

## **The Influence Growth Of Income, Assets, Ratio of Claim and Risk Based Capital on the Profitability of Life Insurance Companies in Indonesia**

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### **Abstract**

*This study aims to analyze the influence growth of Income, Assets, Ratio of Claim and Risk Based Capital affecting Profitability (ROA) of life insurance companies in Indonesia which registered and supervised by Otoritas Jasa Keuangan period 2009-2015. This research using the secondary data which obtained through the publication of OJK Insurance Statistics and Infobank magazine for the period of 2009-2015. Thirty two companies were drawn as sample from fifty five companies. The analysis technique used is panel data regression. From the analysis result indicate that variable of revenue growth, asset does not have significant effect to profitability, variable of claim ratio and risk based capital have negative significant effect to profitability. While simultaneously the income growth variable, asset, claim ratio, risk based capital significantly influence the profitability of life insurance companies registered and supervised by Otoritas Jasa Keuangan. The magnitude of the influence of independent variables is 45.07%, while the remaining 54.93% influenced by other factors not included in this research model.*

**Keywords:** *Income and Assets Growth, Ratio of Claim, RBC and ROA*

## 1. INTRODUCTION

Insurance companies are growing in harmony with the development of the business in general. The presence of an insurance company is rational and inevitable in situations where most employers and community members have a general tendency to avoid or transfer the risk of financial loss. The insurance company is the expropriation or bear some of the risk, for that the entrepreneur or the insured must pay insurance premiums (PSAK no 28, 2004).

Considering the funds collected by life insurance companies are public funds in the form of premium income, life insurance companies are required to manage risk management and financial management professionally, full of responsibility and wisely in accordance with the principles of the main insurance. Community monitoring on the performance of life insurance companies can be done by looking at financial reports issued regularly by the company (Jenny dan Murtanto, 2001).

*Income, Assets, Ratio of Claim, Average Risk Base Capital (RBC) and Return on Assets (ROA) at Registered Insurance Companies and Supervised Otoritas Jasa Keuangan for the period 2009-2015*

Year	Income (on billion)	Assets (on billion)	Ratio of Claim	Average RBC	ROA
2009	60.21	141.65	62.84%	273.27%	3.38%
2010	94.65	188.46	68.80%	318.73%	3.25%
2011	104.66	221.55	62.97%	603.10%	3.30%
2012	123.35	260.27	65.68%	487.09%	3.29%
2013	113.83	280.94	66.42%	723.89%	2.40%
2014	143.23	349.99	63.63%	991.45%	3.66%
2015	124.48	356.31	61.30%	555.00%	3.20%

*Source: Insurance Statistics of OJK and Infobank Magazine*

Based on the above table it can be seen that the income growth which is the income of insurance companies continues to increase every year, although there is a slight decline in 2013 and 2015, this figure shows the development of insurance needs.

The growth of assets under management of insurance companies is always increasing every year until 2015, this figure shows the life insurance industry consistently develops its industry considering the large market will need insurance.

The claim load ratio, which is the indicator of the claim claim compared to the total premium which is obtained is fluctative but only around 60%, this figure shows the claim load in stable condition which means the risk handling in the life insurance industry is quite good.

Risk Based Capital (RBC) is an indicator of the ability of life insurance companies to finance their obligations, where according to the government regulation the minimum RBC

limit is 120%, if the table above average RBC above the provisions, this figure shows the RBC is still in good condition.

Profitability (ROA), which is an indicator of profit earned by the company, shows stagnant results, amid growing revenue and asset growth, stable tendency claims ratio and RBC that is above the minimum requirement.

Several empirical studies have been conducted on the factors that affect the value of the company with fairly varied results, among others:

Ghozali (2007) examined the Effect of CAR on the Profitability of Bank Syariah Mandiri (2004-2006), in obtaining CAR results relate negatively and significantly to profitability.

Kirmizi and Susi Surya Agus (2011) examined the effect of capital and asset growth on risk based capital ratio (RBC), net premium growth and profitability of general insurance companies in Indonesia in 2000-2007. The results obtained that there is a significant influence between growth own capital against ROE. This can be interpreted that the greater the capital itself the higher the ROE. There is a significant effect of asset growth on ROE, indicating that the higher the asset value, the stronger the impact on ROE. The RBC ratio has no significant effect on ROE.

Gede Eky Kharisma, Edy Sujana, I Gusti Ayu Purnamawati. (2015) examines the effects of risk based capital, underwriting, investment returns, and the ratio of claims expense to insurance income on insurance companies listed on the Indonesia Stock Exchange in the period 2010-2014. From these results obtained that the risk based capital, underwriting and investment returns influence positive significant to corporate earnings, while the ratio of claims expenses significantly negatively affect corporate earnings.

## 2. LITERATURE REVIEW

### 2.1. *Company Growth*

Good company growth is considered as a basic requirement for the success of the company. Companies that grow, size and market share will increase company profits. Furthermore, companies with high growth will attract large management talent and financial resources (Simanjuntak, B. Hennis; 2008: 12). Business growth is one of the key indicators that are dynamic for the success of a business, especially to achieve the desired level of profit / prosperity. Of course this must be supported by the selection of a productive and optimal business strategy. But can the growth strategy help management increase company value and provide benefits to shareholders? Thus, the growth strategy must be managed well because too aggressive growth can also backfire later. Chathoth (2002: 21) explains that "Growth strategies need to be able to manage well so that the company can be oriented towards its market as well as stakeholders appropriately that may not pursue aggressive sales or asset growth may in fact grow in earnings, based on how its managers are able to manage the firms' profitability. Without growth, it can be predicted that a company has a problem. However, if the rate of growth is too fast, it will also cause adverse effects on the company's performance in the future because of its unpreparedness in providing services to customers. Business growth of a company can be used as a basis for evaluating the operationalization of the company. The shareholders and the management of the company certainly expect to be able to obtain sustainable benefits, maintain the quality and quantity of revenue and sustainable business growth.

## 2.2. *Assets*

Based on Indonesian Financial Accounting Standards No. 28 (1997), specifically loss insurance stated that the component of assets (assets) in an insurance company consists of: Investment, cash and banks, premium receivables, reinsurance receivables, other receivables, land / land rights, buildings, other assets. Assets in the insurance industry are usually dominated by investments (investments) which is one of the main financial management activities outside the insurance business. In simple terms, investment can mean delaying the use of current money and saving for a certain period in the hope of getting additional value in the future. The choice of this type of investment is based on the consideration of each investor. Of course the investment activity is expected to be high and safe. Investments made by insurance companies are utilizing most of the funds obtained from collecting premium money after a portion of it has been reserved for payment of claims and other needs as well as the allocation of capital provided by shareholders. One of the main objectives of investment is to increase income outside premiums. However, managing investments will still be faced with risks. For this reason, company managers should continue to implement a careful, precise investment strategy and conduct prudent risk management. Given the importance of investment management for insurance companies, many companies employ special experts in the field of investment management (investment managers). The government has also made a regulation whereby insurance and reinsurance companies must invest in safe and profitable types of investments and have a level of liquidity in accordance with the obligations that must be met. The government also determines the types of investments that insurance and reinsurance companies cannot do.

## 2.3. *Risk Based Capital (RBC)*

Risk Based Capital (RBC) ratio of health care in general is for the insurance company. Understanding of solvency itself is the company's ability to pay its long-term obligations or liabilities if the company is liquidated (Sofyan S.Harahap, 2008). Health Risk Based Capital Ratio is a measure of the security level to inform financial or health of an insurance company that must be met by the insurance company is 120% greater health risk-based capital ratio of an insurance company, the company's healthy financial condition. Leading insurance company outlining terms is Health Risk Based Capital Ratio of an insurance company is basically the ratio of net worth or Net Worth companies concerned, which is calculated based on standard accounting rules divided by net worth recalculated to include deterioration risks that may occur (Allianz, 2011) The inclusion of these risks reflect the uncertainties faced by the company in daily activities, such as the possible collapse of asset values in the short term due to investment in more risky instruments, as well as the possibility increasing debt levels due to an unfavorable development in the future in terms of interest rates, mortality rates, dropout rate contracts and so on. Net worth second, as the denominator of the ratio is actually the amount that was originally referred to as the Risk Based Capital for the form or amount of net worth, calculated by Capital Risk Based . Based on the above understanding RBC is a ratio that indicates the level of corporate health insurance company's ability to finance its debt is none other insurance maintained by the company. The greater the ratio of RBC a health insurance company, then the company's healthy financial condition. From the description above can be explained that in order to assess the achievement of RBC an insurance company can be seen from the comparison between the solvency ratio is the difference between wealth and achieved allowed the insurance company to limit Solvency Level Minimum (BTSM) in the form of the risk of loss that may arise as a result of the deviation in the management of assets and liabilities.

#### 2.4. Profitability

Life insurance companies used unique accounting system due to which profitability of the industry has always been difficult to measure as compared to other financial institution. There are many ways to measure profitability, which are return on invested capital (ROIC), Return On Equity (ROE) and Return On Assets (ROA). Kashish and Kashram (1998) conducted study of Jordans Insurance industry and used profitability as dependent variable, where profitability was proxied by return on investment (ROI) by using this equation ROA (Return On Assets).

During 1980 the profitability of insurance companies varied across different a legal and regulatory measure that reveals that these environment were supposed to protect the insurance contract that may had reverse effect if they created a significant constrained on the activities of the insurance company (Born. H.P.,2001). Agiobenebo and Ezirim examined the relationship between profitability and financial intermediation in Nigeria. Result showed that the level of premium to total assets is positively related to level of profitability of insurance companies and also significant. The factors of net potential, loan levels, investment were found positively related but significant (Agiobenebo & Ezirim, 2002). Rebao Chen et al (2004) stated that insurance company companies have double responsibility : in one way they are required to be profitable so as to have high rate of return for new investment. On the other hand, insurance companies need to be profitable in order to be solvent enough so as to make other industries in the economy as they were before even after risk occurred.

### 3. DATA AND METHODOLOGY

#### 3.1. Data

This research was conducted on life insurance companies that have business licenses to operate in Indonesia and are registered and supervised by OJK consisting of state-owned companies, national private companies, and joint ventures, with a total population of 55 (fifty five) insurance company. Reinsurance companies, social insurance, BPJS, and insurance program providers for civil servants and members of the military / police are not included in this population. The time span of the data studied is 2009 to 2015.

The sample of this study was selected based on the following criteria: 1). Life insurance company that operates actively and continuously for the period of 2009-2015. 2). Life insurance companies that have never had negative capital during the period 2009-2015. Negative capital is removed from the sample so that there is no misperception in reading the data. Based on these criteria, the life insurance companies in Indonesia that can be sampled are 32 (thirty two) companies.

#### 3.2. Methodology

Data analysis method used in this research is panel data regression. The panel data regression method is the study of the dependence of dependent variables with one or more independent / independent variables in order to estimate or predict the average population or the mean value of the dependent variable based on the value of the known independent variable (Gujarati , 1995). In panel data regression, there are three different approaches (Gujarati, 2003) consisting of least square approach, fixed effect approach and random effect approach. The variable and the formulae used for the study are summarised in the table below.

Variables	Formulas
$\Delta$ Income (INC)	$\frac{(\text{income year}_t - \text{income year}_{t-1})}{\text{income year}_{t-1}} \times 100\%$
$\Delta$ Assets (AST)	$\frac{(\text{assets year}_t - \text{assets year}_{t-1})}{\text{assets year}_{t-1}} \times 100\%$
Claim Ratio (COR)	$\frac{\text{Claim Paid}}{\text{Earned Premium}}$
Risk Based Capital (RBC)	$\frac{(\text{admitted assets} - \text{admitted liability})}{\text{Minimum solvability}} \times 100\%$
Return on Assets (ROA)	$\frac{(\text{profit after tax})}{\text{Assets}} \times 100\%$
Note: Compiled by the researchers based on earlier studies.	

*Variables chosen for the study*

In this study, the dependent variable is profitability, which is proxy by Return on Asset (ROA). The Independent variable is growth of income, assets, claim ratio and risk based capital (RBC). The regression data panel models developed for this study are as follows:

$$ROA_{it} = \beta_0 + \beta_1 INC_{it} + \beta_2 AST_{it} + \beta_3 COR_{it} + \beta_4 RBC_{it} + \varepsilon_{it}$$

Determination of the approach used for testing the research hypothesis, that is through three conformity testing procedures model that includes 1) F statistic test used to choose between common effect model (CEM) or fixed effect (FEM) or (Chow Test) model; 2) lagrange multiplier test (LM) used to select the model between common effect (CEM) or random effect model (REM); and 3) Hausman test used to choose between fixed effect (FEM) model or random effect model (REM). After the model is selected, then hypothesis testing is done using partial test (t), simultaneous test (F), and determination ( $R^2$ ).

## 4. RESULT AND DISCUSSION

### 4.1. Conformity Testing Model

Chow Test is done to find out whether panel data regression technique with Fixed Effect model is better than panel data model regression without dummy variable or Common Effect method. This is determined from the result of Cross-Section F probability value. The result of the probability of Cross-Section F is 0,0000 or less than  $\alpha = 5\%$  then the exact model is Fixed Effect Model.

If the hausman test produces a chi-square probability value  $< 0.05$  then it indicates that the result is not significant and the correct model is a fixed effect. However, if the chi-square probability result  $> 0.05$  then signifies the result is significant and the suitable model is the random effect. And the probability of Chi Square is 0.0001  $< 0.05$ , then the correct model is the Fixed Effect Model.

Lagrange Multiplier Test is used to find out which model is better, is it better to estimate by using pooled least square model with random effect model. The hypothesis used in the LM test is as follows:

H0: Model follows Pooled Least Square

H1: Model follows Random Effect

The Breusch-Pagan result is (0.0000) or the probability of Chi-Square > 0.05, then the exact model is the Random Effect Model.

Based on the results of the above three tests, it can be concluded the use of Fixed Effect Model which will be analyzed further in this research.

#### 4.2. Regression Analysis

Based on the results of multiple regression analysis using Fixed Effect Model, it can be obtained a regression line equation as follows:

$$\text{ROA} = 0.046517 + 0.000013 \text{ INC} + 0.007884 \text{ AST} - 0.028231 \text{ COR} - 0.000024 \text{ RBC}$$

- The  $\beta$  constant of 0.046517 states that if there is no effect of variable income growth (INC), asset growth (AST), claim ratio (COR), and risk based capital (RBC), then the profitability variable (ROA) is 0.046517 .
- Regression coefficient INC of 0.000013 states that any increase in income growth of 1% will have an impact on the increase in profitability (ROA) of 0.000013% assuming other independent variables the magnitude of the constant.
- Regression coefficient AST of 0.007884 states that any increase in asset growth of 1% will affect the increase in profitability (ROA) of 0.007884% with the assumption of other independent variables the amount of the constant.
- COR regression coefficient of -0.028231 states that any increase of claims ratio of 1% will have an impact on the decrease in profitability (ROA) of 0.028231% assuming other independent variables the magnitude of the constant.
- RBC regression coefficient of -0.000024 states that any increase in risk based capital of 1% will have an impact on the decrease in profitability (ROA) of 0.000024% assuming other independent variables the magnitude of the constant.

#### Partial Test of Hypothesis (t test)

- The t count value for the income growth variable (INC) is smaller than the t table value, which is 0.214845 < 1.971. Thus Ho was accepted and Ha refused. So it can be concluded that the income growth variable partially has no effect on profitability (ROA) of life insurance companies listed and supervised by OJK for the period 2009-2015.
- The t count value for the asset growth variable (AST) is smaller than the t table value, which is 0.901166 < 1.971. Thus Ho was accepted and Ha refused. So it can be concluded that the asset growth variable partially has no effect on profitability (ROA) of life insurance companies listed and supervised by OJK for the period 2009-2015.
- The t count value for the claim load ratio variable (COR) is greater than the t table value, which is -2.879413 < -1.971. Thus Ho is rejected and Ha is accepted. So it can be concluded that the variable claim ratio partially has a negative and significant influence on profitability (ROA) of life insurance companies listed and supervised by the OJK for the period 2009-2015.

- The t count value for the variable risk based capital (RBC) is greater than the value of -t table, ie - 2.857911 < -1,971. Thus  $H_0$  is rejected and  $H_a$  accepted. So it can be concluded that risk-based capital variables partially have a negative and significant impact on profitability (ROA) of life insurance companies registered and supervised by OJK period 2009-2015.

#### *Hypothesis Test Simultaneously (Test F)*

The result of regression analysis which is estimated on the fixed effect model, shows the value of  $F_{\text{count}}$  of 4.407468, while the  $F_{\text{table}}$  value at  $\alpha = 0,05$  with  $df_1$  4 and  $df_2$  219 is 2,41, so  $F_{\text{count}} = 4.407468 > F_{\text{tabel}} 2.43$ . This means that  $H_0$  is rejected and  $H_a$  accepted with significance level  $\alpha = 0.05$ . Thus, it can be concluded that income growth variable, asset, ratio of claim expense and risk based capital (RBC) together have a significant effect to profitability (ROA) of life insurance company registered and supervised by OJK period 2009-2015.

#### *Determination Coefficient Test ( $R^2$ )*

Based on the results of the analysis test on the fixed effect model, it can be seen that the value of determination coefficient ( $R^2$ ) of 0.450712. It can be interpreted that independent variables, including the effect of revenue growth, asset growth, claim ratio, risk based capital (RBC), have a 45.07% effect on profitability (dependent variables) during the study period between 2009-2015. While the rest of 54.93% is a contribution or influence other variables that are not included in this research model.

#### *4.3. Summary of Results*

##### *H1 : There is Influence of Revenue Growth on Profitability*

Revenue growth has no effect on profitability (ROA). The results are not in line with the results of Ida Ayu Ita Pertama Sari, Edy Sujana and Ni Kadek Sinarwati (2017) studies showing premium income, underwriting results and investment returns have a positive effect on insurance income. And the results of research Aditya Fadlin R.P and Rachma Fitriati (2013) which shows the acceptance of premiums and underwriting results have an influence on the profitability of insurance companies.

The insurance company's income consists of several components, namely premium income, investment return, underwriting result, and other income. To earn a good income on insurance companies, one of them is good risk management. Good risk management becomes the key to insurance companies in obtaining sound finances, considering that insurance companies are financial services providers that manage their clients' financial risk. According to Circular of the Financial Services Authority No. SEOJK.05 / 2014 on Risk Assessment Guidelines of Insurance Companies and Reinsurance Companies states that insurance risks are a potential failure of Insurance Companies and Reinsurance Companies to fulfill liabilities to insured and policyholders as a result of inadequate risk selection process (underwriting), pricing), use of reinsurance and / or claims handling.

So if the risk management is not done well then whatever the income earned by the company can not help the company to obtain the appropriate profitability and enable the company to experience loss or unhealthy financial condition.

##### *H2 : There is Influence of Asset Growth on Profitability (ROA)*

Revenue growth has no significant effect on profitability (ROA). These results are not in line with the results of research of Kirmizi and Susi Surya Agus (2011) which shows asset growth has a significant influence on ROE.



The selection of strategies in a productive and optimal business, becomes important for management in managing assets owned by the company. The selection of inappropriate business strategies will have an effect on the non-maximal premium income and non-premium income such as investment returns. As published publications published by leading print media such as Infobank and Media Insurance for the period of 2009-2015, show that not all companies with large assets are able to earn a premium income that is equal to the amount of assets they own, even the premium income is less than other companies that have lower assets.

*H3 : There is Influence of Claim Ratio Expense To Profitability (ROA)*

The claim ratio has a negative and significant influence on profitability (ROA), where if there is an increase in the claim load ratio, profitability decreases. The results are comparable with the results of research Gede Eky Kharisma, Edy Sujana, and I Gusti Ayu Purnamawati (2015) which shows the ratio of claims expenses significantly affect the company's earnings. In addition to research Aditya Fadlin R.P and Rachma Fitriati (2013) showed the same results that claim ratio has an influence on the profitability of insurance companies where from all dependent variables, claims load ratio has a greater influence on profitability.

The claim ratio is an experience in closing the risks that have occurred as well as the quality of the business closing the claim. High claims claims due to certain relatively large claims will threaten the company's financial condition and thus increase the risk for the company. Poor risk management such as underwriting risk determination, pricing determination, reinsurance selection and the selection of an investment instrument can threaten the company's ability to generate profits. Reduced ability of companies in generating profits will reduce investor interest in investing capital and will also potentially bankruptcy the company.

As the results above the claim ratio have a significant negative effect. This condition indicates that the high ratio of claims burden provides information about the bad underwriting and acceptance of risk closure (Salustra Satria, 2014), so that to keep the company's finances healthy, risk management is needed.

*H4 : There is Influence of Risk Based Capital (RBC) To Profitability (ROA)*

Risk-based capital has a negative and significant impact on profitability (ROA), where if there is an increase in risk-based capital then profitability decreases.

The results are not in line with the results of research conducted by Kirmizi and Susi Surya Agus (2011) in his research found the RBC ratio has no significant effect on ROE. While research conducted Gede Eky Kharisma, Edy Sujana, I Gusti Ayu Purnamawati. (2015) found that risk-based capital has a significant positive effect on corporate profits, and Aditya Fadlin R.P and Rachma Fitriati (2013) in his research risk-based capital has an influence on the profitability of insurance companies with return on assets as an indicator.

According to Sensi (2006: 171), in theory solvency serves to measure the ability of insurance companies in covering the obligations of the company and pay the debt in a timely manner. As regulated in SK DJLK No. 5314 / LK / 1999, RBC calculation method there are 4 components, namely A schedule of available capital, Schedule B permitted wealth, schedule C claim reserve, and reinsurance D schedule. Risk Based Capital (RBC) has a negative and significant effect can be caused by several things, there are:

- High placement on safe investment instruments, but has a low return, thus providing added value to the calculation of solvency.
- High allocation of claims reserve placement, thereby reducing investment management funds resulting in reduced revenues.
- The high share of reinsurance resulting in the amount of premium given to the reinsurer resulting in reduced revenue.

Of these three points have an impact on the high value of RBC, but the lack of maximum revenue earned resulting in reduced profitability of the company.

*H5 : There is Influence of Revenue Growth, Asset Growth, Claim Ratio and Risk Based Capital (RBC) Ratio to Profitability (ROA)*

Income growth (INC), asset growth (AST), claims ratio (COR), and risk based capital (RBC) simultaneously have significant influence on profitabilias (ROA) for the period of 2009-2015.

The amount of influence of independent variables conducted in this study amounted to 45.07%, while the remaining 54.93% is the contribution or influence of other variables that are not included in this research model. The company that has the biggest positive influence is PT Asuransi CIGNA, which is 14.68%, while the company that has the biggest negative impact is PT Asuransi Jiwa Generali Indonesia, which is -8.72%. The most influential variable is the Claim Ratio, which is equal to -2.879413.

## 5. CONCLUSION

Implementation of financial management in life insurance companies to be less good if not done with risk management approach. If we look at the results of the above research where the growth of income and assets become less significant to the growth of profitability of the company is due to the lack of good risk management implementation, which includes the determination of underwriting risk, pricing determination, reinsurance selection and selection of investment instruments.

If you see the effect of the ratio of claims expense to profitability, which based on these results have negative and significant results. This is in accordance with existing theories and supports some of the results of research that has been done.

In the case of Risk Based Capital (RBC) has a negative and significant effect, as regulated in SK DJLK No. 5314 / LK / 1999, RBC calculation method there are 4 components, namely A schedule of available capital, Schedule B permitted wealth, schedule C claim reserve, and reinsurance D schedule. The results can be due to several things namely :

- The high placement on the investment instrument is safe, but has a low return, thus providing added value on the calculation of solvency.
- The high allocation of claims reserve placement, thus reducing investment management funds resulting in reduced revenues.
- The high share of reinsurance resulting in the amount of premium given to the reinsurer resulting in reduced revenue.

Of these three points have an impact on the high value of RBC, but the lack of maximum revenue earned resulting in reduced profitability of the company.

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## 6. RECOMENDATION

The company is expected to be able to manage the use of assets and the premium income earned using a risk management approach, so that in addition to providing other income that is better than premium income, it can also anticipate if the claim expense is high enough. Evaluate underwriting risk to avoid high claims and keep Risk Based Capital at 120% even above that. However, the effect of profitability is not limited to RBC values above level 120, but also requires attention to the composition of the calculations in it. If the company allocates a large enough reserve fund and the high use of reinsurance, of course this will have a positive impact on the RBC assessment but will reduce the value of profitability due to reduced managed funds for the company to invest and other activities that will provide other income beyond premium income.

**REFERENCE**

- [1]. Aditya, Fadlin dan Rachma Fitriati, 2013, “Analisa Pengaruh Risk Based Capital, Penerimaan Premi, Underwriting, dan Beban Klaim terhadap Profitabilitas (Studi Empiris Perusahaan Asuransi Kerugian yang Listing di BEI periode 2006-2011)”, FISIP UI, 2013.
- [2]. Gede Eky Kharisma, Edy Sujana, dan I Gusti Ayu Purnamawati, 2015, “Pengaruh Risk Based Capital, Underwriting, Hasil Investasi, dan Rasio Beban Klaim terhadap Laba Asuransi pada Perusahaan Asuransi yang terdaftar di Bursa Efek Indonesia pada periode 2010 – 2014”, E-Journal Undiksha, Vol. 3, No. 1 (2015).
- [3]. Ghozali, Imam ( 2013 ), *Analisis Multivariat Dan Ekonometrika: Teori, Konsep, dan Aplikasi dengan EViews 8*, Badan Penerbit Universitas Diponegoro Semarang.
- [4]. Ginting, Imelda, R., 2005, Analisis Kesehatan Keuangan dan Pemetaan Perusahaan Asuransi Jiwa Tahun 2003-2004.
- [5]. Gujarati, N.Damodar ( 2003 ), *Basic Econometric*, New York, Mc Graw Hill, Economic Series.
- [6]. Gozali, Imam, 2007, Pengaruh CAR, FDR, BOPO dan NPL terhadap Profitabilitas Bank Syariah Mandiri (2004-2006), Program Studi Ilmu Ekonomi, Fakultas Ekonomi, Universitas Islam Indonesia, Yogyakarta.
- [7]. <http://www.allianz.co.id/AZLIFE/Indonesian/About+Us/Financials/Allianz+Risk+Based+Capital+RBC.htm>, downloaded on Desember 2012.
- [8]. Harahap, S.S. (2008). Analisis Kritis Atas Laporan Keuangan. Jakarta: PT. Rajagrafindo Persada.
- [9]. Ida Ayu Ita Pertama Sari, Edy Sujana dan Ni Kadek Sinarwati, (2017), “Pengaruh Pendapatan Premi, Hasil Underwriting, Hasil Investasi dan Risk Based Capital Terhadap Laba Perusahaan Asuransi 2011-2015”, e-Journal Universitas Pendidikan Ganesha, Vol. 1, No. 1, 2017.
- [10]. Ikatan Akuntan Indonesia, 1996, *Standar Akuntansi Keuangan*, PSAK No. 36 Tentang Standar Akuntansi Asuransi Jiwa, Jakarta.
- [11]. Keputusan Kementrian Keuangan No. 481/KMK.017/1999 tanggal 7 Oktober 1999 Tentang Kesehatan Keuangan Perusahaan Asuransi dan Perusahaan Reasuransi.
- [12]. Keputusan Kementrian Keuangan No. 424/KMK.06/2003 tanggal 30 September 2003 Tentang Kesehatan Keuangan Perusahaan Asuransi dan Perusahaan Reasuransi.
- [13]. Keputusan Direktorat Jenderal Lembaga Keuangan No. 2149/LK/2004 Tentang Ketentuan Batas Minimum Retensi Sendiri Perusahaan Asuransi.
- [14]. Kirmizi dan Susi Surya Agus, 2011, “Pengaruh Pertumbuhan Modal dan Aset Terhadap Ratio Risk Based Capital (RBC), Pertumbuhan Premi Netto dan Profitabilitas Perusahaan Asuransi Umum di Indonesia pada Periode 2000 – 2007”, Pekbis Jurnal, Vol. 3, 391-405.
- [15]. Nachrowi, D, Nachrowi dan Usman, Hardius, Pendekatan Populer dan Praktis, EKONOMETRIKA, Untuk Analisis Ekonomi dan Keuangan, 2006, Lembaga Penerbit Fakultas Ekonomi Universitas Indonesia.
- [16]. Nuraeni, Reni, 2003, Pengaruh Tingkat Penambahan Modal Sendiri Terhadap Tingkat Pertumbuhan Laba Operasi (Penelitian Dilakukan Pada Bank Jabar), Fakultas Ekonomi, Universitas Widyatama, Bandung.
- [17]. Otoritas Jasa Keuangan, 2010, Statistik Perasuransian.
- [18]. Otoritas Jasa Keuangan, 2012, Statistik Perasuransian.
- [19]. Otoritas Jasa Keuangan, 2013, Statistik Perasuransian.
- [20]. Otoritas Jasa Keuangan, 2014, Statistik Perasuransian.

- 
- [21]. Otoritas Jasa Keuangan, 2015, Statistik Perasuransian.
- [22]. Undang – undang no 2 Tahun 1992 tentang Usaha Perasuransian.
- [23]. Yuningsih, Nani, 2004, *Pengaruh Pendapatan Premi Asuransi Jiwa Terhadap Tingkat Profitabilitas Pada PT. Asuransi Jiwasraya Tahun 1997-2003*, Perpustakaan Kristen Petra, Jakarta.
- [24]. Wahyudi, 2006, *Pengaruh Pertumbuhan Modal dan Pertumbuhan Aset Terhadap Variabel-Variabel Kinerja Keuangan Industri Perbankan Selama Tahun 2000-2004*, Tesis Program Magister Manajemen, Program Pascasarjana Universitas Riau, Pekanbaru.
- [25]. Wibisono, Y ( 2005 ), *Modul Penelitian Ekonometrika Dasar*, Depok: Lab. Ilmu Ekonomi FE-UI.

## TABLES

**Table 1: Descriptive Statistics of Research Variables**

	ROA	INC	AST	COR	RBC
Mean	0.008441	6.590341	0.314772	0.865737	682.894330
Median	0.023325	0.164272	0.180802	0.917357	438.250000
Maximum	0.189772	1248.026087	7.614503	2.187201	5269.000000
Minimum	-0.621433	-0.998950	-0.803302	-5.960474	-93.000000
Std. Dev.	0.088574	83.406790	0.639634	0.571492	794.528097
Observations	224	224	224	224	224

Source: Data is processed by Eviews 8.0

**Table 2: Heteroscedasticity Test**

Fixed-effects (within) regression	Number of obs	=	224		
Group variable: id	Number of groups	=	32		
R-sq: within = 0.0122	obs per group: min	=	7		
between = 0.3852	avg	=	7.0		
overall = 0.0555	max	=	7		
corr(u_i, xb) = 0.2776	F(4,188)	=	0.58		
	Prob > F	=	0.6768		
-----					
res_kuadrat	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
pendapatan~t	-3.00e-10	1.71e-08	-0.02	0.986	-3.40e-08 3.34e-08
aset_kuadrat	-.0000275	.0004556	-0.06	0.952	-.0009261 .0008712
bebanklaim~t	-.0003656	.000763	-0.48	0.632	-.0018708 .0011396
rbc_kuadrat	9.29e-10	6.12e-10	1.52	0.131	-2.79e-10 2.14e-09
_cons	.0066937	.0019046	3.51	0.001	.0029365 .0104508
-----					
sigma_u	.01144821				
sigma_e	.02461981				
rho	.17778374	(fraction of variance due to u_i)			
-----					
F test that all u_i=0:	F(31, 188) =	1.38			Prob > F = 0.0988

Source: Data is processed by STATA 11.2

As the heteroscedasticity test uses the white test model through the STATA program, showing the results of p value ( $P > |t|$ ) > 0.05 and p value of the F test ( $\text{Prob} > F = 0.0988$ ) > 0.05, the model is free of heteroscedasticity.

**Table 3 : Common Effect Test**

Dependent Variable: ROA

Method: Panel Least Squares

Date: 10/20/17 Time: 06:50

Sample: 2009 2015

Periods included: 7

Cross-sections included: 32

Total panel (balanced) observations: 224

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ROA	0.056337	0.013024	4.325671	0.0000
INC	1.19E-06	6.80E-05	0.017462	0.9861
AST	-0.014910	0.008975	-1.661296	0.0981
COR	-0.023663	0.010405	-2.274069	0.0239
RBC	-3.33E-05	7.59E-06	-4.386029	0.0000
R-squared	0.106639	Mean dependent var		0.008441
Adjusted R-squared	0.090322	S.D. dependent var		0.088574
S.E. of regression	0.084479	Akaike info criterion		-2.082553
Sum squared resid	1.562947	Schwarz criterion		-2.006400
Log likelihood	238.2460	Hannan-Quinn criter.		-2.051814
F-statistic	6.535398	Durbin-Watson stat		1.208478
Prob(F-statistic)	0.000055			

*Source: Data is processed by Eviews 8.0*

**Table 4 : Fixed Effect Test**

Dependent Variable: ROA

Method: Panel Least Squares

Date: 10/20/17 Time: 06:50

Sample: 2009 2015

Periods included: 7

Cross-sections included: 32

Total panel (balanced) observations: 224

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ROA	0.046517	0.012175	3.820719	0.0002
INC	1.33E-05	6.19E-05	0.214845	0.8301
AST	0.007884	0.008748	0.901166	0.3687
COR	-0.028231	0.009804	-2.879413	0.0044
RBC	-2.37E-05	8.30E-06	-2.857911	0.0047

## Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.450712	Mean dependent var	0.008441
Adjusted R-squared	0.348451	S.D. dependent var	0.088574
S.E. of regression	0.071496	Akaike info criterion	-2.292136
Sum squared resid	0.960986	Schwarz criterion	-1.743836
Log likelihood	292.7192	Hannan-Quinn criter.	-2.070815
F-statistic	4.407468	Durbin-Watson stat	1.687976
Prob(F-statistic)	0.000000		

*Source: Data is processed by Eviews 8.0*



**Table 5 : Random Effect Test**

Dependent Variable: ROA

Method: Panel EGLS (Cross-section random effects)

Date: 10/20/17 Time: 06:51

Sample: 2009 2015

Periods included: 7

Cross-sections included: 32

Total panel (balanced) observations: 224

Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ROA	0.050810	0.012993	3.910693	0.0001
INC	8.52E-06	6.00E-05	0.141907	0.8873
AST	-0.002606	0.008208	-0.317445	0.7512
COR	-0.025532	0.009349	-2.731026	0.0068
RBC	-2.86E-05	7.36E-06	-3.882012	0.0001

  

Effects Specification		S.D.	Rho
Cross-section random		0.032897	0.1747
Idiosyncratic random		0.071496	0.8253

  

Weighted Statistics			
R-squared	0.075044	Mean dependent var	0.005358
Adjusted R-squared	0.058150	S.D. dependent var	0.076870
S.E. of regression	0.074602	Sum squared resid	1.218819
F-statistic	4.441985	Durbin-Watson stat	1.413124
Prob(F-statistic)	0.001798		

  

Unweighted Statistics			
R-squared	0.095241	Mean dependent var	0.008441
Sum squared resid	1.582886	Durbin-Watson stat	1.088102

*Source: Data is processed by Eviews 8.0**Published by Asian Society of Business and Commerce Research*

**Table 6 : Chow Test Results**

Redundant Fixed Effects Tests

Equation: Untitled

Test cross-section fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	3.798808	(31,188)	0.0000
Cross-section Chi-square	108.946539	31	0.0000

*Source: Data is processed by Eviews 8.0*

From the above table it can be seen that the probability of Cross-Section F is 0,0000 or less than  $\alpha = 5\%$  then the exact model is Fixed Effect Model.

**Table 7: Hausman Test Result**Correlated Random Effects - Hausman  
Test

Equation: Untitled

Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	23.440566	4	0.0001

*Source: Data is processed by Eviews 8.0*

In the above table the probability of Chi Square is 0.0001  $< 0.05$ , then the correct model is the Fixed Effect Model.

**Table 8: Lagrange Multiplier Result**

Lagrange multiplier (LM) test for panel data

Date: 08/10/17 Time: 13:08

Sample: 2009 2015

Total panel observations: 224

Probability in ()

Null (no rand. effect)	Cross-section	Period	Both
	One-sided	One-sided	
Breusch- Pagan	39.44325 (0.0000)	0.881541 (0.3478)	40.32479 (0.0000)
Honda	6.280386 (0.0000)	-0.938904 (0.8261)	3.776998 (0.0001)
King-Wu	6.280386 (0.0000)	-0.938904 (0.8261)	1.669660 (0.0475)
GHM	-- --	-- --	39.44325 (0.0000)

*Source: Data is processed by Eviews 8.0*

In table 4.5 above the Breusch-Pagan result in the second column of the second line is (0.0000) or the probability of Chi-Square > 0.05, then the exact model is the Random Effect Model.