The Effect of Return on Equity, Debt to Equity Ratio, and Book Value Per Share on Stock Prices (Case Study of Plastic and Packaging Companies Listed on The Bei For The Period 2019-2022)

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Abstract: This study aims to test and analyze the effect of Return On Equity (ROE), Debt to Equity Ratio (DER), and Book Value Per Share (BVS) on the share price of plastic and packaging companies listed on the IDX for the 2019-2022 period. The population and samples in this study are plastic and packaging companies listed on the Indonesia Stock Exchange (IDX). Sampling in this study uses purposive sampling technique, the type of research used is explanatory research with a quantitative approach. The data source in this study is secondary data obtained from the company's financial statements. The analysis method used is multiple linear regression analysis. The results of this study indicate that Return On Equity (ROE) and Debt to Equity Ratio (DER) have a positive and significant effect on stock prices, while Book Value Per Share (BVS) has no effect on stock prices.

Keywords: Return On Equity, Debt to Equity Ratio, Book Value Per Share, Price Share

1. Introduction [the First Section must be “Introduction”, Typed in Bold, List-style with ABCs Alphabets]

The rapid development of the capital market in Indonesia today cannot be separated from the role of investors who invest in the Indonesia Stock Exchange. Before investors decide to invest in the capital market, there are several things that must be done, namely a careful evaluation of the issuer (purchase of securities traded on the stock exchange) and make considerations. One of the considerations of investors in making these choices can be seen in the company's achievements which can be measured and assessed from the company's performance. This can be seen from the financial statements that provide accurate and relevant information for investors, where this information can be used to make decisions for investors regarding when to buy or sell their shares.

The share price of each company is reflected in the
company's performance. If the company's performance is good, the company's share price will increase and vice versa. The higher the company's performance, the higher the company's profit, the greater the dividends that will be distributed to shareholders. High company performance will attract investors to invest in the company, this will also result in an increase in the share price of a company.

Development of the Composite Stock Price Index (JCI) in 2022

Source: www.idx.co.id

Based on the graph above, on average, it can be seen that the composite stock price index experienced the highest increase in September 2022 of 7,318.02. The company's stock price that has increased means that the company's performance is good, especially in generating company profits. The increase in profit will make the dividends distributed will also be greater. By looking at the stock price movements of the company, investors can conclude how the company is performing. If the company's share price rises, the level of investor prosperity will also increase. For this reason, investors can further assess the company's performance through financial ratio analysis. In this study, researchers took several financial ratios including Return On Equity, Debt To Equity, and Book Value Per Share. According to (Tandelilin 2009 in Santi, Trianasari, Wayan 2019) Return On Equity is a ratio that describes the extent to which the company's ability to generate profits that can be obtained by shareholders. If the higher this ratio, it will have a good impact on shareholders because it provides a large rate of return for shareholders. Previous research conducted by (Syamsu and Fira 2015) found that return on equity has a positive and significant effect on stock prices. The following is ROE data for plastic and packaging sector companies in the 2019-2022 period. If the higher the ROE in a company, the higher the company's stock price.

Another indicator in financial ratios that can be used to assess company performance is the solvency ratio. According to (Kasmir 2013 in Aditya, Frendy, and Wilfried 2019) the solvency ratio is a ratio used to measure company assets financed by debt. In this study, the solvency ratio is proxied by the Debt to Equity Ratio (DER). According to (Kasmir 2012 in Rizka and Denok 2020) Debt to Equity Ratio (DER) is a ratio used to assess debt with equity. If the company's debt to equity ratio is high, the stock price decreases, this indicates that the company's interest expense is getting bigger, thereby reducing the company's profits. Previous research conducted by (Ade Gunawan 2020) found that the debt to equity ratio has a positive and significant effect on stock prices. If the DER value of a company is
high, the stock price of the company is low. The next indicator in financial ratios that can be used to assess company performance is Book Value Per Share (BVS). Book value per share is a ratio used to compare shareholders' equity with the number of shares outstanding (Dimas, 2020). The BVS indicator is used by investors to assess the fair price of a company for each share. Previous research conducted by (Dimas, 2020) found that BVS has a positive and significant effect on stock prices. The higher the BVS value, the higher the investor's interest in investing. This study uses a sample of companies listed on the Indonesia Stock Exchange, especially companies included in the Plastics and Packaging sub-sector. The reason for choosing plastic and packaging companies is due to the fact that plastics and packaging are complementary needs and people have not been able to leave the use of plastic materials in their daily lives. Based on data from the National Waste Management Information System (SIPSN) of the Ministry of Environment and Forestry (MENLHK), waste generated from 172 regencies / cities throughout Indonesia in 2022 amounted to 15,137,427 tons per year of which 21.62% came from plastic waste (www.sipsn.menlhk.go.id).

2. Theoretical Foundations

2.1 Shares

According to (Maria and Yuniati 2021), shares are proof of ownership in a company that goes public. Shares can be divided into two types, namely as follows:

1. Common stock

A type of stock that will receive dividends after the preferred stock dividend portion is paid. This stock is the stock most often used by issuers to obtain funds from the public and is also a popular type of stock in the capital market.

2. Preferred stock

A type of securities that has the right to receive profits first and has cumulative profit rights. This cumulative right means that profit rights that are not obtained when the company experiences losses will be paid in the year the company experiences profits. This right is given to shareholders because when

Waste composition by waste type

Source: www.sipsn.menlhk.go.id

Based on the phenomena that occur, this study aims to reexamine whether ROE, DER and BVS affect the share price of plastic and packaging companies listed on the Indonesia Stock Exchange.
the company experiences financial difficulties, they supply the funds.

2.2 Stock Price
Stock price is the price formed from the interaction of sellers and buyers of shares motivated by the hope of profit (Surya and Wirajaya, 2017). (William Hartanto 2019), share price is a unit of value or bookkeeping in various financial instruments that refers to a share of ownership of a company or a form of ownership of a company in the capital market. According to (Prientono et al., 2019), the share price is a very important factor and needs to be considered by investors because the share price shows the achievements of the issuer which is one measure of the success of a company as a whole.

2.3 Return On Equity (ROE)
According to (Hery 2015) ROE is a ratio used to measure the company's success in generating profits for shareholders. According to (Hani 2015) the factors that affect ROE are sales volume, capital structure, and debt structure. Companies that use more debt in spending on company activities will get a high ROE value. ROE is usually expressed as a percentage (%) with the following calculation:
\[
\text{ROE} = \frac{\text{Net Profit After Tax}}{\text{Total Equity}} \times 100\%
\]
Source: Syamsudin (2016)

2.4 Debt to Equity Ratio (DER)
According to (Hani 2015), the Debt to Equity Ratio shows how much part of the rupiah of own capital is used as collateral for the entire debt. The higher this ratio means the higher the amount of outside funds that must be guaranteed by the amount of own capital. DER is usually expressed as a percentage (%) which can be calculated using the following formula:
\[
\text{DER} = \frac{\text{Total Liabilities}}{\text{Total Equity}} \times 100\%
\]
Source: Novita and Herlambang (2020)

2.5 Book Value Per Share (BVS)
(Fidelia 2017) states that Book Value Per Share is a ratio that describes the ratio of total capital (equity) to the number of shares outstanding. According to (Ida Ayu 2016) BVS is a ratio used to show the real value of a share. The formula used to calculate book value per share (BVS) is as follows:
\[
\text{BVS} = \frac{\text{Net Capital}}{\text{Total Shares Outstanding}}
\]
Source: Aletheari and Jati (2016)

3. Research Methods
This study uses the type of explanatory research that intends to explain the position of the variables studied and the influence between one variable and another. This research uses a quantitative approach. According to (Ramadhan 2021) quantitative research data is existing data expressed in the form of numbers obtained in the field. The dependent variable (Y) used in this study is Stock Price, while the independent variables (X) are Return On Equity (ROE), Debt to Equity Ratio (DER), and Book Value Per Share (BVS). The population in this study is a plastic and packaging company listed on the Indonesia
Stock Exchange (IDX) for the 2019-2022 period. Sampling this study using purposive sampling technique, with the following criteria: 1. Plastic and packaging companies listed on the Indonesia Stock Exchange in the 2019-2022 period. 2. Plastic and packaging companies that publish complete financial reports and financial ratios in accordance with the variables to be studied based on the observation period 2019-2022. 3. Plastic and packaging companies that present financial statement data in rupiah. So, the number of samples of plastic and packaging companies that meet the criteria is 10 companies. So that the sample obtained was 40 (Forty) samples. The data in this study are secondary data, in the form of financial reports of plastic and packaging companies and the official website of the Indonesia Stock Exchange (www.idx.co.id). The data collection technique used by researchers is to use documentation techniques. The analysis techniques that will be used in this study are classical assumption tests (normality test, multicollinearity test, heteroscedasticity test, autocorrelation test, and F test), multiple linear regression analysis and hypothesis testing (coefficient of determination test and t test).

<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>ROE</td>
<td>4</td>
<td>-21.69</td>
<td>14.17</td>
<td>2.7085</td>
<td>7.67714</td>
</tr>
<tr>
<td>DER</td>
<td>4</td>
<td>9.75</td>
<td>383.6</td>
<td>81.665</td>
<td>64.9344</td>
</tr>
<tr>
<td>BVS</td>
<td>4</td>
<td>-18799.95</td>
<td>73052.50</td>
<td>11929.3124</td>
<td>21038.83906</td>
</tr>
<tr>
<td>Harga Saham</td>
<td>4</td>
<td>3.91</td>
<td>7.38</td>
<td>5.9473</td>
<td>0.98189</td>
</tr>
</tbody>
</table>

From the table of descriptive statistical test results above, it can be concluded that:

The overall value obtained for the ROE variable has a minimum value of -21.69 and a maximum value of 14.17 with an average value of 2.7085 and a standard deviation of 7.67714 with 40 data observations. The value obtained as a whole for the DER variable has a minimum value of 9.75 and a maximum value of 383.6 with an average value of 81.6652 and a standard deviation of 64.93447 with a total observation data of 40 data. The value obtained as a whole for the BVS variable has a minimum value of -18799.95 and a maximum value of 73052.50 with an average value of 11929.3124 and a standard deviation of 21038.83906 with a total observation data of 40 data. The overall value obtained for the stock price variable has a minimum value of 3.91 and a maximum value of 7.38 with an average value of 5.9473 and a standard deviation of 0.98189 with a total observation data of 40 data.

4.2 Classical Assumption Test
4.2.1 Normality Test
Based on the Kolmogrov-Smirnov test table, it is known that the significance value of Asiymp.Sig (2-tailed) of 0.200 is greater than 0.05. So in accordance with the basis for decision making in the Kolmogrov-Smirnov normality test above, it can be concluded that the data is normally distributed. Thus, the assumption or requirement of normality in the regression model has been fulfilled.

### 4.2.2 Multicollinearity Test

<table>
<thead>
<tr>
<th>Model</th>
<th>Tolerance</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROE</td>
<td>0.440</td>
<td>2.275</td>
</tr>
<tr>
<td>DER</td>
<td>0.345</td>
<td>2.902</td>
</tr>
<tr>
<td>BVS</td>
<td>0.671</td>
<td>1.491</td>
</tr>
</tbody>
</table>

Based on the table above, it can be seen that the Variance Inflation Factor (VIF) value for the Return On Equity variable is 2.275, the Debt to Equity Ratio variable is 2.902 and the Book Value Per Share is 1.491 from the value of each variable it is known that the VIF value is less than 10. The tolerance value on Return On Equity is 0.440, the Debt to Equity Ratio variable is 0.345 and Book Value Per Share is 0.671 from the value of each variable it can be seen that the tolerance value is greater than 0.10. So it can be concluded that further analysis can be carried out using multiple regression models.

### 4.2.3 Autocorrelation Test

Based on the table above, it can be seen that the Asymp. Sig. (2-tailed) of 0.262 is greater than 0.05, so it can be concluded that there are no symptoms or autocorrelation problems so that linear regression analysis can be continued.

### 4.2.4 Heteroscedasticity Test

Based on the picture above, it can be seen that the points spread randomly, do not form a clear and regular pattern and are spread both above and below the number 0 on the Y axis. Thus it can be concluded that there is no Heteroscedasticity in the regression model.

### 4.2.5 Multiple Linear Regression Analysis

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
</tr>
<tr>
<td>Constant</td>
<td>4.785</td>
</tr>
<tr>
<td>ROE</td>
<td>0.075</td>
</tr>
<tr>
<td>DER</td>
<td>0.011</td>
</tr>
<tr>
<td>BVS</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Based on the test results of this study using SPSS 26, from the table above, it can be seen that the multiple linear regression equation is as follows:
\[ Y = 4.785 + 0.075 \, X_1 + 0.011 \, X_2 + 0.000 \, X_3 \]
Where:
- \( Y \) = Share Price
- \( X_1 \) = Return On Equity
- \( X_2 \) = Debt to Equity Ratio
- \( X_3 \) = Book Value Per Share

### 4.3 Test the Hypothesis

#### 4.3.1 t Test

<table>
<thead>
<tr>
<th></th>
<th>( t )</th>
<th>( \text{Sig.} )</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROE</td>
<td>2.669</td>
<td>0.011</td>
</tr>
<tr>
<td>DER</td>
<td>3.008</td>
<td>0.005</td>
</tr>
<tr>
<td>BVS</td>
<td>0.327</td>
<td>0.746</td>
</tr>
</tbody>
</table>

1. **Effect of Return On Equity (X_1) on Stock Price (Y)**

The results of partial testing using the SPSS 26 program in table 4.8 of the Return On Equity variable on Stock Price can be seen \( t \) count = 2.669 and \( t \) table is \( dk = n-2 = 40-2 = 38 \) with a significance level of \( \alpha = 0.05 \), then the result of the \( t \) table is 1.68595 so that the \( t \) count is greater than the \( t \) table (2.669 > 1.68595). The significance value (\( \text{Sig.} \)) of the ROE variable (X_1) is 0.011, so the \( \text{Sig.} \) value 0.011 < 0.05. It can be concluded that H1 or the first hypothesis is accepted.

2. **Effect of Debt to Equity Ratio (X_2) on Stock Price (Y)**

The results of partial testing using the SPSS 26 program in table 4.8 of the Debt to Equity Ratio variable on Stock Price can be seen \( t \) count = 3.008 and \( t \) table is \( dk = n-2 = 40-2 = 38 \) with a significance level of \( \alpha = 0.05 \). Then the result of the \( t \) table is 1.68595 so that the \( t \) count is greater than the \( t \) table (3.008 > 1.68595). The significance value (\( \text{Sig.} \)) of the DER variable (X_2) is 0.005. Because the value of \( \text{Sig.} \) 0.005 < 0.05, it can be concluded that H2 or the second hypothesis is accepted.

3. **Effect of Book Value Per Share (X_3) on Stock Price**

The results of partial testing using the SPSS 26 program in table 4.8 of the Book Value Per Share variable on Stock Price can be seen \( t \) count = 0.327 and \( t \) table is \( dk = n-2 = 40-2 = 38 \) with a significance level of \( \alpha = 0.05 \). Then the result of the \( t \) table is 1.68595 so that the \( t \) count is smaller than the \( t \) table (0.327 < 1.68595). And it is known that the \( \text{Sig.} \) value. BVS variable is 0.746. Because the value of \( \text{Sig.} \) 0.746 > 0.05, it can be concluded that H3 or the third hypothesis is rejected.

#### 4.3.2 F Test

<table>
<thead>
<tr>
<th>Model</th>
<th>( F )</th>
<th>( \text{Sig.} )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>3.574</td>
<td>0.23</td>
</tr>
</tbody>
</table>

Based on the table above, it can be seen that \( F \) table = 2.87, the \( F \) table value in the \( F \) table is \( (k; n-k) \), \( F \) table = (3; 40-3) = (3; 36) with a significance level of \( \alpha = 0.05 \). Then it can be seen that the value of \( F \) count is 3.574 so that \( F \) count is greater than \( F \) table (3.574 > 2.87) and the value of \( \text{Sig.} \) is equal to 0.023 (<0.05). So in accordance with the basis for decision making in the \( F \) test it can be concluded that the hypothesis is accepted or in other words Return On Equity (X_1), Debt to Equity Ratio (X_2), Book Value Per Share (X_3) together have an effect on stock prices (Y) of plastic and packaging companies listed on the IDX for the period 2019-2022.
4.4 Test Coefficient of Determination

<table>
<thead>
<tr>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.479</td>
<td>0.230</td>
<td>0.165</td>
</tr>
</tbody>
</table>

Based on the table above, it can be seen that the correlation value (R) obtained is 0.479, indicating a fairly close relationship between ROE, DER, and BVS with stock prices in plastic and packaging companies for the 2019-2022 period.

The Coefficient of Determination ($R^2$) shows the adjusted R Square value is 0.165 or equal to 16.5%. This means that the independent variables (ROE, DER, BVS) together affect the dependent variable (Stock Price) by 16.5% while the remaining 83.5% is influenced by other variables outside this regression equation or variables not examined.

The discussion in this study can be explained as follows:

1. Effect of ROE on Stock Price

   Based on the results of testing the first hypothesis, namely Return On Equity (ROE) using the t test, the tcount value is greater than the t table (2.669 > 1.685) and the Sig. value is 0.011, this value is below the significance value of 0.05, therefore Return On Equity partially has a positive and significant effect on stock prices in plastic and packaging companies listed on the IDX. ROE reflects the influence of all other ratios and is the best single performance measure from an accounting perspective. Investors will definitely like a high ROE value, because the higher the ROE value generally has a positive correlation with stock prices.

   The results of this study are in line with research conducted by (Sigit Sanjaya, Winda Afriyenis 2019) and (Victoria et al, 2019) which state in their research that there is an influence between Return On Equity on stock prices.

2. Effect of DER on Stock Price

   Based on the results of testing the second hypothesis, namely the Debt to Equity Ratio (DER) using the t test, the tcount value is greater than the t table (3.008 > 1.68595) and the Sig. value is 0.005, this value is below the significance value of 0.05, therefore the Debt to Equity Ratio partially has a positive and significant effect on stock prices in plastic and packaging companies listed on the IDX for the 2019-2022 period. This happens because the average DER value of plastic and packaging companies shows an ideal ratio with the results below 1 or below 100%. DER has a low value, it will increase the level of investor confidence in the company which can result in increased investor interest in investing in the capital market.

   The results of this study are in line with (Wenny Widiah Utami, 2021), (Esti and Bambang, 2023) which state in conclusion that DER has a significant effect on stock prices.

3. Effect of BVS on Stock Price

   Based on the results of testing the third hypothesis, namely Book Value Per Share (BVS) using the t test, the tcount value is smaller than the t table (0.327 < 1.68595) and the
Sig. value is 0.764, this value is above the significance value of 0.05, therefore Book Value Per Share partially has no effect on stock prices in plastic and packaging companies listed on the IDX for the 2019-2022 period. The insignificant effect of BVS on stock prices shows that investors do not pay much attention to the BVS ratio in making decisions to buy a stock. This is inversely proportional to the theory put forward by Dimas (2020) which states that BVS is an indicator used by investors to assess the company’s fair price for each share.

The results of this study are in line with research conducted by (Budi Asmarawati et al, 2022) which states in conclusion that BVS has no significant effect on stock prices.

4. The Effect of Return On Equity, Debt to Equity Ratio, and Book Value Per Share on Stock Price

This study aims to determine the effect of Return On Equity, Debt to Equity Ratio, Book Value Per Share simultaneously on Stock Price. Based on the simultaneous test above, it shows that the significance value is 0.023, when compared to the expected significance level of 0.05, it means that the level of significance value is smaller than the expected significance level (0.023 <0.05). This means that the effect of Return On Equity, Debt to Equity Ratio, Book Value Per Share simultaneously has a positive and significant effect on Stock Price. ROE, DER, and BVS can be considered by investors to determine the condition of the company before making a decision to invest.

The results of this study are supported by research conducted by (Ellyn and Fridayana, 2019) which states that simultaneously ROE, DER and BVS have a significant effect on stock prices.

5. Concluding Remarks

Based on the results of research that has been conducted by researchers related to the effect of Return On Equity (ROE), Debt to Equity Ratio (DER), and Book Value Per Share (BVS) on the share price of plastic and packaging companies listed on the IDX for the period 2019-2022, the following conclusions can be drawn: First, Return On Equity (ROE) and Debt to Equity Ratio (DER) affect stock prices. Second, Book Value Per Share (BVS) has no effect on stock prices. Third, together Return On Equity (ROE), Debt to Equity Ratio (DER), and Book Value Per Share (BVS) have a significant effect on stock prices.

As for the limitations of researchers in conducting this research, here are some suggestions that researchers can convey: further researchers to add other variables so that they can help company management and investors in seeing opportunities in the capital market.

REFERENCES


