The Effect of Debt to Equity Ratio, Debt to Asset Ratio, and Risk Based Capital on Return on Asset In General Insurance Companies on The Indonesia Stock Exchange For 2015-2021 Period

ABSTRACT

According to the study's findings, the ratios of debt to equity (DER), debt to assets (DAR), and risk-based capital (RBC) all affect return on assets at the same time (ROA). This research was conducted to look at the ratios of risk-based capital (RBC) to return on assets (ROA), debt to equity ratio (DER), and debt to asset ratio (DAR) in general insurance businesses for the years 2015 through 2021. This kind of study employs a quantitative methodology and secondary data sources. Financial statements are the source of the data. The general insurance businesses are the study's population. Analysis is conducted using multiple regression. The IBM SPSS Statistics 25 statistical application is used by the researcher. Debt to Equity Ratio (DER) significantly influences Return on Assets in a favorable way (ROA).

Keywords: Debt to Equity Ratio (DER), Debt to Asset Ratio (DAR), Risk Based Capital (RBC), Return on Asset (ROA)

INTRODUCTION

A ratio called return on assets (ROA) demonstrates how much an asset contributes to net income. The amount of net profit earned from each rupiah of funds contained in total assets increases in direct proportion to the Return on Assets (ROA) performance. On the other hand, the net profit made from each rupiah of money contained in total assets decreases in direct proportion to the Return on Assets (ROA) results (Hery, 2015). How much net income there is in all assets is shown by return on assets (ROA). Additionally, this ratio is employed to demonstrate how assets were utilised to generate net income. The profitability ratio, which demonstrates the company's capacity to make money, includes Return on Assets (ROA).

One of the elements that influences Return on Assets is the Debt to Equity Ratio (DER) (ROA). A company's financial outlook can be used to determine if it is healthy or not. Debt to Equity Ratio (DER) is a ratio used to determine how much debt a firm has in relation to its capital (Hery, 2015). The capital and debt of the corporation must be equal.
If a firm's debt to equity ratio (DER) is too high, the company may face hazards such as high interest rates and decreased earnings (Wedyaningsih et al., 2019).

Using the company's total debt and total assets, the debt to asset ratio (DAR) is calculated (Maulita & Tania, 2018). A company's Debt to Asset Ratio (DAR) may put its ability to pay off debt at danger. Businesses with a high debt-to-asset ratio (DAR) will have a low return on assets (Agustin, et al., 2018). Conversely, a corporation will have a high Return on Assets if its Debt to Asset Ratio (DAR) is low (ROA). This is due to the fact that higher DAR values indicate a stronger source of funding through loans to fund firm assets (Gunde et al., 2017).

The amount of money required to cover the risk of loss that could develop as a result of errors in how insurance businesses manage their assets and liabilities is known as risk-based capital (RBC), and it is the bare minimum of solvency that insurance companies must possess (Alamsyah & Wiratno, 2017). An insurance company's profitability will rise when it has a high Risk Based Capital (RBC). On the other hand, if the risk-based capital (RBC) is low, an insurance company's profitability will also fall. How effectively an insurance business manages its obligations affects the size of its risk-based capital (RBC) (Nurrosis & Rahayu, 2020).

Insurance firms are crucial to people's lives in daily life as well. According to the agreement, the insurance provider may provide assistance if customers encounter unfavorable circumstances. According to the Financial Services Authority, insurance is a contract between the policy holder (the insured) and the insurance company that provides payment for the insured's life and death that has been calculated based on the management fund's results. The insurance company will receive a premium by the policy holder (the insured) if the insured suffers a loss due to a certain event. General insurance firms are businesses that offer replacement services in response to losses incurred by the insured as a result of a hazard (ojk.go.id, 2022).

**LITERATURE REVIEW**

*Debt to Equity Ratio (DER)*

A ratio called the debt to equity ratio (DER) or debt to equity ratio is used to calculate how much debt is compared to available capital. This ratio can be used to determine how much the quantity of money coming from the company's owner compares to the amount of money coming from creditors. To put it another way, this ratio determines how much of each rupiah of capital is used as a debt security (Hery, 2015).

*Debt to Asset Ratio (DAR)*

The debt to asset ratio, often known as the debt to asset ratio or DAR, is a ratio used to calculate the proportion of total debt to total assets. In other words, this ratio assesses
the amount of debt utilized to finance the company's assets or the impact of debt on asset financing (Hery, 2015).

**Risk Based Capital (RBC)**

Risk-based capital (RBC) is the provision of the minimal amount of solvency level established to cover the potential risk of loss (Dermawan, 2021). The better an insurance company's financial standing, the higher its risk-based capital (RBC) health ratio (Supriyono, 2019). Companies that reach Risk Based Capital (RBC) 120% will always be able to meet their financial responsibilities, particularly claims.

**Return On Asset (ROA)**

A ratio called return on assets (ROA) demonstrates how much an asset contributes to net income. The amount of net profit created from each rupiah of money incorporated in total assets increases with the return on assets. On the other hand, a lower return on assets results in less net profit being made from each rupiah of money embedded in total assets (Hery, 2015).

**Signaling Theory**

The actions performed by the signaler (signaler) to affect the behavior of the signal receiver are described by signal theory. Understanding why one signal is extremely important or useful while another signal is useless is generally the focus of signal theory. Signal theory looks at how a signal links to the characteristics it reflects and what characteristics of the signal or its environment keep it captivating and alluring (Suripto & Supriyanto, 2021).

**Trade Off Theory**

The goal of the trade-off theory in capital structure is to weigh the advantages and disadvantages of using debt. Additional debt is still permitted as long as the advantages outweigh the costs. In the meantime, extra debt is not permitted if the sacrifice brought about by using debt is larger. According to this theory, businesses strive to maintain a specified capital structure in order to increase market value (Umdiana & Claudia, 2020).

**Behavioral Finance**

According to the theory of behavioral finance, investors occasionally make decisions in highly uncertain market situations. This is because investors' psychological influences on their financial decision-making are sometimes significant. Behavioral finance is the way a person manages and uses money in finance. When making investment decisions, the behavioral finance theory considers different sorts of investors (Sukandani et al., 2019).
Hypotheses Development

Effect of DER, DAR, and RBC on ROA

Explanation of Signaling Theory with this research is to explain the relationship between Debt to Equity Ratio (DER), Debt to Asset Ratio (DAR), and Risk Based Capital (RBC) to Return on Assets (ROA). The company will perform a Return on Asset (ROA) calculation with the aim of giving a signal to investors, because the Debt to Equity Ratio (DER), Debt to Asset Ratio (DAR), and Risk Based Capital (RBC) can help investors regarding companies that have financial good or bad so that investors can choose to invest. This is consistent with the Signaling Theory that companies provide signals to investors that these companies are better than other companies because they have more potential to generate profits (Jurniansyah et al., 2021). Based on empirical evidence, according to Sayekti and Santoso (2020) which states that the Debt to Equity Ratio (DER), Debt to Asset Ratio (DAR), Risk Based Capital (RBC) simultaneously affect Return on Assets (ROA).

Effect of DER on ROA

The implication of Signaling Theory with this research is to explain the relationship between Debt to Equity Ratio (DER) and Return on Assets (ROA). The Debt to Equity Ratio (DER) is in accordance with the Signaling Theory in funding policy, that is, if the Debt to Equity Ratio (DER) is large, the greater the own capital used as collateral for debt (Akbar et al., 2021). This can provide a signal to investors to think about whether investors will invest in the company. The greater the Debt to Equity Ratio (DER) in a company, the smaller the Return on Assets (ROA). Based on empirical evidence, according to Wikardi & Wiyani (2017) which states that the Debt to Equity Ratio (DER) partially has a negative effect on Return on Assets (ROA). Subsequent previous research conducted by Maulita & Tania (2018) and Sayekti & Santoso (2020) provides empirical evidence that the Debt to Equity Ratio (DER) partially affects Return on Assets (ROA).

Effect of DAR on ROA

The implication of Signaling Theory with this research is to explain the relationship between Debt to Asset Ratio (DAR) and Return on Assets (ROA). Debt to Asset Ratio (DAR) is in accordance with Signaling Theory in funding policy, namely if the Debt to Asset Ratio (DAR) is large, the greater the company's assets are financed by debt or how much the company's debt affects asset management (Maulita & Tania, 2018). The greater the Debt to Asset Ratio (DAR) in a company, the smaller the Return on Assets (ROA). The greater the Debt to Asset Ratio (DAR) in a company, the smaller the Return on Assets (ROA). Based on empirical evidence, according to Mawarsih et al. (2020) which states that the Debt to Asset Ratio (DAR) partially has a negative effect on Return on Assets (ROA). Further previous research conducted by Sayekti & Santoso (2020)
provides empirical evidence that the Debt to Asset Ratio (DAR) partially affects Return on Assets (ROA).

**Effect of RBC on ROA**

The implication of Signaling Theory with this research is to explain the relationship between Risk Based Capital (RBC) and Return on Assets (ROA). Risk Based Capital (RBC) is in accordance with Signaling Theory, namely the greater the Risk Based Capital (RBC), the healthier the financial condition of the insurance company (Maharani & Ferli, 2020). This can give a signal to the investor to think about whether the investor will invest in the insurance company. The greater the Risk Based Capital (RBC) in an insurance company, the greater the Return on Assets (ROA). Based on empirical evidence, according to Dermawan (2021) which states that Risk Based Capital (RBC) partially has a positive effect on Return on Assets (ROA). Further previous research conducted by Sayekti and Santoso (2020) and Maharani & Ferli (2020) provides empirical evidence that Risk Based Capital (RBC) partially affects Return on Assets (ROA).

**Hypotheses of the research**

H1: It is suspected that the Debt to Equity Ratio (DER), Debt to Assets Ratio (DAR), and Risk Based (RBC) simultaneously affect Return on Assets (ROA) in general insurance companies that go public on the Indonesia Stock Exchange in the 2015-2021 period.

H2: It is suspected that the Debt to Equity Ratio (DER) partially has a negative effect on Return on Assets (ROA) in general insurance companies that go public on the Indonesia Stock Exchange for the 2015-2021 period.

H3: It is suspected that the Debt to Assets Ratio (DAR) partially has a negative effect on the Return on Assets (ROA) of general insurance companies that go public on the Indonesia Stock Exchange for the 2015-2021 period.

Figure 1. Proposed Conceptual Framework
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H4: Allegedly Risk Based Capital (RBC) partially has a positive effect on Return on Assets (ROA) in general insurance companies that go public on the Indonesia Stock Exchange for the 2015-2021 period.

METHODOLOGY

Quantitative methods are applied in the research. The population of this study consists of up to 9 general insurance companies that go public on the Indonesia Stock Exchange (IDX) throughout the 2015–2021 time frame. The following three criteria will determine who is included in this study's population: (1) General insurance companies with financial statements that become publicly available on the IDX; (2) General insurance companies listed on the Indonesia Stock Exchange for the 2015–2021 period; and (3) General insurance companies with profitable operating results. Purposive sampling was the method utilized in this investigation to choose the sample (Sugiyono, 2017). Six general insurance companies meet the aforementioned requirements and are utilized in this investigation.

The documentation method is used to carry out data collection strategies. Additionally, secondary data from journals, publications, and other research-related material is employed. Multiple regression analysis is the method of data analysis employed in this investigation. For this study, data processing using IBM SPSS Statistics 25 is necessary in order to ascertain how the independent variables DER, DAR, and RBC affect the dependent variable ROA.

DER is used to determine the size of the comparison between the amount of funds provided by creditors and the amount of funds originating from company owners. DAR is used to measure how much the company's assets are financed by debt, or how much the company's debt affects asset financing. RBC is used for the provisions of the minimum level of solvency that has been determined to cover the risk of losses that may arise at the insurance company. ROA is used to show how much the contribution of assets is in creating net profit.

RESULTS

**DER, DAR, and RBC simultaneously affect ROA**

The significance value is 0.023 or 2.3%. This amount is less than the required sum of 0.05 or 5%. By examining the F table with degrees of freedom, one can do the F test. df2 = n-k, where n is the number of study samples, and df1 = k-1, where k is the number of independent variables. Therefore, df1 = k-1 = 3-1 = 2 and df2 = n-k = 42-3 = 39 were calculated. F count is then 3.552 and F table is 3.24. F table > F count, which is 3.552 > 3.24. This leads to the conclusion that the independent factors of Debt to Equity Ratio (DER), Debt to Asset Ratio (DAR), and Risk Based Capital (RBC) jointly influence the Return on Assets (ROA) of publicly traded insurance businesses.
**DER partially has a negative effect on ROA**

According to the partial test table (t test), $t_{count} > t_{table}$ ($3.042 > 1.685$) was discovered. This demonstrates that the Debt to Equity Ratio (DER) variable's impact on Return on Assets is favorable (ROA). Additionally, the significance value is 0.004, which is lower than the actual threshold of 0.05. Therefore, it can be said that the variable Debt to Equity Ratio (DER) has a favorable impact on Return on Assets to some extent (ROA). As a result, hypothesis 2 is deemed invalid.

**DAR partially has a negative effect on ROA**

Based on the partial test table (t test), it was determined that ($-3.174 > 1.685$) that $t_{count} > t_{table}$. This demonstrates that the Debt to Asset Ratio (DAR) variable's impact on Return on Assets is negative (ROA). Additionally, the significance value is 0.003, which is lower than the actual threshold of 0.05. In light of this, it can be said that the variable Debt to Asset Ratio (DAR) has a mixed impact on Return on Assets (ROA). As a result, hypothesis 3 is deemed to be true.

**RBC partially positive effect on ROA**

According to the partial test table (t test), $t_{count} > t_{table}$ ($-1.105 > 1.685$) was discovered. This demonstrates that the Risk Based Capital (RBC) variable's impact on Return on Assets is negative (ROA). Additionally, the significance level is 0.276, which is higher than the actual threshold of 0.05. The variable Risk Based Capital (RBC) so partially has no impact on Return on Assets, it can be said (ROA). As a result, the hypothesis is deemed false.

### Table 1. Results of Descriptive Statistical Analysis

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>DER</td>
<td>42</td>
<td>65.06</td>
<td>493.15</td>
<td>181.7214</td>
<td>90.32918</td>
</tr>
<tr>
<td>DAR</td>
<td>42</td>
<td>39.42</td>
<td>83.14</td>
<td>61.8114</td>
<td>9.94529</td>
</tr>
<tr>
<td>RBC</td>
<td>42</td>
<td>1.20</td>
<td>6.34</td>
<td>2.9883</td>
<td>1.40904</td>
</tr>
<tr>
<td>ROA</td>
<td>42</td>
<td>.66</td>
<td>9.43</td>
<td>3.5988</td>
<td>1.92204</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>42</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 2. Simultaneous Test (F Test)

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>19,731</td>
<td>3</td>
<td>6.577</td>
<td>3.552</td>
<td>.023b</td>
</tr>
<tr>
<td>Residual</td>
<td>68,506</td>
<td>37</td>
<td>1.852</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>88,237</td>
<td>40</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### DISCUSSION

**Effect of DER, DAR, and RBC on ROA**

The findings demonstrated that DER, DAR, and RBC all had an impact on ROA at the same time. This occurs because Return on Assets (ROA), which measures a company's capacity to generate profitable income through the effective use of its own assets, is negative (Sayekti & Santoso, 2020). As a result, the management of the firm computes Return on Assets (ROA), which attempts to assist investors in determining whether the company has solid finances or not in order to attract investors' attention and profit for the company. This study is consistent with other research, specifically Sayekti & Santoso (2020). According to the study's findings, ROA is simultaneously impacted by DER, DAR, and RBC. The difference between this research and previous research is that previous studies also measure company size.

**Effect of DER on ROA**

The findings indicated that DER had a slightly favorable impact on ROA. The amount of outside capital a corporation will receive depends on its Debt to Equity Ratio (DER). This occurs because the Debt to Equity Ratio (DER), which specifies the company's finance approach, has a significant impact on the realization of company profitability. The company will require outside funding to boost its earnings and grow, which will affect how well Return on Assets is achieved (ROA). This study supports earlier studies conducted by Setianingsih et al. (2019), Syafi'i & Haryono (2021), Sari & Dwirandra (2021). This study's findings indicate that DER influences ROA rather favorably. The difference between this research and previous research is the object used, in previous studies the object used was Islamic commercial banks.

**Effect of DAR on ROA**

The results showed that DAR partially had a negative effect on ROA. Every time there is an increase in the Debt to Asset Ratio (DAR), there will be a decrease in Return on Assets (ROA). Due to the payment of costs incurred due to debt or loans, thereby reducing the company's profit and it is feared that the company will not be able to cover its debts with assets owned by the company. Declining corporate profits cause the Return on...
Assets (ROA) to be low. Therefore, a large Debt to Asset Ratio (DAR) can discourage investors from investing in the company. The results of this study are in line with previous studies, namely Mawarsih et al. (2020) and Sayektı & Santoso (2020). The results of this study are the Debt to Asset Ratio (DAR) has a negative effect on Return on Assets (ROA). The difference between this study and previous studies is the year of research used.

**Effect of RBC on ROA**

The results showed that RBC partially had no effect on ROA. This shows that the fulfillment of the minimum level of solvency is in accordance with government regulations which have no effect on the achievement of the Return on Assets (ROA) of insurance companies. The achievement of Risk Based Capital (RBC) required by the government only provides information on the financial health of the insurance company in fulfilling its obligations and managing the risks it bears. The results of this study are in line with previous studies, namely Tresnawati et al. (2022) and Hasanah & Siswanto (2019). The results of this study are Risk Based Capital (RBC) has a negative effect on Return on Assets (ROA). The difference between this study and previous studies is the year of research used.

**CONCLUSIONS**

This study aims to determine how the influence of Debt to Equity Ratio (DER), Debt to Asset Ratio (DAR), and Risk Based Capital (RBC) on Return on Assets (ROA). The object used is a general insurance company that goes public on the Indonesia Stock Exchange (IDX) for the 2015-2021 period. Based on the results of testing data through the IBM SPSS Statistic 25 program, it can be concluded as follows: (1) Debt to Equity Ratio (DER), Debt to Asset Ratio (DAR) and Risk Based Capital (RBC) have a simultaneous effect on Return on Assets (ROA), (2) Debt to Equity Ratio (DER) partially positive effect on Return on Assets (ROA), (3) Debt to Asset Ratio (DAR) partially negative effect on Return on Assets (ROA), (4) Risk Based Capital (RBC) has no partial effect on Return on Assets (ROA).

**Limitations**

The limitations in this study are the ratios that can be used to measure profitability consisting of Return on Assets (ROA), Return on Equity (ROE), Gross Profit Margin (GPM), Operating Profit Margin (OPM), Net Profit Margin (NPM). However, this study only uses one of the profitability ratios, namely Return on Assets (ROA). Some references that are difficult to find with certain year limits because there are more complete references, but published above that year so the author takes quite a long time to complete this research.
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Recommendations

For future research, it is hoped that they can add variables that have not been used in this study because there are other financial ratios that might affect the Return on Assets (ROA). For future writers, it is expected to increase the number of references in conducting research preparation.

REFERENCES


http://www.ojk.go.id


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