Abstract

This study aims to determine if the profitability ratios represented by Return on Equity (ROE) and the solvency ratios defined by the Debt to Equity Ratio (DER) have an impact on Earnings per Share (EPS) for real estate companies listed on the Indonesia Stock Exchange securities in 2019-2021. The population in this study were all property and real estate sector companies listed on the Indonesia Stock Exchange (IDX). In contrast, the sample in this study was 49 companies selected using a purposive sampling technique. The analysis model used in this study is a multiple linear regression analysis models, and the analysis technique uses the partial significance test, f test, and coefficient of determination. The results showed that the debt-to-equity ratio does not significantly affect earnings per share. In comparison, the return on equity variable positively and significantly affects earnings per share.

Keywords: Earning per share (EPS), Return on equity (ROE), Debt to equity ratio (DER), share

INTRODUCTION

During the period from mid-2019, all economic activities, including the stock market, were also affected by the Covid-19 pandemic. The movement of stock investment is very volatile, and the decline in several sectors is apparent. The shares traded on the Indonesian Stock Exchange are divided into 12 sectors (Bursa Efek Indonesia, 2021). Among these sectors, real estate is one of the sectors that is very influential on the gross domestic product in Indonesia, and during the pandemic, it experienced a significant decline. The real estate sector is one of the driving sectors that can absorb many jobs because its implementation involves many parties ranging from developers, contractors, construction workers, investors, tenants, and financial institutions (Sunarsip, 2021).

As an investor, you will see several crucial indicators to convince yourself to choose the issuer's portfolio with the most optimal performance. Fundamentally, the company's condition can be seen through the financial statements. In the financial statements, some ratios, such as Earning Per Share (EPS), are essential for investors to know. Earnings Per Share is a ratio to
measure the success of management in achieving profits for shareholders (Kasmir, 2019). Earnings Per Share (EPS) is the company’s net income in a year divided by the average total number of shares outstanding.

The variables that affect Earning Per Share or Earning Per Share are obtained from the decomposition of Earning Per Share into its essential determining factors, such as ratios related to the ability to fulfil its obligations and balances used to measure a company’s ability to earn profits (profitability). The average Debt-to-Equity Ratio (DER) value increased significantly in 2020, reaching 0.87. This indicates that various company conditions, including the Covid-19 pandemic, influence the fluctuating DER value.

Then, profitability is also a determining factor for Earning Per Share (EPS). According to Kasmir (2019: 114), the profitability ratio assesses a company’s ability to seek profit or profit in a certain period. The average ROE value decreased sharply in 2020 and touched 0.17% (Indonesia Stock Exchange, 2021).

Based on previous studies found different results. There is a contradiction in the research results shown in the research gap and the gap phenomenon, which ultimately underlies this research to analyse the effect of Return on Equity and Debt to Equity Ratio on Earnings per Share in shares of real estate sector companies listed on the Indonesia Stock Exchange in 2019-2021.

LITERATURE REVIEW

Return On Equity

Return on equity (ROE) is a financial ratio that measures a company’s profitability about the amount of shareholder equity invested. In other words, it measures how much profit a company generates for every dollar of shareholder equity. To calculate ROE, divide the company’s net income by shareholder equity. The formula for ROE is:

\[ \text{ROE} = \frac{\text{Net Income}}{\text{Shareholder Equity}} \]

Net income is the company's total earnings after deducting all expenses, taxes, and interest. Shareholder equity is the amount of money shareholders have invested in the company, including the initial investment and any additional contributions. ROE is usually expressed as a percentage, representing profit earned for each dollar of shareholder equity. For example, if a company has an ROE of 15%, it means that for every dollar of shareholder equity, it generates 15 cents in profit. ROE is an essential financial metric that investors use to evaluate a company's
profitability and efficiency. Generally, a higher ROE indicates that a company uses its shareholder equity effectively to generate profits. However, it's important to note that ROE should be used with other financial ratios and metrics to assess a company's financial health comprehensively.

**Debt To Equity Ratio**

The debt-to-equity ratio is a financial ratio showing the proportion of a company's total debt to its equity. It measures the company's leverage or how much debt it uses to finance its operations relative to the amount of equity. To calculate the debt-to-equity ratio, divide the company's total liabilities (including short-term and long-term debt) by its total equity. The formula for the debt-to-equity ratio is:

$$\text{Debt-to-Equity Ratio} = \frac{\text{Total Liabilities}}{\text{Total Equity}}$$

The resulting ratio represents the company’s debt for every dollar of equity. For example, if a company has a debt-to-equity ratio of 2, it has $2 of debt for every $1 of equity.

A high debt-to-equity ratio can indicate that a company is highly leveraged, which may be risky because it relies heavily on debt to finance its operations. This can make the company vulnerable to economic downturns or interest rate hikes and may lead to difficulties repaying debt or accessing additional financing.

On the other hand, a low debt-to-equity ratio may indicate that the company is using more of its equity to finance its operations, which may be less risky. However, this can also mean that the company needs to take advantage of the benefits of debt financing, such as tax advantages and lower interest rates. Investors and analysts use the debt-to-equity ratio to assess a company's financial health and risk profile. Still, it’s essential to compare the ratio to other companies in the same industry and to analyse it in conjunction with different financial ratios and metrics to get a complete picture of the company's financial position.

**Earnings Per Share**

Earnings per share (EPS) is a financial ratio that measures a company’s profitability on a per-share basis. It represents the amount of a company's net income attributable to each outstanding share of its common stock. To calculate EPS, you divide the company's net income by its total number of outstanding shares of common stock. The formula for EPS is:

$$\text{EPS} = \frac{\text{Net Income}}{\text{Total Number of Outstanding Shares}}$$
Net income is the company's total earnings after deducting all expenses, taxes, and interest. Outstanding shares of common stock have been issued by the company and held by shareholders. EPS is a critical metric often used by investors to evaluate a company's profitability and determine its value relative to its share price. A higher EPS indicates that the company is generating more earnings for each share of stock, which may make it more attractive to investors.

However, it's important to note that EPS should be used with other financial ratios and metrics to get a comprehensive view of a company's financial health. For example, a company with a high EPS may also have a high price-to-earnings (P/E) ratio. This means that investors are willing to pay more for each dollar of earnings because they expect the company to continue growing and generating profits in the future. On the other hand, a company with a low EPS may have a low P/E ratio, which may indicate that the market undervalues the company.

RESEARCH METHODS

The population of this study was 95 companies in 2019, 80 companies in 2020 and 2021, with a sample of 49 companies which were determined using a purposive sampling technique with the criteria of property and real estate sector companies listed on the Indonesia Stock Exchange (IDX) consecutively for 2019-2021, the company does not change sectors during the research year, and the company provides the data needed in the research and publishes annual financial reports regularly. This study uses multiple linear regression analysis techniques. The dependent variable in this study is EPS, and the independent variables are ROE and DER. This research is a type of associative research which is the approach used in this study to determine the relationship between two or more variables. The location of this research is real estate sector companies listed on the Indonesia Stock Exchange in 2019-2021. The type of data used is quantitative data which is a general description of real estate sector companies on the Indonesia Stock Exchange, and quantitative data in the form of financial statements of property and real estate sector companies on the Indonesia Stock Exchange. This data is sourced from secondary data, namely the publication of financial reports of real estate sector companies listed on the Indonesia Stock Exchange for 2019-2021. When viewed according to the time dimension, the research data used is panel data (pooling), a combination of time series and cross-sectional data. The object of this study is EPS which is influenced by ROE and DER found in real estate sector companies for the period 2019-2021.
The population of this study was 95 companies in 2019, 80 companies in 2020 and 2021, with a sample of 49 companies which were determined using a purposive sampling technique with the criteria of property and real estate sector companies listed on the Indonesia Stock Exchange (IDX) consecutively for 2019-2021, the company does not change sectors during the research year, and the company provides the data needed in the research and publishes annual financial reports regularly. This study uses multiple linear regression analysis techniques. The dependent variable in this study is EPS, and the independent variables are ROE and DER.

RESULTS AND DISCUSSION

Descriptive statistics

Return on Equity (ROE) has a minimum value of -0.15091, a maximum value of 0.14012, and a mean of 0.0097839 with a standard deviation of 0.05627076. An average deviation value more significant than the mean value indicates that the Return on Equity (ROE) variable has an extensive distribution or distribution. The Debt-to-Equity Ratio (DER) has a minimum value of 0.02121, a maximum value of 1.07289, and a mean of 0.4188747 with a standard deviation of 0.28122965. The existence of an average deviation value smaller than the mean value indicates that the distribution of the data variables is small or that there is no large enough gap between the lowest and highest DER ratios. Earnings per Share (EPS) has a minimum value of -43.84000, a maximum value of 74.39750, and a mean of 5.4672409 with a standard deviation of 22.93851508. A normal deviation value more significant than the mean value indicates that the Earning per Share variable has an extensive distribution or distribution.

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROE_X1</td>
<td>81</td>
<td>-0.15091</td>
<td>0.14012</td>
<td>0.0097839</td>
<td>0.05627076</td>
</tr>
<tr>
<td>DER_X2</td>
<td>81</td>
<td>0.02121</td>
<td>1.07289</td>
<td>0.4188747</td>
<td>0.28122965</td>
</tr>
<tr>
<td>EPS_Y</td>
<td>81</td>
<td>-43.84000</td>
<td>74.39750</td>
<td>5.4672409</td>
<td>22.93851508</td>
</tr>
</tbody>
</table>

Valid N (listwise) 81

Source: Secondary data, 2021

Classic assumption test

Normality test

This test obtained data from 81 out of 147 company data, and the research samples were declared to have passed the normality test. Testing for normality in this study uses graphical analysis and statistical analysis. The graphical analysis included histogram graphs and normal P-plots, while the statistical analysis used the Non-Parametric Kolmogorov-Smirnov (K-S) test.
The results of the histogram graph are below the curve, patterned like a bell, and do not deviate to the right or left, so the residuals are declared normally distributed.

The results of the normality test using the histogram chart can be seen in Figure 1.

![Histogram Chart](image1.png)

**Figure 1.** Histogram Chart  
Source: Secondary data, 2021

The probability plot image shows that the points on the Normal Probability Plot are spread around the diagonal line and follow the direction of the diagonal line. So the data is normally distributed. The results of the normality test using a probability plot can be seen in Figure 2.

![Normal Probability Plot Graph](image2.png)

**Figure 2.** Normal Probability Plot Graph  
Source: Secondary data, 2021

The Kolmogorov-Smirnov Non-Parametric (K-S) test result of 0.077 is more significant than 0.05. The data is normally distributed if the significant value is > 0.05. This indicates that the
data in this study are normally distributed. The normality test results using the Kolmogorov-Smirnov Non-Parametric (K-S) test can be seen in Table 2.

Table 2. Kolmogorov-Smirnov Non-Parametric Test (K-S)

<table>
<thead>
<tr>
<th>Test</th>
<th>Sig.</th>
<th>Alpha</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kolmogorov-Smirnov</td>
<td>0,077</td>
<td>0,05</td>
<td>Normally distributed</td>
</tr>
</tbody>
</table>

Source: Secondary data, 2021

Heteroscedasticity Test

The test results on the scatterplot graph spread randomly and spread above and below the number 0 on the Y axis. So there is no heteroscedasticity in the regression model. The results of the heteroscedasticity test using the scatterplot can be seen in Figure 3.

![Scatterplot Graph](image)

Figure 3. Scatterplot Graph

Source: Secondary data, 2021

The Glejser test produces a significant value for the variable Return on Equity or ROE (X2) with a significance value of 0.147 > 0.05 so that heteroscedasticity does not occur. Meanwhile, the variable Debt to Equity Ratio or DER (X1) is 0.511 > 0.05, so there is no heteroscedasticity. The Glejser test results using the scatterplot can be seen in Table 3.

Table 3. Glejser Test

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardised Coefficients</th>
<th>Standardised Coefficients</th>
<th>T</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>0,031</td>
<td>0,007</td>
<td>4,357</td>
<td>0,000</td>
</tr>
<tr>
<td>ROE_X1</td>
<td>0,104</td>
<td>0,071</td>
<td>0,166</td>
<td>1,466</td>
</tr>
<tr>
<td>DER_X2</td>
<td>0,009</td>
<td>0,014</td>
<td>0,075</td>
<td>0,660</td>
</tr>
</tbody>
</table>

a. Dependent Variable: EPS_Y_GLEJSER

Source: Secondary data, 2021
**Autocorrelation Test**

The results of the autocorrelation test with the Durbin-Watson test show that the Durbin-Watson value (DW) is 1.842 with a significance of 0.05, the amount of data (n) is 81, the number of independent variables (k) is 2, the lower limit (dL) is 1.5888. The upper limit (du) is 1.6898. The Durbin-Watson value (DW) is greater than the upper limit (du) and less than \(4-1.6898 = 2.3102 \) (4-du) or \(1.6898 < 1.842 < 2.3102\). So there is no positive and negative autocorrelation in the regression model. The results of the autocorrelation test with the Durbin-Watson test can be seen in Table 4.

**Table 4. Autocorrelation Test With Durbin-Watson**

<table>
<thead>
<tr>
<th>Model</th>
<th>(R^2)</th>
<th>Adjusted (R^2)</th>
<th>Std. Error of Estimate</th>
<th>Durbin-Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.874a</td>
<td>0.764</td>
<td>0.758</td>
<td>11,27680280</td>
</tr>
</tbody>
</table>

\(a.\) Predictors: (Constant), ROE_X1, DER_X2  
\(b.\) Dependent Variable: EPS_Y

**Multicollinearity Test**

It is known that the VIF for each variable, namely ROE (X1) and DER (X2), is 1.035 <10, so there is no indication of multicollinearity. In addition, judging from the collinearity tolerance values for the ROE (X1) and DER (X2) variables, it is 0.966 > 0.1, so it can be concluded that there is no indication of multicollinearity. The results of the multicollinearity test can be seen in Table 5.

**Table 5. Multicollinearity Test**

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Tolerance</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Return on Equity</td>
<td>0.966</td>
<td>1.035</td>
</tr>
<tr>
<td>Debt to Equity Ratio</td>
<td>0.966</td>
<td>1.035</td>
</tr>
</tbody>
</table>

Source: Secondary data, 2021

**Linearity Test**

It is known that the sign linearity values of the ROE and EPS variables are 0.000 < 0.05, and at a deviation from linearity of 0.096 > 0.05, it can be stated that the data is linear or between the ROE and EPS variables linear. While the sig linearity value of the DER and EPS variables is 0.028 <0.05, and at a deviation from linearity of 0.468 > 0.05, it can be stated that the data is linear or between the variables DER and EPS is linear.
**Multiple Linear Regression Analysis**

Based on calculations using multiple linear regression analysis techniques with the help of the SPSS 25.00 for windows program in data processing, the results are \( \text{EPS} = -1.068 + 347.646 \text{ROE} + 7.481 \text{DER} + e \). Following are the results of the linear regression analysis.

**Table 6. Results Of Multiple Linear Regression Analysis**

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Regression Coefficient</th>
<th>t-count</th>
<th>Sig-t (p-value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-1.068</td>
<td>-0.472</td>
<td>0.638</td>
</tr>
<tr>
<td>Return on Equity</td>
<td>347.646</td>
<td>15.253</td>
<td>0.000</td>
</tr>
<tr>
<td>Debt to Equity Ratio</td>
<td>7.481</td>
<td>1.640</td>
<td>0.105</td>
</tr>
</tbody>
</table>

Source: Secondary data, 2021

**F Test**

The F test aims to see the feasibility of the model. The F test is used to find out whether the model used in the regression is appropriate and feasible to use. The F test obtained a Fcount value of 126.508 where the Fcount value > Ftable was 3.11 and a significance value of 0.00 < 0.05, which means that the model in this study was appropriate and feasible to use. The F test in this study can be seen in Table 7.

**Table 7. F Test**

<table>
<thead>
<tr>
<th>Model</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>32175,068</td>
<td>2</td>
<td>16087,534</td>
<td>126,508</td>
<td>0.000b</td>
</tr>
<tr>
<td>Residual</td>
<td>9918,970</td>
<td>78</td>
<td>127,166</td>
<td>126,508</td>
<td>0.000b</td>
</tr>
<tr>
<td>Total</td>
<td>42094,038</td>
<td>80</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A. Dependent Variable: EPS_Y
B. Predictors: (Constant), ROE_X1, DER_X2

Source: Secondary data, 2021

**t-Test**

The t-test is used to show how far the influence of one independent variable is individually or partially in explaining the dependent variable. t-test results can be seen in the table. The results of the t-test are shown in Table 8.

**Table 8. t-Test**

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Regression Coefficient</th>
<th>t-count</th>
<th>Sig-t (p-value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Konstanta</td>
<td>-1.068</td>
<td>-0.472</td>
<td>0.638</td>
</tr>
<tr>
<td>Return on Equity</td>
<td>347.646</td>
<td>15.253</td>
<td>0.000</td>
</tr>
<tr>
<td>Debt to Equity Ratio</td>
<td>7.481</td>
<td>1.640</td>
<td>0.105</td>
</tr>
</tbody>
</table>

Source: Secondary data, 2021
Return on Equity Affects Earnings per Share

Based on the proof of hypothesis 1 (one), it shows that profitability, as indicated by the Return on Equity (ROE) ratio, has a significant positive effect on Earning per Share (EPS) in real estate sector companies listed on the Indonesia Stock Exchange (IDX) in 2019-2021. This means that an increase follows every increase in profitability in earnings per share.

This finding is in line with signalling theory which states that if profitability is high, it will be a good signal for investors who show good company performance because earnings per share or EPS will also increase. Companies with good profitability can increase the quality of profits owned by the company because profitability is a measure of the company's ability to earn profits. A company that manages to maintain profitability can certainly be sure to run its business well because when it is able to run its business well, it means that the company can work optimally to obtain maximum profits. (Andriani et al., 2021).

The increase in earnings per share is influenced by profitability because the company's net profit is the basis for sharing earnings per share for investors. The company's profit is determined by the sales of property and real estate products, thereby increasing the company's profit. The company’s profit will then be distributed to investors as earnings per share. The more investors own the company's shares, the greater they will be received. This is also by the condition of most research samples in property and real estate companies, which show that an increase follows every increase in profitability in earnings per share. This explains the factors that affect earnings per share because the investor's profit level is proportional to the company's profit. If the company earns a significant profit, the company's EPS figure will automatically be substantial.

The findings in this study also support the assumptions contained in the packing order theory, which suggests that a company with a high level of profitability has a low level of debt because it optimises funding from internal sources or the company itself. If the company's internal funding is abundant, the company does not need to face financial risks such as interest payments. The results of this study are consistent with the results of previous studies, namely Rachmawati & Sherlita (2021), Taani & Banykhaled (2011), Pratiwi & Rodhiyah (2017), Shinta & Laksito (2014), and Nurcholidah (2017) which suggests that profitability (ROE) positive effect on earnings per share or Earning Per Share (EPS).
Debt to Equity Ratio Affects Earnings per Share

Based on the proof of hypothesis 2 (two), which was rejected, it shows that the Debt to Equity Ratio (DER) variable has no significant effect on earnings per share (EPS) in real estate sector companies listed on the Indonesia Stock Exchange (IDX) in 2019-2021. The results of this study are in line with the research of Hayati et al. (2021), Nugraha et al. (2021), Abdulkareem & Meghanathi (2020), Kumar (2017), Zamri et al. (2016), Istikhomah (2019), and Rambe et al., (2021) who found that Solvency (Debt to Equity/DER) does not affect Earnings Per Share (EPS). These findings mean that any increase or decrease in solvency is not followed significantly by an increase or decrease in earnings per share.

The size of the debt will affect earnings per share if the company can manage debt properly to generate profits. However, debt will only affect earnings per share if handled correctly. Here the company faces a known trade-off between risk and expected return (Fadah, 2013: 157).

The high and low value of the debt to equity ratio in real estate companies does not affect the value of earnings per share because debt is used for corporate investment purposes to support long-term company growth such as expansion, purchase of assets, and initial funding, so that it will generate profits in the future (Fadah, 2013: 5). So debt is irrelevant in determining the value of earnings per share in the short term. The company reinvests most of its funds because the increased operating profit will result in equity growth. High profitability chooses to expand more attractive because it implies that investments generate more profits (Li & Nissim, 2014).

The results of this study align with the essence of the trade-off theory; namely, companies must balance the benefits and sacrifices that arise from using debt (Pasaribu, 2018). During the pandemic, companies in the property sector had problems not only in the form of a decrease in sales which had an impact on company profits, but also problems in the form of the obligation to pay operational expenses, especially salaries, THR for employees during Eid Al-Fitr, and the obligation to pay interest on debts made. Meanwhile, from operational activities funded by debt, they have yet to obtain an operating profit more significant than their obligations. Meanwhile, the property sector has assets in the form of land and buildings, making it difficult to liquidate them quickly. Therefore, the amount of corporate debt does not significantly affect the increase in income and profits of property companies, so it does not affect the number of earnings per share.
The findings in this study also align with the assumptions that the decision to fund in the packing order theory will choose to use internal funding sources first, then use debt. The number of earnings per share can also be determined by other factors not examined in this study so that the results of research conducted solvency do not affect earnings per share and can also be caused by other factors more dominant in determining the number of earnings per share.

CONCLUSION

Based on the results of the research that has been done, the following conclusions can be drawn:

1. The profitability of companies in the real estate sector with the Return on Equity (ROE) indicator has a significant positive effect on earnings per share. The profit earned becomes the basis for determining the distribution of profits per company share. Increased profitability ratios indicate that management performance has risen by managing operational funding sources effectively to generate net income. With so high ROE will increase the amount of profit available to shareholders. The company's profit is determined by the number of sales of real estate products, thereby increasing the company's profit. The company’s profit will then be distributed to investors in the form of earnings per share, and the more investors own the company's shares, the greater will be received.

2. An increase or earnings per share does not follow the ability of real estate sector companies to pay their debts. Debt will only affect earnings per share if the debt is managed correctly. The company's net profit is the main factor determining the size of earnings per share. Earnings per share will increase if the company's profits increase despite the small debt. Earnings per share will decrease if the company's profits decrease despite having much debt. Earnings per share will be significant if the company's profits are large, even though the debt is also effective. In addition, companies use debt for long-term investment and generate profits in the future, so debt is irrelevant for determining earnings per share in the short term. So it can be concluded that debt does not affect earnings per share.

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