile, the risks of underwriting, line of business, herfindahl, and reinsurance do not significantly contribute to the solvency of life insurance companies.

Capital structure is very important for the life insurance industry because permanent funding consists of long-term debt, preferred stock and shareholder capital. The composition of the sources of financing used by the company is in the form of an equation, so the relationship between financial structure and capital structure is that the financial structure minus short-term debt will be the same as the capital structure. Research conducted by Nasrullahi M Tanjung (2015) on the use of capital structure in relation to solvency shows that a decrease in capital structure will increase the solvency ratio if an increase in own capital is accompanied by a decrease in the use of long-term debt and an increase in the use of long-term debt that is greater than the increase in capital use. alone can increase the solvency ratio in low increments.

Based on the description above, solvency is very important for every customer who wants to protect himself and invest his money in a life insurance company, the public must look at the solvency ratio (RBC) to see to what extent a company can return customer money if something bad and unpredictable happens. previous. So that research on "**The Effect of Capital Structure, Net Premium Growth and Profitability on the Solvency of Life Insurance Companies in Indonesia**" is very necessary.

Problem Formulation

1. In accordance with the background of the problem above, the problems to be discussed in this study can be formulated, namely:
2. How is the effect of capital structure on the solvency level of life insurance companies in Indonesia?
3. How does the growth of net premiums affect the solvency level of life insurance companies in Indonesia?
4. How does profitability affect the level of solvency of life insurance companies in Indonesia?

II. THEORY BASIS
Definition of Capital Structure

According to Sawir (2015), capital structure is permanent funding consisting of long-term debt, preferred stock, and shareholder capital. The book value of shareholder capital consists of ordinary shares, paid up or surplus capital, capital and accumulated retained. The capital structure is part of the financial structure.

Definition of Life Insurance Premiums

According to Mulyadi (2016), premiums are prices for risk guarantees borne by the insurer for certain risks, at certain places, and for a certain period of time as well.

Definition of Profitability

According to Niresh and Velnampy (2014), *"Profitability is an amount of company money that can be generated from whatever resources the company has. Because the ultimate goal of every company is to maximize profitability"*.

Definition of Solvency

Solvency according to Sutrisno (2016) is the ability of a business entity to meet its financial obligations at maturity. Solvency analysis focuses on the ability of a company to meet its long-term and short-term obligations. A company that's not solvable means that the company has insufficient capital to pay off its debts so that the company will have difficulty obtaining additional loans from creditors before the company increases its own capital.

Relationship Between Variables

The Effect of Capital Structure on the Level of Solvency

The company's capital structure can also be a measure of the possibility of a company's failure to return debt. Companies must be able to adjust the capital structure needed as a means to absorb losses as well as strength for expansion.

In 2014, a research conducted by Yin Yuxuan and Gu Wenlin in China with the title of the journal *An empirical study on factors influencing the capital structure of pharmaceutical listed corporations* in this study showed that there was no effect of solvency on capital structure. This study examines that the capital structure that uses debt or loans will have a negative effect on solvency, because a larger loan or debt carries an insolvent risk if the debt is irreplaceable, the ratio of the capital structure will be large.

Research conducted by Nasrullahi M Tanjung (2015), entitled Analysis of Capital Structure Toward Banks Solvency on The BUMN Bank in Indonesia, shows that there is a negative effect of capital structure on the level of solvency, that a decrease in capital structure will increase the solvency ratio if the increase in own capital coupled with a decrease in the use of long-term debt and an increase in the use of long-term debt that is greater than the increase in the use of own capital can increase the solvency ratio in a low increase. An increase in the capital structure caused by an increase in the use of long-term debt coupled with an increase in the use of own capital will reduce the bank's solvency ratio.

Companies that have a larger capital structure ratio tend to bear more *losses* than companies with small capital ratios, the greater the risk of default on debt. The increase in structure due to an increase in the use of long-term debt and an increase in the use of own capital resulted in a decrease in theratio *solvency.*The company's capital structure also affects the solvency of the insurance company because it shows the strength of the insurance company in bearing risk.

The Effect of Net Premium on the Level of Solvency

Research conducted by Kirmizi Susi Surya Agus in 2011 stated that risk based capital has no effect on net premiums. This is because the components that make up risk based capital really have no effect on net premiums, in this study that capital has a negative effect on risk based capital. Based on the current phenomenon, RBC is often used as a promotional tool in marketing insurance products with the aim of obtaining large premium income and generating large profits.

In 2012, a research conducted by Jiang Chen from a State University in China with the title of the journal The Impact of Risk Based Capital Requirments in Property-Liability Insurance resulted in a study that underwriting risk is a measure of risk based capital and *risk based capital* also has a positive influence on net premium. . This is because the net premium is one of the factors to increase the asset value of an insurance company, where funds are received from the public.

Net premium is the gross premium after deducting the reinsurance premium, after the reinsurance premium has been paid minus the commission (own retention premium). One of the components ofincome *underwriting* (*UW Result*) is the net premium. Net premium is the initial stage in obtaining large profits, large profits will affect the company's assets, however, it must also be supported by efficient expenses as well as supported byanalysis *underwriting* an effective. because we know that theratio *underwriting* in Georgious Pitselis's research has a positive effect on solvency. In this case the researcher wants to say that the net premium does not have an impact that can affect the RBC because there are many other factors that can affect the net premium before it becomes net profit which will have an impact on the company's equity or assets.

The Effect of Profitability on Company Solvency.

In general, evaluating the growth of a company is prioritized on the growth in the number of product sales, customer growth, asset growth, and improved customer service where the ultimate goal is how to maximize the company's profit and value. According to Ludovicus Sensi, (2006) the level of solvency and profitability is related to one another, where profitability will increase the health level of the insurance company and vice versa, the health level of the insurance company using themethod *Risk Based Capital* will have an impact on financial statements, namely increasing the profit of the insurance company.

Research on the profitability of insurance companies is also a significant variable in reducing the risk of an insurance company experiencing a state of *insolvency* . If the insurance company prefers to maintain and hold on to the company's profits as a source of internal funding in the risk coverage process, then the company that has a high level of profitability is a company that has high solvency as well. This is in line with Reni Marlina's research, entitled *The Influence of Risk Based Capital to Profitability in Jasindo Insurance Company* in 2013 that the level of solvency (Risk Based Capital) has a positive and significant effect on profitability.

Research conducted by Waqas bin Khidmat with the title of the research journal *Impact of Liquidity and Solvency on Profitability Chemical Sector of Pakistan* in 2015 shows that there is a negative and significant influence between profitability and solvency. Profitability in this study is measured using ROA and ROE, in this study solvency is calculated by the debt-to-equity ratio (DER), so that if the debt to equity ratio increases, ROA or ROE will decrease.

Profitability describes the company's ability to earn profits through all available capabilities and resources such as sales activities, cash, capital, number of employees, number of branches, and so on. However, it needs to be considered in accordance with the theory related to solvency and profitability according to Stewart C. Myers (2008), the greater the solvency ratio, indicating that the greater the costs that must be borne by the company to fulfill its obligations. This can reduce the profitability of the company. So the higher the solvency of the company, the lower the company's ability to generate profits. The results of this study are consistent with research conducted by Priharyanto (2009) and Aliandi Firdhani (2014), who found that partially solvency has a negative and significant effect on profitability.

Hypothesis Development

Based on problem identification, research objectives, and variables in this study as well as previous research, the hypotheses of this study are:

1. There is an influence between the capital structure on solvency.
2. There is an effect of net premium on solvency.
3. There is an influence between profitability on solvency.

Research Conceptual Framework

This study aims to examine the effect of capital structure (X_1), net premium (X_2) and profitability (X_3) on the solvency (Y) of insurance companies in Indonesia. This thinking framework is outlined in the research model in the following figure:

Picture 2.1 Theoretical Framework

Dependent Variables

Capital Structure (X_1)
Net Premium (X_2)
Profitability (X_3)

Independent Variable
Risk Based Capital (Y)
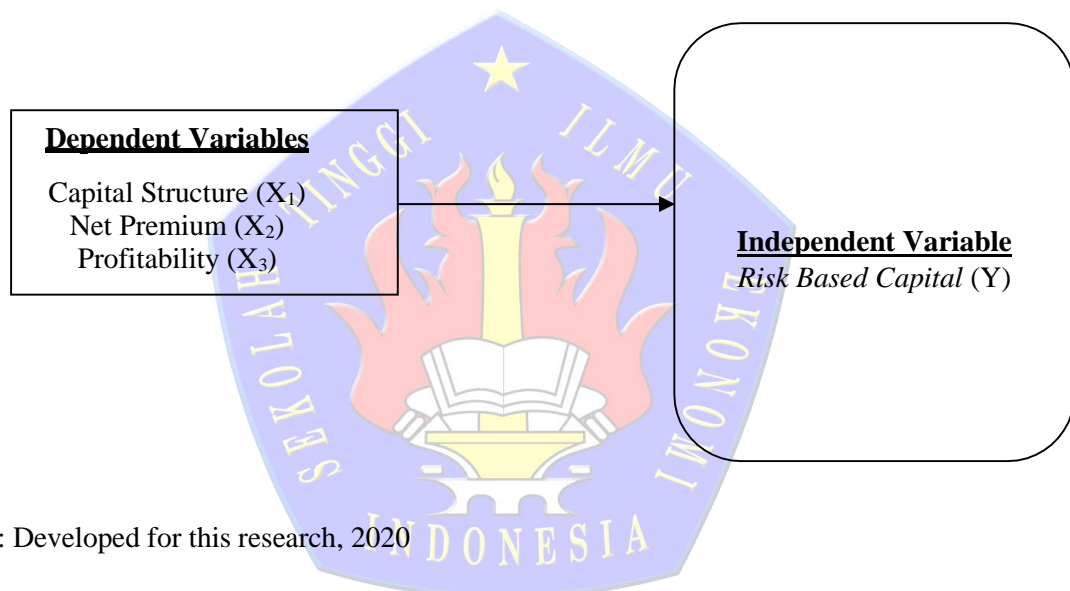
Source: Developed for this research, 2020

III. RESEARCH METHOD
Research Strategy

This research is a quantitative study, which explains the relationship between variables by analyzing numerical data (numbers) using statistical methods through association hypothesis testing. This study uses the time dimension in the *times series*. This research also uses a real environment where the unit of analysis uses the insurance industry in Indonesia. The data source of this research comes from secondary data taken in the financial statements of insurance companies which can be downloaded on the company's website.

Population and Sample
Research Population

The population used in this study are insurance sector companies in Indonesia. The target population of this study is Life Insurance in Indonesia and insurance registered with the Indonesian Financial Services Authority, where there are 51 life insurance companies and 16 insurance companies under the OJK and AAJI.

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Sample

The sample of the study was taken using *purposive sampling method* with the aim of obtaining samples that match the following criteria:

1. Life insurance companies in Indonesia and insurance companies in OJK from 2015 to 2018.
2. The company always presents financial reports for each observation period.
3. From all data sources that meet these criteria, 25 insurance companies will be the research samples.

Data and Data Collection Methods

The data used in this study are secondary data obtained by means of the documentation method, namely by taking directly from conventional financial report data from insurance companies published during the study period, namely 2015 to 2018 (4 years). The company's financial statements consist of balance sheets, income statements, equity, cash flow and RBC reports for insurance companies. The data collection method is taken from data on the officialor *websitewebsite* of a Life Insurance Company registered with the Indonesian Life Insurance Association.

Data Analysis Technique
Multiple Regression Analysis Panel Data Model

According to Ghozali (in Gujarati, 2018) regression analysis is basically a study of the dependence of the dependent variable (dependent) with one or more independent variables (independent variables), with the aim of estimating and / or predicting the average. -Population mean or average value of the dependent variable based on the known value of the independent variable. The results of the regression analysis are in the form of coefficients for each independent variable. This coefficient is obtained by predicting the value of the dependent variable with a Ghozali equation (2018). This can be modeled in the following equation: The regression equation in this study is:

$$RBC = \alpha + \beta_1 \, SM + \beta_2 \, PREMI + \beta_3 \, PROFIT \, (t) + e$$

Where:
RBC = Solvency Level β_1- β_3 = Regression coefficient α = Kostanta
SM = Capital Structure PREMI = Net Premium PROFIT (t) = Profitability
e = residual error (error)

According to Ajija (2011), panel data or *pooled data* is a combination ofdata *time series* and *cross*-section. By accommodating information related to both *cross-section* and *time series*panel data can substantially reduce the problem of *variables,omitted-variables, a* model that ignores relevant variables.

To choose the right model, there are several tests that need to be done. First, using thesignificant *fixed effect* test F test or *chow-test*. Second,with the Hausman test. *Chow-test* or *likelihood ratio test* is antest *F statistic* to choose whether the model used is *common* or *fixed effect.* Meanwhile, the Hausman test is a test to select amodel *fixed effect* or
random effect

1. Chow Test (Common vs fixed effect)

Significance test *fixed effect* (test F) or *Chow-test* is to determine whether the panel data regression techniques to better fixed effect of panel data regression model without the dummy variable or OLS. The statistical F test is as follows (Harahap, 2008):

$$CHOW = \frac{(RRSS - URSS)/(N - 1)}{URSS/(NT - N - K)}.$$

Information:

RRSS = Restricted Residual Sum Square (Is the Sum of Square Residual obtained from estimating panel data with the pooled least square / common intercept method)

URSS = Unrestricted Residual Sum Square (Is the *Sum of Square Residual* obtained from the estimation of panel data with themethod *fixedeffect*)

N = Amount of cross section data

T = Amount of time series data

K = Number of explanatory variables The

Basis for decision making using the *chow-test* is:

a. If H0 is accepted, then themodel *pool* (*common*).

b. If H0 is rejected, then the model is *fixed effect*.

If the Chow test results state that H_0 is accepted, then the panel data regression technique only uses themodel *pool* (*common effect*) and the testing stops here. However, if the Chow test results indicate that H_0 is rejected, then the panel data regression technique uses amodel *fixed effect*. Panel data analysis was continued by performing the Hausman test.

2. The Hausman test

Winarno(2009) states that the Hausman test is used to choose between the approaches *fixed effect* and *random effect*. The Hausman test is obtained through the *command eviews* found in the panel directory. This Hausman test statistic follows thestatistical distribution *Chi-Square* with the *degree of freedom* of k, where k is the number of independent variables. If the Hausman statistical value is greater than the critical value, themodel is the correct model *fixed effect*. On the other hand, if the Hausman statistical value is smaller than the critical value, themodel is appropriate *random effect*. The basis for decision making uses the Hausman test (*Random Effect vs Fixed Effect*), namely:

a. If H_0 is accepted, then themodel *random effect*.

b. If H_0 is rejected, then the model is *fixed effect*.

Hypothesis
T-test

The t statistic test basically shows how far the influence of one independent variable individually in explaining the variation of the dependent variable. The significance level is 5%, so if the probability is more than 0.05 then Ho is accepted, and if the probability is less than 0.05 then H_0 is rejected. The manual way to test the significance of the relationship is done by comparing the calculated t value with the t table value. The formula is as follows:

$$t = (r \sqrt{n-2}) / (\sqrt{1-r^2})$$

where:

t = test value t

r = correlation coefficient

r^2 = coefficient of determination

n = number of samples studied

According to Santoso (2012) the basis for decision making is as follows:

1. If the arithmetic statistic (t output number)> table statistic (t table), then Ho is rejected.

2. If the arithmetic statistic (number t output) <table statistic (t table), then Ho is accepted.

Table statistics can be calculated in table t with degrees of freedom (dk) = nk-1. If Ho is accepted, it can be concluded that there is no significant influence between the independent variable

on the dependent variable. Conversely, if Ho is rejected, there is a significant influence between the independent variables on the dependent variable.

The Coefficient of Determination (R2)

The coefficient of determination ($R^{2)}$is used to measure how far the model's ability to explain variations in the dependent variable. The coefficient of determination ranges between zero and one. The value of R^2 indicate that the ability of independent variables in explaining the dependent variable are very limited. However, if the value is close to one, then the independent variables are almost provide all the information needed to predict the dependent variable (Ghozali, 2018)

In general, said that R^2 is the square of the correlation between the variables used as predictors (X) and variables that give response (Y). In other words R^2 is the squared correlation coefficient. Therefore, to determine the influence of the independent variable on the dependent variable, the coefficient of determination analysis is used where the calculation steps are as follows:

$$Kd = r^2 \; x \; 100\%$$

Description:

Kd = Coefficient of determination

R^2 = squared correlation coefficient

F Test

F test basically shows whether all the independent or independent variables included in the model have a joint influence on the dependent or dependent variable (Ghozali, 2018). The F statistical test can be based on two comparisons, namely the comparison between the calculated F value and the F table and the comparison between the F-statistic value with a significance level of 5%. Tests based on the comparison between the calculated F value and the F table are as follows:

1. If F count <F table then Ho is accepted, which means that the independent variables together have no effect on the dependent variable.
2. If F count> F table then Ho is rejected, which means that the independent variables together have an effect on the dependent variable.

Meanwhile, the test based on the comparison of the statistical F value with a significance level of 5% is as follows:

1. If the statistical value F <0.05 then Ho is rejected, which means that the independent variables simultaneously (simultaneously) have an effect on the dependent variable.
2. If the statistical value F> 0.05 then Ho is accepted, which means the independent variables together (simultaneously) have no effect on the dependent variable.

IV. RESULT AND DISCUSSION

Description of Research Object

In Indonesia, insurance began with the arrival of the Dutch when they colonized Indonesia. Insurance in the colonial era was more directed at a mechanism to secure the trading activities of the colonial government in the plantation and trade sectors. At that time Indonesia was famous for its natural commodities such as palm oil, spices, tobacco and so on. In order to exploit these commodities, the Dutch colonial government created a system of guarantee mechanisms so that their businesses had protection against the risk of harvesting until the delivery of these crops to the Netherlands.

After Indonesian independence, insurance in Indonesia began to develop and could be felt by indigenous people. In the end, the Dutch-owned insurance company called Nederlandsh Indisch Leven Verzekering En Liefrente Maatschappij (NILMIY) was taken over by the Indonesian government and the name was changed to PT. Jiwasraya Insurance. After that it was followed by the 1912 Boemi Poetra Life Insurance in 1912.

After an important moment, namely the nationalization of Dutch companies to become Indonesian government-owned companies, it turned out that after independence there were also insurance mergers in the territory of Indonesia. An example is the merger of PT Asuransi Bendasraya and PT. General International Underwriters became PT Asuransi Jasa Indonesia or more familiar with Jasindo Insurance.

It's not enough to stop there, for the sake of the welfare of the people of the Indonesian government also made new companies engaged in insurance such as Jasa Rahardja Insurance (which focuses on traffic risks), Perum Taspen (insurance and savings for civil servants), Perum Asabri (insurance for AKABRI). , and Jamsostek (private company labor insurance). Then in the 80s, many insurance companies were established in Indonesia such as Allianz, CIGNA, AIA Financial, and so on.

Insurance products continue to grow until now. One of the duties of the government is to improve the welfare of its people, with one proof is to provide insurance for its citizens. Now there are various kinds of insurance products in Indonesia that can be used for various risk protection needs.

The life insurance companies studied in this study were 25 (twenty five) companies, including: AIA, ALLI, AXA, BCAL, BNILIFE, CAPI, CAR, CHUB, CIGN, COMM, EQUI, FWD, GENE, GREA, HANW, HEKS, IDOL, INDS, SUN, MNC, PANI, PRUD, RELI, SEQU and SIMA.

Descriptive Statistics

Descriptive statistics provide an overview or description of data seen from the *mean*, standard deviation, maximum, minimum, sum of each variable (Ghozali, 2016: 82). The variables used include the capital structure (DAR), net premium growth (PN), profitability (ROA) and solvency (RBC). From the data of one dependent variable and three independent variables, descriptive statistical testing was tested, so the results were obtained according to the following table:

Table 4.1 Descriptive Statistics Results

Date: 06/27/20 Time: 23:33				
Sample: 2015 2018				
	RBC	DAR	PN	ROA
Mean	7.377100	0.689019	3,73 Triliun	0.002313
Median	4.165000	0.752895	1,2 Triliun	0.009741
Maximum	63.47000	1.675387	26 Triliun	0.120888
Minimum	0.420000	0.008300	9,26 Miliar	-0.194406
Std. Dev.	8.932696	0.266082	5,77 Triliun	0.048652
Sum	737.7100	68.90191	3.735 Triliun	0.231278
Sum Sq. Dev.	7899.512	7.009174	3.30 Oktiliun	0.234334

Observations	100	100	100	100

Source: Processed data, 2020

1. The output table 4.1 above shows the value of N or the amount of data to be studied totaling 100 samples. RBC as a proxy for solvency has a mean or average value of 7.377100, which means that the average contribution of Life Insurance Companies in Indonesia to the capital structure is 7.3771% with a maximum value of 63.47%. Minimum value 0.42%. With a standard deviation of 8.932696, which means that the maximum increase in the average solvency variable of Life Insurance Companies in Indonesia.
2. The independent variable of capital structure (DAR) is 100 samples. With a mean or average value of 0.689019. The maximum value is 1.675387. The minimum value is 0.008300. With a standard deviation of 0.266082, which means that the maximum increase in the average capital structure variable is + 0.266082%, while the maximum decrease of the average capital structure variable is - 0.266082%.
3. The independent variable net premium growth (PN) is 100 samples. With a *mean* or average value of IDR 3,735,694,554,340. The maximum value is IDR 26,029,867,000,000. The minimum value is IDR 9,263,000,000. With a standard deviation of Rp. 5,776,619,427,025, which means that the maximum increase in the average net premium growth variable is + Rp. 5,776,619,427,025, while the maximum decrease of the average net premium growth variable is - Rp. 5,776,619,427,025 .
4. The independent variable profitability (ROA) is 100 samples. With a mean or average value of 0.002313. The maximum value is 0.120888. The minimum value is -0.194406. With a standard deviation of 0.048652, which means that the maximum increase in the average profitability variable is + 4.8652%, while the maximum decrease of the average capital structure variable is - 4.8652%.

Panel Data Regression Model Experiments

The model used in this research is panel data regression, to test the model specifications and the suitability of theories to reality. In this section, we will select which panel data regression model is the best. Is it *common effect*, *fixed effect* or *random effect*. Data processing to choose which model is most appropriate, the research was conducted electronically using Microsoft Excel 2010 and Eviews 10.0 software. The choice of this model is based on three tests, namely:

1. Model Selection Common Effect or Fixed Effect (Chow Test)

To determine the model *FixedEffet* or *Common Effect* most appropriately used in estimating panel data, then the Test Chow*(Chowtest).*The stipulation is that if the probability ≥ 0.05 then H0 is accepted, it means that the common effect model (*pool least square*) will be used. But if the probability value <0.05, then Ha is accepted, it means using aapproach *fixed effect*. The results of the Chow test in this study is:

Table 4.2 Chow Test

Redundant Fixed Effects Tests			
Pool: POOL01			
Test cross-section fixed effects			

Effects Test	Statistic	d.f.	Prob.
Cross-section F	10.261000	(25,71)	0.0000
Cross-section Chi-square	152.888448	25	0.0000

Source: Processed data, 2020

In the table above, it shows that the probability value of cross section F is 0.0000. Based on the table of Chow test results above, it can be seen that the cross-section Chi-square value < significance value (0.0000 <0.05), then H0 is rejected and Ha is accepted. So it can be concluded that the model chosen is the model *Fixed Effect*. This means *fixed effect* model that the correct is used compared to the common effect to estimate panel data.

2. Selection of themodel *Random Effect* or *Fixed Effect* (Hausman test)

After the chow test is carried out and the results show that themodel *fixed effect* is used, the panel data model must be compared again between the *fixed effect* and the *random effect* using the Hausman test. The Hausman test is used to determine whether a *fixed effect* model or amodel *random effect* is most appropriate. The Hausman test is a statistical test to choose whether a fixed effect or random effect model is most appropriate. If the Hausman statistical value is greater than the critical value of Chi-Square, it means that the correct model for panel data regression is the fixed effect model. The hypothesis formed in the Hausman *test* is as follows:

Ho : *Random Effect Model*

Ha : *Fixed Effect Model*

Table 4.3. Hausman Test

Correlated Random Effects - Hausman Test			
Pool: POOL01			
Test cross-section random effects			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.

Cross-section random	8.500204	3	0.0367

Source: Processed data, 2020

Based on the table above, it can be seen that the probability value of Cross-section random <significance value (0.0367 <0.05), then H0 is accepted. and Ha was rejected. So it can be concluded that the model chosen is the *Fixed Effect Model*.

Based on the reasons mentioned above, the most appropriate model to use in this study is themodel *fixed effect*. Following are the results of the panel data regression test using themethod *fixed effect*:

Table 4.4. Fixed Effect Model

Dependent Variable: RBC?

Method: Pooled Least Squares

Date: 06/27/20 Time: 23:11

Sample: 1 4

Included observations: 4

Cross-sections included: 25

Total pool (unbalanced) observations: 100

Variable	*Coefficient*	*Std. Error*	*t-Statistic*	*Prob.*
C	2.203826	0.172782	12.75492	0.0000
DAR?	-1.297170	0.263557	-4.921773	0.0000
PN?	600.54 Triliun	273 Triliun	2.399235	0.0191
ROA?	3.978755	1.562367	2.546620	0.0130
Fixed Effects (Cross)				
AIA--C	-0.406581			
ALLI--C	-0.551344			
AXA--C	0.441199			
BCAL--C	0.955824			
BNIL--C	1.031590			
BNILIFE--C	0.409696			
CAPI--C	-0.674071			

CAR--C	-0.912819		
CHUB--C	0.984312		
CIGN--C	0.480974		
COMM--C	0.654780		
EQUI--C	-0.320676		
FWD--C	0.248565		
GENE--C	-0.204673		
GREA--C	0.558271		
HANW--C	1.785121		
HEKS--C	-1.117488		
IDOL--C	-1.157624		
INDS--C	0.428015		
MNC--C	-0.392298		
PANI--C	0.631013		
PRUD--C	-0.937561		
RELI--C	-0.921906		
SEQU--C	0.530646		
SIMA--C	-0.592921		

SUN--C	-0.073928		
	Effects Specification		
Cross-section fixed (dummy variables)			
R-squared	0.856235	Mean dependent var	1.563525
Adjusted R-squared	0.799539	S.D. dependent var	0.901883
S.E. of regression	0.403799	Akaike info criterion	1.261712
Sum squared resid	11.57682	Schwarz criterion	2.017211
Log likelihood	-34.08559	Hannan-Quinn criter.	1.567476
F-statistic	15.10219	Durbin-Watson stat	1.737058
Prob(F-statistic)	0.000000		

Source: Processed data, 2020

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Based on the results of the fixed effect panel data regression, the intercept value for each Life Insurance company is as follows:

Table 4.5 The Intercept Value of each Life Insurance Company

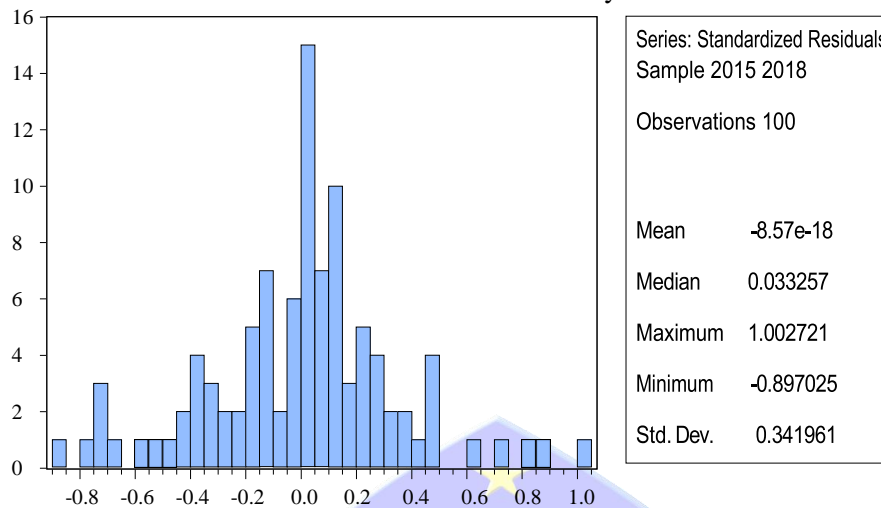| No	Companies	Coefficient Fixed	C	Intercept Value
1	AIA--C	-0,40658	2,204	1,797
2	ALLI--C	-0,55134	2,204	1,653
3	AXA--C	0,441199	2,204	2,645
4	BCAL--C	0,955824	2,204	3,160
5	BNILIFE--C	0,409696	2,204	2,614
6	CAPI--C	-0,67407	2,204	1,530
7	CAR--C	-0,91282	2,204	1,291
8	CHUB--C	0,984312	2,204	3,188
9	CIGN--C	0,480974	2,204	2,685
10	COMM--C	0,65478	2,204	2,859
11	EQUI--C	-0,32068	2,204	1,883
12	FWD--C	0,248565	2,204	2,453
13	GENE--C	-0,20467	2,204	1,999
14	GREA--C	0,558271	2,204	2,762
15	HANW--C	1,785121	2,204	3,989
16	HEKS--C	-1,11749	2,204	1,087
17	IDOL--C	-1,15762	2,204	1,046
18	INDS--C	0,428015	2,204	2,632
19	MNC--C	-0,3923	2,204	1,812
20	PANI--C	0,631013	2,204	2,835
21	PRUD--C	-0,93756	2,204	1,266
22	RELI--C	-0,92191	2,204	1,282
23	SEQU--C	0,530646	2,204	2,735
24	SIMA--C	-0,59292	2,204	1,611
25	SUN--C	-0,07393	2,204	2,130

Source: Processed data, 2020

Hypothesis Test
Classic Assumption Test

The classical assumption test used in panel data regression is multicollinearity and heteroscedasticity. The results of the classical assumption test in this study are as follows:

1. Normality Test

Table 4.6 Normality Test

Series: Standardized Residuals	
Sample 2015 2018	
Observations 100	
Mean	-8.57e-18
Median	0.033257
Maximum	1.002721
Minimum	-0.897025
Std. Dev.	0.341961

Source: Processed data, 2020

To find out whether the data is normally distributed or not, it is done by comparing the Jarque Bera probability value calculated with an alpha level of 5%. If the Jarque Bera probability value is greater than 0.05, it can be concluded that the residuals are normally distributed and vice versa. The normality test table above shows that the Jarque Bera probability value of 0.250 is greater than 0.05, meaning that the data in this study are normally distributed.

2. Autocorrelation

Table 4.7 AutocorrelationTest

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	1.352899	Prob. F(2,93)	0.2635
Obs*R-squared	2.798931	Prob. Chi-Square(2)	0.2467

Source: Processed data, 2020

Based on the table above, it can be seen that the Prob. Chi-Square Obs * R-square is 0.2467 <0.05, it can be concluded that in the model there is no autocorrelation symptom.

3. Multicollinearity Test

Table 4.8 Multicollinearity Test

Variance Inflation Factors			
Date: 06/27/20 Time: 23:18			
Sample: 1 100			
Bab IVIncluded observations: 100			
Variable	Coefficient Variance	Uncentered VIF	Centered VIF
DA R	0.090168	8.831117	1.136094

PN	22.7 Oktiliun	1.915874	1.346897
ROA	3.267459	1.379532	1.376391
C	0.047408	8.522032	NA

Source: Processed data, 2020

Based on the table above, it can be seen that the VIF value of the independent variables (DAR, PN, and ROA) <10, it can be concluded that in the model there are no symptoms of multicollinearity.

4. Heteroscedasticity Test

Table 4.9 Heteroscedasticity Test

Heteroskedasticity Test: White			
F-statistic	0.242569	Prob. F(3,95)	0.8664
Obs*R-squared	0.752584	Prob. Chi-Square(3)	0.8608
Scaled explained SS	3.853016	Prob. Chi-Square(3)	0.2778

Source: Processed data, 2020

Based on the table above, it can be seen that the Prob. Chi-Square Obs * R-square is 0.8608> 0.05, so it can be concluded that in the model there is no heteroscedasticity symptom.

T-Statistics

The t test is used to determine how much influence the capital structure, net premium growth and profitability partially have on the solvency of life insurance companies in Indonesia. If t count> t table, then reject H0 and it can be concluded that the independent variable has a significant effect on the dependent variable. If t count <t table then accept H0, meaning that there is no significant effect of the independent variable on the dependent variable. T table is obtained from the calculation of df = n - k and α / 2. Or if the probability value <0.05, the result is significant, meaning that there is an effect of the independent variable on the dependent variable. The results of the statistical t test in this study are as follows:

Table 4.10 T Test

Dependent Variable: RBC?
Method: Pooled Least Squares
Date: 06/27/20 Time: 23:11
Sample: 1 4
Included observations: 4
Cross-sections included: 25
Total pool (unbalanced) observations: 100

Given that the sig value is 0.05:

1. Based on table 4.10, the results show that partially, the capital structure (DAR) has a significant effect on solvency, this can be seen from the t-statistic value of 0.000. Also in line with the probability value, which is below the 5% error rate (0.000 <0.05), 95% confidence. Then, the size of the acquisition of capital structure (DAR) can lead to fluctuations in solvency in life insurance companies in Indonesia.

2. Based on table 4.10, the results show that partially, the growth in net premium (PN) has a significant effect on solvency, this can be seen from the t-statistic value of 0.019. Also in line with the probability value, which is below the 5% error rate (0.019 <0.05), 95% confidence. Then, the size of the gain in net premium growth (PN) can lead to fluctuations in solvency in life insurance companies in Indonesia.

3. Based on table 4:10, the results show that partially, profitability (ROA) has a significant effect on solvency, this can be seen from the t-statistic value of 0.013. Also in line with the probability

value, which is below the 5% error rate (0.013 <0.05), 95% confidence. Then, the size of the acquisition of profitability (ROA) can lead to fluctuations in solvency in life insurance companies in Indonesia.

F-Statistic

The F-statistic test is used to determine how much influence the capital structure (DAR), net premium growth (PN) and profitability (ROA) have on solvency (RBC) in life insurance companies in Indonesia during the 2015-2018 period simultaneously or together.

Tabel 4.11 F *Test*

	Effects Specification		
Cross-section fixed (dummy variables)			
R-squared	0.856235	Mean dependent var	1.563525
Adjusted R-squared	0.799539	S.D. dependent var	0.901883
S.E. of regression	0.403799	Akaike info criterion	1.261712
Sum squared resid	11.57682	Schwarz criterion	2.017211
Log likelihood	-34.08559	Hannan-Quinn criter.	1.567476
F-statistic	15.10219	Durbin-Watson stat	1.737058
Prob(F-statistic)	0.000000		

Source: Processed data, 2020

Based on the table above that simultaneously, capital structure (DAR), growth in net premiums (PN) and profitability (ROA) have a significant effect on solvency (RBC) in life insurance companies in Indonesia, this can be seen from the probability value of 0.000. , meaning that the probability value is below the error rate of 5% (0.000 <0.05), 95% confidence, this means that the size of the acquisition of capital structure (DAR), growth in net premiums (PN) and profitability (ROA) can affect the ups and downs of earnings. solvency (RBC) in life insurance companies in Indonesia.

Coefficients of Determination

The results of the coefficient of determination test in this study are shown in Table 4.12 below:

Table 4.12 Coefficients of Determination

	Effects Specification		
Cross-section fixed (dummy variables)			
R-squared	0.856235	Mean dependent var	1.563525

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Adjusted R-squared	0.799539	S.D. dependent var	0.901883
S.E. of regression	0.403799	Akaike info criterion	1.261712
Sum squared resid	11.57682	Schwarz criterion	2.017211
Log likelihood	-34.08559	Hannan-Quinn criter.	1.567476
F-statistic	15.10219	Durbin-Watson stat	1.737058
Prob(F-statistic)	0.000000		

Source: Processed data, 2020

In table 4.12 above the R Square number is 0.856235 while the Adjust R Square value is 0.799539. The value of R Square is ranging from 0 to 1. The result of R Square which is close to 0 means that the independent variable has very weak power in explaining the dependent variable, while the result of R Square which is close to 1 means that the independent variable can be said to be strong in explaining the dependent variable. According to Nugroho, of the two results it is better to use Adjust R Square, because Adjust R Square is an R Square that has been adjusted to the number of independent variables used. The Adjust R Square value of 0.799539 shows that the dependent variable on solvency can be explained by the independent variables consisting of capital structure, net premium growth and profitability of 79.95%. While the remaining 20.05% is influenced by other factors outside the regression model. From the value of 79.95%, it can be said that the three capital structure variables have a great influence on the solvency of life insurance companies during the observation period. The figure of 20.05% indicates that other factors that are not in this study are able to influence solvency fluctuations. These factors include factors that are not in this research, fundamental factors such as BVS, EPS, PBV, dividend payout, asset growth, liquidity and others.

Discussions

1. The results of the calculation show that the capital structure (DAR) has a significant positive effect on solvency, it can be seen from the t-statistic value of 0.000. Also in line with the probability value, which is below the 5% error rate $(0.000 < 0.05)$ 95% confidence. Thus, the size of the acquisition of capital structure (DAR) can lead to fluctuations in solvency in life insurance companies in Indonesia. Thus, the capital structure is able to affect solvency due to an increase in the proportion of long-term debt in the company's capital structure which will result in the proportion of long-term debt in the company's capital structure which will result in the large amount of principal and interest on debt that must be paid by the company. This results in a greater risk of non-payment of debt and interest on the due date, resulting in a decrease in the solvency value of the company. This is in line with research conducted by Nasrullahi M Tanjung (2015) that the use of capital structure in relation to solvency shows that a decrease in capital structure will increase the solvency ratio if an increase in own capital is accompanied by a decrease in the use of long-term debt and an increase in the use of larger long-term debt. compared to an increase in the use of own capital can increase the solvency ratio in a low increase.

2. Based on the results of the calculation, the results show that partially, the growth in net premiums (PN) has a significant positive effect on solvency, this can be seen from the t-statistic value of 0.019. Also in line with the probability value, which is below the 5% error rate $(0.019 < 0.05)$, 95% confidence. Thus, the size of the acquisition of net premium growth (PN) can lead to fluctuations in solvency in life insurance companies in Indonesia, which means that the size of a company's premium income obtained can affect the percentage level of risk based capital (solvency) in insurance companies. Increasing premium income in directing the company both

internally and externally with the aim of protecting the interests of all stakeholders (Serajul, 2018). This is in line with the research of Kirmizi and Bashir Ahmad Joo (2012) in their research that solvency also states that the net premium has a significant impact on solvency. For life insurance companies premium is the blood of the company which is very important to move the company's business.

3. Based on the results of the calculation, the results show that partially, profitability (ROA) has a significant positive effect on solvency, this can be seen from the t-statistic value of 0.013. Also in line with the probability value, which is below the 5% error rate (0.013 <0.05), 95% confidence. Thus, the size of the acquisition of profitability (ROA) can lead to fluctuations in solvency in life insurance companies in Indonesia. Which means that profitability will improve the health of the insurance company and vice versa, the health level of the insurance company with the Risk Based Capital method will have an impact on financial reports, namely increasing the insurance company's profit. In other words, the greater the solvency ratio, the greater the costs the company must bear to fulfill its obligations. This can reduce the profitability of the company. So the higher the solvency of the company, the lower the company's ability to generate profits. This is in line with previous research conducted by Nur Aniseh (2018) that profitability contributes to the high solvency of life insurance companies.

V. CONCLUSIONS AND SUGGESTIONS

Conclusions

Based on the research results that have been discussed in the previous chapter, the researchers gave the following conclusions:

1. The capital structure is proven to have a significant effect on solvency, which means that the size of the acquisition of capital structure (DAR) can lead to fluctuations in solvency in life insurance companies in Indonesia.

2. Net premium growth is proven to have a significant effect on solvency, which means that the size of the gain in net premium growth can lead to fluctuations in solvency in life insurance companies in Indonesia.

3. Profitability is proven to have a significant effect on solvency, which means that the size of the profitability can lead to fluctuations in solvency in life insurance companies in Indonesia.

Suggestions

The suggestions in this study are as follows:

1. Advice for Investors
   a. Investors are advised not only to pay attention to the factors that affect solvency, especially related to capital structure, net premium growth and profitability, because in making investment decisions because companies with high solvency ratios will minimize risk compared to very low levels of solvency ratios.
   b. And the results of this study are expected to provide an overview for investors, to determine the company's financial condition related to the level of solvency ratios and what factors can influence it. So that investors are advised to know the company's financial condition and be able to make the right decisions, before investing in a company.

2. Suggestions for Companies
   The results of this study are expected to provide information to the company, to determine what factors can affect solvency. So it is advisable for companies to be able to make the right decisions in using their assets, so that the company is able to fulfill its obligations, namely in managing their assets as well as paying for any company debts.

3. Suggestions for the next researcher

    If doing research in a similar company, in this case an insurance company, is advised to use other variables such as the ability to pay claims, activity ratio, underwriting risk and reinsurance.

Limitations of the Research

    The limitations of this research, of course, have several limitations, namely:

1. Researchers only use 3 (three) independent variables, namely capital structure, net premium growth and profitability.
2. The sample period is only 4 (four) years, namely 2015-2018
3. The year 2019 was not used as a research sample because there were still many insurance companies that had not been published (at the time the authors were collecting data).

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