

# **RANDOM EFFECT MODEL: INFLUENCE OF INCOME PREMIUM, CLAIM COST AND UNDERWRITING RESULTS ON NET INCOME IN INSURANCE COMPANY IN INDONESIA: CASE STUDY OF INSURANCE COMPANY LISTED ON INDONESIA STOCK EXCHANGE**

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**Abstract:** *The purpose of this research is to find out and analyze the factors that affect net income of insurance companies in Indonesia period 2008- 2017. Net Income is the dependent variable of this research. There are 3 (three) independent variables used are premium income, claim expense, and underwriting income. This research was included in the quantitative research, the data used are secondary data in the form of financial statement period 2008 - 2017 obtained from the official website of each from eleven insurance companies which are the object of this research. The results of this research are premium income has no significant effect, while expense claims and underwriting income have a significant effect on net income.*

**Keywords:** *Net Income, Premium Income, Claim Expense, And Underwriting Income.*

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## **Introduction**

In line with the increasingly modern era, which is also followed by the development of the number of economic actors and the development of the number and variety of goods and service's needs, the transaction activity in the economy requires an intermediary in its activities. Benefits of intermediaries here as a liaison between parties who have a surplus or excess funds, goods and services with parties lacking funds, goods and services. One of these intermediaries can be known as financial institutions. Financial institutions are essentially institutions that connect between parties who need funds and parties who have a surplus of funds. Based on these activities, financial institutions have two main activities, namely the collection of funds from the surplus unit and the channeling of funds to the deficit unit. (Triandaru and Budisantoso: 2006).

Insurance companies are nonbank financial institutions that have a role that is not much different from the bank, which is engaged in services provided to the community in addressing the risks that will occur in the future. One way to protect something against the risk of loss, damage or loss of expected profit arising from an uncertain event is to insure the risk to the insurer. The purpose of insurance is to protect individuals or groups from loss of income that will be used such as educational needs, the need for recovery, the need for long life, health and others. Various insurance companies compete to offer insurance programs for both community and companies.

This type of insurance business is divided into two categories namely non-life insurance and life insurance. Non-life insurance includes some protections such as fire risk protection, protection against transport risk, motor vehicle protection, protection of ship frames and varia. Life insurance provides some protection needed to reduce the economic problems that will be faced if there is one family member at risk of disability or death.

The development of insurance in Indonesia has progressed very rapidly after the government issued deregulation in the era of the 1980s. Resolved by the issuance of Law of the Republic of Indonesia Number 2 of 1992 concerning Insurance Business which was then updated with the Law of the Republic of Indonesia Number 40 Year 2014 on the Insurance. The regulation is a government effort to support the existence of insurance companies in Indonesia. In addition, the development of the insurance industry is also inseparable from the hard work of insurance business actors in developing the insurance industry as well as the role of the Financial Services Authority as regulator and supervisor in issuing policies to support the development of a healthy insurance industry and able to protect the interests of policyholders. It is expected that with the development of insurance companies in Indonesia, will also increase the national premium, it will also develop the economic growth of Indonesia every year.

Profit is the goal or the main target of the company in carrying out its business activities. Achieving the target profit is one measure of the success of the company in carrying out its activities and simultaneously measure the performance of management parties in the future. Achieving the target profit is one measure of the success of the company in carrying out its activities and simultaneously measure the performance of management parties in the future. Profit is also the element that most attracts the attention of financial observers because the profit figure is expected to be enough to represent the overall performance of the company. Measurement of profit is not only important for determining company performance but also important as information for profit sharing and investment policy determination. Therefore, profit becomes information seen by many professionals such as accounting profession, businessman, financial analyst, shareholder, economist, physicist, etc. (Hawarin: 2013)

Earnings can be classified into several types: gross profit, operating profit, profit before tax, and net profit after tax. In insurance companies, the main activity of the business is risk management, so the so-called gross profit is the result of underwriting. Operating profit is the difference from underwriting results with operating expenses and investment returns, while the net income of an insurance company is the difference between operating profit and other net income and tax expense.

Profit is influenced by many factors. According Marlina & Syarif (2013) premium income affects earnings, where every increase in premium income will result in an increase in profits earned. According to Riany (2014) the factors that affect earnings are solvency, investment and

premium. While claims and underwriting have no effect on the increase in profit. Fikri (2009) says that the most important tool most effective in increasing the profit of syariah life insurance companies is derived from underwriting and investment returns, while premiums and claims have no effect on the increase in corporate profits. Winarso (2014) said that the cost of customer claims significantly affects PT Prudential Life Assurance's corporate earnings.

Premium income received by the company is not only a profit or profit company but partly also a corporate liability in the future that is at the time of the claim. Therefore, the insurance company's premium income is called, as the underwriting income.

Claims expense is the expenses incurred by the insurer as the responsibility for the protection benefits provided to the insured in accordance with the risks that have been previously insured.

This study is expected to provide benefits for the company, as a matter of consideration to increase net income by looking at and assessing how much premium income, claims expense, and underwriting results can affect the increase in net profit annually. For investors, as a tool to assess the good and bad performance of the company in generating net profit. With this research, it is easier for investors to make investment decisions for the future. For prospective customers, after seeing how the scheme of the insurance process and performance of insurance companies that exist in Indonesia each year and how the government regulations provide protection and attention to insurance companies. The results of this study are expected to be useful as a consideration for planning and decision-making for how much risk will be transferred to the insurance company

## **Literature Review, Conceptual Framework and Hypotheses**

### ***Grand Theory***

Net income is one of the benchmarks in assessing company performance, therefore the basic theories used are performance-related theories, namely agency theory and signaling theory.

#### ***Agency Theory***

Agency theory explains that there are two parties that interact with each other, namely the company owner and company management. The owner of the company is referred to as the principal, while the management is referred to as an agent, namely the party given the authority by the owner to run the company. Both parties are susceptible to agency conflict, because each party has conflicting interests that are trying to achieve their own prosperity (Jensen and Meckling, 1976). To minimize the conflict, both parties make a work agreement to achieve the expected benefits. Lambert (2001) states that the agreement is expected to maximize the utility of the owner (principal) and can satisfy and guarantee management (agent) to receive rewards. Company performance, one of which is measured by the amount of net income, is informed by the management (agent) to the owner (principal).

#### ***Signaling theory***

Signaling theory was introduced by Akerlof (1970), that information has value, and in a transaction the parties involved have different levels of information. (Rura Yohanis, 2010). Signaling theory was originally developed in biology, which refers to a body that theoretically works to test communication between individual individuals (Wikipedia 2018). Signaling theory is useful for describing behavior when two parties

have access to information. Typically, one party, the sender must choose whether and how to communicate (or signal) that information, and the other party, the receiver must choose how to interpret the signal (Connelly et.al, 2011). In the context of the performance of the signal theory explains how the signal should be the signal of success or failure of management (agent) delivered to the owner (principal). Submission of this signal is done to reduce asymmetric information.

### ***Insurance***

Insurance is a mechanism of protection or risk protection from loss risk by transferring risk to other party. According to the Law of the Republic of Indonesia Number 40 of 2014, Insurance or coverage is an agreement between two or more parties where the insurer binds itself to the insured by accepting the insurance premium to provide reimbursement to the insured due to loss, damage or loss of expected profit or legal liability to a third party who may be subject to the insured arising from an uncertain event or to provide a payment based on the death or life of an insured person. Whereas according to the Book of Trade Law of the Republic of Indonesia article 246, Insurance or coverage is an agreement, whereby an insurer binds himself to an insured person, accepting a premium to provide replacement to him because of a loss, damage or loss of expected profit, which may occur due to an unspecified event.

The parties related to insurance are: (1) Insured, (2) Insurers, (3) Unpredictable events in the future, (4) Interests of parties that will suffer future losses ie Insurance Brokers, Reinsurance Companies, Reinsurance Brokers and Reinsurance Accountants. The types of insurance are divided into: (1) Insurance Losses, consisting of Ship Insurance, Ships Insurance, Fire Insurance, Motor Insurance, and Varia Insurance; (2) Life Insurance that aims to bear people against unexpected financial losses caused by dying too fast or living too long. (Wondabio: 2006).

### ***Net Income***

The Committee on Terminology defines earnings as amounts derived from a reduction in cost of goods sold, other costs, and losses from income or operating income (Harahap, 2004). According to International Accounting Standard (IAS) 1, profit and loss is total income less expenses, excluding other comprehensive components.

Winarso (2014) says that net income is the difference between the realization of income derived from a company's transactions in a certain period less the cost incurred to earn that income. Net income in insurance companies is derived from underwriting deducted by operating expenses in order to obtain profit (loss) of business. If the insurance company has an investment return, then the underwriting result is coupled with the investment return. Insurance companies also have other income. Other income should be added to the profit (loss) of the business in order to generate profit (loss) before income tax. After that the insurance company can calculate the company's tax burden and then the tax burden as a deduction so as to obtain a net profit.

### ***Premium Income***

The meaning of the premium is the payment of the insured to the bear, in return for services on the transfer of risk to the insurer. The remuneration comprises the remuneration of a security guarantee provided by the insurer to be affirmed to calculate the losses that may be incurred, and the benefit of the service for the protection benefits

provided by the insurer by the insured by providing a sum of money against the risk. Insurance premium income is obtained through the sale of insurance products to insurance participants. Premium income is the amount of official premium income from the sale of insurance policies measured in a period of one year. This income is the biggest factor that affects the earnings of insurance companies. Therefore, the determination of the premium has a role important in corporate strategy.

Premium Income Elements comprise of gross premiums, reinsurance premiums and premiums that are not yet income. In accordance with PSAK No. 28 (Revised 2012) on Accounting for Indemnity Insurance Contracts, the gross premium is the premium earned from direct and indirect closing. Gross premium is the proceeds from the sale of an insurance policy that aims to accept the risk of the insured that may occur during the coverage period. Reinsurance premium is a transaction between an insurance company and a reinsurance company. Reinsurance premium is divided into 2 (two), ie reinsurance premium paid and reinsurance premium accepted. Reinsurance premiums paid are insurance companies as insurance direct insurance companies usually have to transfer some of the risk received to other companies acting as reinsurers. While reinsurance premium is accepted is reinsurance premium income received by insurance company based on reinsurance agreement from reasuradur at the time of insured party claim to insurance company as underwriter.

Premium income is recognized during the coverage period. Normally the coverage period is not the same as the accounting period. Therefore, it is necessary to adjust the adjustment by forming a premium that is not yet an income. In Indonesia, the calculation of the premium that is not yet an income for the policy whose coverage period of less than 1 year is determined by the government with Decree of Minister of Finance No. 424 / KMK.06 / 2003 which stipulates the amount of premium not yet representing 10% of net premium for policy with coverage period not more than 1 month and 40% of net premium for policy with coverage period more than 1 month. As for the insurance policy that the period of more than one year, then the premium that is not a revenue is an income that is calculated individually.

### ***Claim Expense***

Insurance claims are an official submission from an insurer to an insurance company to seek protection benefits under the terms of the agreement. According to Statement of Financial Accounting Standards (PSAK) No. 28 of Accounting for Insurance Contract of Losses (Revised 2012), claims expense is compensation paid or liabilities to the insured or insurance company in the event of loss, consisting of gross claims, reinsurance claim and Claim estimates. Gross claims are claims whose amount has been agreed upon in the initial agreement between the insurer and the insured including the cost of settlement of the claim. To book a claim transaction using the basic accrual concept. Claims are recorded upon approval and a fixed amount of compensation is determined, based on the claim settlement report or the related claim note. Reinsurance claims are part of the gross claims that depend on the reinsurer. Reinsurance claims consist of two types, namely claims of reinsurance and reinsurance claim. The claim of reinsurance claims is the amount of claims payable to be paid by the reinsurer on the claims incurred, in accordance with the reinsurance agreement. Whereas the reinsurance claim is the amount of claim charged by the reinsurer as a result of the receipt of the reinsurance premium. Estimated retention claims are the number of

claims that are the insurer's liability in the current fiscal year but not yet completed until the close of the current financial year.

### ***Underwriting Results***

According Fikri (2009), underwriting is the process of rating and classification of the level of risk owned by a prospective insured or a group of people in the coverage of certain insurance products and decision-making process to take and reject the risk. Wise underwriting decisions are crucial to ensuring that an insurance company retains a healthy financial ability and is capable of fulfilling its responsibility to pay benefits against legitimate claims. Underwriting result is the difference between underwriting income and underwriting burden. The high underwriting results generally indicate the good underwriting process that has been done. While the decline in underwriting results show the worsening performance of underwriting.

### ***Premium Income to Net Income***

Premium income comes from premium payments made by insurance participants. The higher the premium received by the company, the more funds that can be invested, so that can be obtained the greater investment yield. The greater the return on investment the greater the profit that can be achieved by the company.

Marlina & Syarif (2013), concluded that the premium income has a significant and significant positive effect on the earnings of AJB Bumiputera Branch of Bandung Setiabudhi. Dipoyanti (2014) concluded that premium income has a positive and significant impact on syariah life insurance earnings in Indonesia. Riany (2014) concluded that the premium income partially have a significant positive effect to the profit, so that the increase of premium income will be followed by the increase of profit obtained by sharia general insurance company. Fikri (2009) concludes that premium and claim variables provide negative values in regression equations because they do not provide a positive contribution to earnings. The higher the premium value, the higher the claim value will be higher. This happens because the premium created by the company contains elements of risk that trigger the occurrence of claims. Ida Ayu et al (2017) concluded that premium income has a significant positive effect on insurance profits, this is in line with the results of research from Sofyan and Ambar (2017), Hadi Zainul (2018), Salsabila (2017), Husnul (2014), Carina et al (2017), Elsha Dwi (2015).

Based on the description above, it can be obtained the following hypothesis:

H1: Premium income affects the net income of Insurance Company in Indonesia 2008-2017.

### ***Claims Expense on Net Income***

A claim is an insurance participant's right that must be provided by an insurance company based on an agreement. For insurance companies the claim is an obligation that must be issued as responsibility for the protection provided to the insured in accordance with the agreement. Winarso (2014), Putri (2017), Carina et al (2017), Salsabila (2017), sofyan and Ambar (2017), Fanny (2016) concludes that there is a very close relationship between claim costs and net income. Husnul (2014), Mutmainah (2015) concludes that claim burden does not have a negative and significant effect on earnings, because the claim expense variable in the study has a low value compared to income so that large income can cover the low claim burden on sharia life insurance in

This research in the year of observation Fikri (2009) concluded that the premium and claim variables give a negative value in the regression equation because the variable does not give a positive contribution to the profit, the greater the premium value, the greater the claim value will be. premiums made by the company contain elements of risk that trigger the claim. Riany (2014) concludes that the claim is correct Partial ra has no effect on profit, so that the decrease or increase in claims does not affect the profit growth of Islamic general insurance companies.

Based on what has been described above, it can be obtained the following hypothesis:  
H2: Claims expense affect the net income of Insurance Company in Indonesia Year 2008-2017.

### ***Underwriting Result on Net Income***

Underwriting results are the difference from underwriting income with underwriting expenses. Underwriting results measure the level of profit from a pure insurance business. Fikri (2009) states that the most important tool that is most effective in increasing the profit of sharia life insurance companies is obtained from the results of underwriting and investment returns. Dipoyanti's (2014) research results show that underwriting does not have a positive and significant effect on earnings. Ryan (2014), Husnul (2014) concluded that the underwriting results partially have no effect on profit, so that a decrease or increase in underwriting is considered not to affect the profit growth of general insurance companies. sharia. Mutmainah (2015), Salsabila (2017), Ida Ayu (2017) concludes that there is a significant influence between underwriting results and profit.

Based on the description above, it can be obtained the following hypothesis:  
H3: Underwriting results have an effect on net income of Insurance Company in Indonesia Year 2008-2017.

## **Research Methodology**

This research is a quantitative research that is based on the financial statements of Indonesian insurance companies in 2008-2017. This research is also an explanatory research that will prove the relationship or influence of dependent variable with independent variable. The dependent variable in this research is net income (Y). While the free variable is the premium income (X1), claims expense (X2) and underwriting result (X3). Hypothesis testing method is a partial test and simultaneous test. Determination Coefficient Test (R<sup>2</sup>) to know the closeness of the relationship between variables. Partial test to see whether each independent variable has an effect on the dependent variable or to know the level of significance of the free variable. While the simultaneous test to estimate the overall equation.

## **Variable Operationalization**

### ***Premium income***

The measurement of premium income is based on net premium income. Net premium income = gross premium + reinsurance premium + premium not yet income.

### ***Claim charges***

Measurement of claims expense is based on calculation of net claims expense.

Net claims expense = gross claims + reinsurance claims + estimated own retention claims.

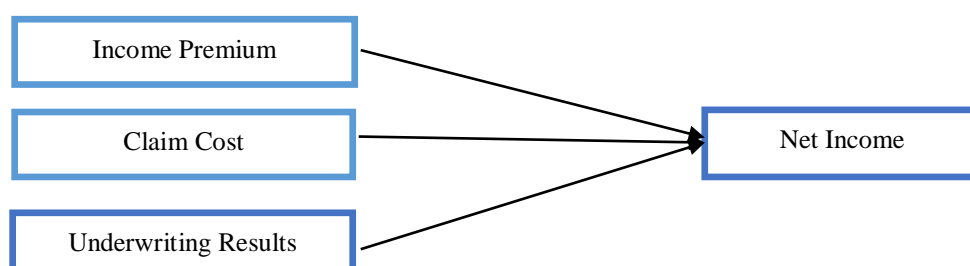
### ***Underwriting results***

The measurement of underwriting result is based on the difference between underwriting income which consists of net premium income and underwriting expense which consist of net claims expense and net commission charge.

Underwriting result = underwriting income - underwriting burden

### **Research model**

The research model can be described in the following chart form:



**Figure 1. The research models**

The research model in figure 1 shows how influence of income premium, claim cost and underwriting results on net income in insurance company.

### **Population and Sample**

#### ***Population***

Population in this research is all insurance company that exist in Indonesia year 2008-2017.

#### ***Sample***

Sampling method in this research is purposive sampling. Sample selection criteria are insurance companies listed on the Indonesia Stock Exchange year 2008-2017, financial statements are published in rupiah currency and financials book year book is as of December 31st. Based on the criteria that have been set, then the insurance companies that meet the criteria amounted to 11 companies ie (1)PT Paninvest Tbk;(2)PT Panin Financial Tbk;(3)PT Asuransi Bina Dana Arta Tbk;(4)PT Asuransi Multi Artha Guna Tbk;(5)PT Maskapai Reasuransi Indonesia Tbk;(6)PT Lippo General Insurance Tbk;(7)PT Asuransi Ramayana Tbk;(8)PT Asuransi Dayin Mitra Tbk;(9)PT Asuransi Bintang Tbk;(10)PT Asuransi Jasa Tania Tbk;(11)PT Asuransi Harta Aman Pratama Tbk

### **Data Analysis**

Data analysis using panel data regression model. There are three approaches to estimate the exact equation model in panel data regression, ie, common effect, fixed effect and random effect.



### ***Selection of Panel Data Regression Method***

To find out the exact method of the three regression models above, it takes some tests to determine the panel data regression estimation technique. According to Ghozali & Ratmono (2016) tests to be performed to obtain the right model consist of Chow Test, Lagrange Multiplier Test and Hausman Test.

#### ***Chow Test***

The chow test is used to choose between the Common Effect model and the Fixed Effect model. Based on the value of probability, If the probability value (p-value) <math>\alpha (0.05)</math> then the model used research using Fixed Effect. If the probability value (p-value) >  $\alpha (0.05)$  then the model to be used in research is the Common Effect.

#### ***Hausman Test***

The hausman test is to determine the most appropriate model between the Fixed Effect approach and the Random Effect approach. Based on Probability Value, If the probability value (p-value) <math>\alpha (0.05)</math> then the model used is Fixed Effect. If the value of probability (p-value) >  $\alpha (0,05)$  then model to be used in research is Random Effect.

#### ***Lagrange Multiplier Test***

Lagrange Multiplier (LM) is a test to determine whether the most appropriate model of Random Effect or Common Effect (OLS) model is used. If the LM value of statistics is greater than the critical value of chi-squares statistics, then the precise estimation for the panel data regression model is the Random Effect method rather than the Common Effect method. Conversely, if the LM value of statistics is less than the statistical value of chi-squares as a critical value, then the estimation used in panel data regression is the Common Effect method instead of the Random Effect method.

### ***Classic assumption test***

#### ***Multicollinearity Test***

According Ghozali (2016), multicollinearity test aims to test whether in a regression model found the relationship (correlation) between independent variables. Multicollinearity can be seen from the correlation between each independent variable. If there is a relatively high correlation between independent variables (above 0.90), it indicates that the presence of multicollinearity. Multicollinearity test can be seen from the tolerance and Variance Inflation Factor (VIF).

### ***Descriptive statistics***

Descriptive statistics are used to provide information about the characteristics of key variables and demographics if they exist. Descriptive analysis is used to determine the level of premium income, claims expense, underwriting results and net income of insurance companies listed on the Indonesia Stock Exchange. Measurements used are the minimum, maximum, middle, mean and standard deviation.

### ***Determination Coefficient Test***

The coefficient of determination ( $R^2$ ) is a compound correlation coefficient which measures the level of relationship between the dependent variable Y and the all-free variable explaining

together and its value is always positive. R<sup>2</sup> explains the proportion of variation in the dependent variable (Y) that is explained by the independent variable (X). Determination coefficient test (R<sup>2</sup>) is used to determine the closeness of the relationship between independent variables with the dependent variable. The value of R<sup>2</sup> has an interval between 0 and 1 ( $0 \leq R^2 \leq 1$ ). The larger R<sup>2</sup>, the better the result for the regression model. Conversely, the closer to 0, the independent variable as a whole cannot explain the dependent variable.

### ***F Test or Simultaneous Test***

According Sugiyono (2015) F-statistic test aims to suspect the overall equation. This test is conducted to determine whether the free variables together on the model is feasible to estimate the dependent variable. The hypothesis tested from the estimation of the equation is the independent variable has no significant effect on the dependent variable, this is called the null hypothesis. Test steps are (1) Formulate the hypothesis; (2) Establishment of significance; (3) Formulating the result of the hypothesis, if the probability value (p-value) < alpha (0.05) then the hypothesis is accepted but if the probability value (p-value) > alpha (0.05) then the hypothesis is rejected.

## **Results and Discussions**

### ***Instrument Test Results (Model Selection)***

Here are the results of the three-way instrument test to estimate the exact equation model in panel data regression that is, common effect, fixed effect and random effect.

**Table 1 Instrument Test Results (Model Selection)**

Variable	Common Effect		Fixed Effect		Random Effect	
	Coefficient	Prob	Coefficient	Prob	Coefficient	Prob
LOG_PP	0.096356	0.1005	0.056130	0.2475	0.050873	0.4099
LOG_BBK	0.188139	0.0000	0.045335	0.1245	0.113538	0.0083
LOG_HU	1.024574	0.0000	1.032034	0.0000	0.968219	0.0000
C	-2.062609	0.0013	-1.246193	0.0640	-0.809674	0.3264
R <sup>2</sup>	0.879848		0.974758		0.718750	
Adjusted R <sup>2</sup>	0.876279		0.971151		0.710396	
F-statistic	246.5332		270.3106		86.03689	

Source: Data is processed with eviews 8.0

**Testing Regression Model**

**Chow Test**

**Table 2 Chow Test Results**

Redundant Fixed Effects Tests			
Equation: CHOW			
Test cross-section fixed effects			
Effects Test	Statistic	d.f	Prob
Cross-section F	23.980086	(10,91)	0.0000

Source: Data is processed with eviews 8.0

From the table above, it is known that p-value (Prob.) Is 0.0000 (smaller than 0.05). This means that the selected model is Fixed Effect (FEM).

**Lagrange Multiplier (LM Test)**

**Table 3 Lagrange Multiplier (LM Test) Results**

Lagrange Multiplier Tests for Random Effects			
Null hypotheses: No effects			
Alternative hypotheses: Two-sided (Breusch-Pagan) and one-sided (all others) alternatives			
Test Hypothesis			
	Cross –section	Time	Both
Breuch-Pagan	93.71514 (0.000)	0.086831 (0.7682)	93.80197 (0.0000)

Source: Data is processed with eviews 8.0

Both of the probability of significance of Breusch-Pagan statistics is 0.0000 <0.05, then REM is selected and then continued to HAUSMAN test

**Hausman Test**

**Table 4 Hausman Test Results**

Redundant Fixed Effects Tests			
Equation: HAUSMAN			
Test cross-section fixed effects			
Test Summary	Chi-Sq Statistic	Chi-Sq.d.f	Prob
Cross-section Random	5.014851	3	0.1707

Source: Data is processed with eviews 8.0

From the table above, it is known that p-value (Prob.) Is 0.1707 > 0.05. This means that the Random Effect model is more appropriate to use.

**Table 5 Selection Result of Data Panel Regression Model**

Method	Testing	Results
Chow Test	Common Effect << Fixed Effect	Fixed Effect
Lagrange Multiplier	Common Effect << Random Effect	Random Effect
Hausman Test	Fixed Effect << Random Effect	Random Effect

**Classic assumption test\_ REM model****Normality test**

Not needed, because it uses panel data regression

**Multicollinearity Test****Table 6 Multicollinearity Test Results**

	LOG_BBK_	LOG_HU_	LOG_PP_
LOG_BBK_	1.000000	0.632265	-0.425988
LOG_HU_	0.632265	1.000000	0.059325
LOG_PP_	-0.425988	0.059325	1.000000

Source: Results if data evIEWS 8.0

The value of the inter-independent correlation coefficient is not > 0.80, so the assumption of multicollinearity is not fulfilled.

**Test of heteroscedasticity**

There is no need to do because the chosen REM

**Descriptive Statistics Results****Table 7 Descriptive Statistics (in million rupiah)**

	PP	BBK	HU	LB
Mean	814866.4	646549.7	257121.1	257872.3
Median	371102.3	187071.6	94379.61	44784.91
Maximum	4209352.	4148041.	1838904.	2395155.
Minimum	53421.96	8390.706	-995307.0	-41421.67
Std. Dev.	1048069.	1039253.	433873.0	495397.9
Skewness	1.979614	2.120790	1.678616	2.366250
Kurtosis	5.856579	6.261430	6.196312	7.674287
Jarque-Bera	109.2462	131.2113	98.48398	202.7919
Probability	0.000000	0.000000	0.000000	0.000000
Sum	89635305	71120472	28283325	28365958
Sum Sq. Dev.	1.20E+14	1.18E+14	2.05E+13	2.68E+13
Observations	110	110	110	110

Source: Data is processed with evIEWS 8.0

Based on the table above seen that PT Paninvest Tbk is a company that has the highest premium income value of Rp.4.209.352.000.000 ( 2017) while the smallest premium income is owned by PT Asuransi Harta Aman Pratama Tbk with a value 53.421.959.383 ( 20018). The

average premium income earned by insurance companies listed on the Indonesia Stock Exchange in 2008-2017 amounted to Rp 814.866.400.000.

The largest claim load is owned by PT Paninvest Tbk of Rp. 4.148.041.000.000 (2017) while the smallest claim load is owned by PT Asuransi Ramayana for Rp. 8.390.706.430 (2009). The average cost of claims obtained by insurance companies listed on the Indonesia Stock Exchange in 2011-2015 amounted to Rp 646.549.700.000.

The largest underwriting result was PT Paninvest Tbk ( 2016) amounting to Rp. 1.838.904.000.000 while the smallest underwriting expense is PT Paninvest Tbk Tbk Rp - 995.307.000.000.( 2008)

Average underwriting returns obtained by insurance companies listed on the Indonesia Stock Exchange in 2008-2017 amounted to Rp 257.121.100.000

The largest net profit is PT Paninvest Tbk amounting to Rp.2.395.155.000.000 (2016) while the smallest is PT Asuransi Harta Aman Pratama Tbk with net loss of Rp. 41.421.670.130 ( 2016). The average net income earned by insurance companies listed on the Indonesia Stock Exchange in 2008-2017 amounted to Rp 257.872.300.000.

**Hypothesis testing**

**Table 8 Regression Model Test Results**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOG_PP_	0.050873	0.061475	0.827537	0.4099
LOG_BBK_	-0.113538	0.042167	2.692567	0.0083
LOG_HU_	0.968219	0.076160	12.71291	0.0000
C	-0.809674	0.820993	-0.986212	0.3264

Source: Data is processed with eviews 8.0

From the table above, we get the panel data regression equation as follows:

$$\text{Net Profit (LB)} = -1,809674 + 0,050873\text{PP} - 0,113538\text{BBK} + 0,968219\text{HU}$$

**Determination Coefficient Test**

**Table9 Coefficient Determination Test Results**

Weighted Statistics			
R-squared	0.718750	Mean dependent var	2.878446
Adjusted R-squared	0.710396	S.D. dependent var	0.368775
S.E. of regression	0.178964	Sum squared resid	3.234852
F-statistic	86.03689	Durbin-Watson stat	1.229907
Prob(F-statistic)	0.000000		

Source: Data is processed with eviews 8.0

The table above shows that the adjusted R-squared value obtained is 0.718750. This result concludes that the variable of premium income, claims expense and underwriting result

contribute 71.87 % to net income. While the remaining 28,13% by other variables that are not used in this study.

## **Discussion**

### **Influence of Premium Income on Net Income**

Based on table 7 above, premium income variable (PP) has a coefficient value of 0.050873 and a significance value (prob) of  $0.4099 > 0.05$ , this means that the effect of premium income on positive net income is not significant at  $\alpha 0.05$ , but significant at  $\alpha 0.10$ . This is not in line with the results of Marlina & Syarif (2013), Riany (2014), Dipoyanti (2014), Ida Ayu et al (2017), Sofyan and Ambar (2017), Hadi Zainul (2018), Salsabila (2017), Husnul (2014), Carina et al (2017), Elsha Dwi (2015) but in line with Fikri's research (2009). This difference in results is likely due to the use of different tools in processing data, also because the year used by the author is more (10 years) compared to previous researchers (less than 10 years).

### **The Effect of Claim Expense on Net Income**

Based on table 7 above, the Expense Claim (BBK) variable has a coefficient of - 0.113538 with a significance (prob) of  $0.0083 < 0.05$ , this means that the effect of the claim expense on net income is negative significant at  $\alpha 0.05$ . The increase in claim costs will reduce net income.

It proves that the burden of claims that can reduce the profit of the insurance company because it must be paid to customers who filed a claim. The greater the claim burden the greater the negative contribution to the value of net profit because the cost of claims as a factor in reducing the net profit of the company also increases. The results of this study are in line with Fikri (2009), Winarso (2014), Putri (2017), Carina et al (2017), Salsabila (2017), sofyan and Ambar (2017), Fanny (2016). But contrary to Riany (2014), Dipoyanti (2014), Husnul (2014), Mutmainah (2015)

### **The Effect of Underwriting Return on Net Income**

Based on table 7 above, underwriting return (HU) has a coefficient of - 0.968219 with a significance (prob) of  $0.0000 < 0.05$ , this means that the effect of claim costs on net income is positive at  $\alpha 0.05$ . The increase in claim burden will increase net income. This can be proven from almost all underwriting results obtained have a positive effect or increase the net income of insurance companies. The higher the underwriting results the higher the net profit. The results of this study in line with the results of research Fikri (2009) said that the most important tool most effective in increasing the profit of syariah life insurance companies obtained from underwriting and investment returns. This result is also in line with Mutmainah (2015), Salsabila (2017), Ida Ayu (2017). But contrary to. Riany (2014), Husnul (2014)

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