THE IMPACT OF ROA AND DAR ON THE BEI F&B STOCK PRICE DURING COVID-19

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This study is about the Impact of ROA and DAR on Stock Prices in companies of Food and beverage companies listed on the Bursa Efek Indonesia (BEI). This study uses the annual financial report data and average data closing price of shares in 2021. In this study, the amount of data used as a sample is 30 companies. The data sources used are www.idx.co.id and www.financeyahoo.com. This study uses multiple linear regression analysis methods to see the influence of ROA and DAR on stock prices. The results obtained based on the chosen analytical method are that there is a positive and significant influence on the variable return on assets (ROA) on stock prices. Furthermore, the variable of DAR on stock price has a negative and insignificant impact.

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1. Introduction

Previous research suggested by (Hasanudin, Taruna, & Fassya, 2022) that ROA and DAR affect stock prices. The research subject was the transportation company sector in 2014 – 2019 and applied before the Covid-19 pandemic era. The research used ROA as a dependent variable and DAR as an independent variable on the stock price. The research shows that ROA has a significant impact, and DAR has an insignificant effect on the stock price. The main implication as a background of this study is to identify the impact of Returning assets (ROA) and Debt Ratio (DAR) on stock price during the Covid-19 pandemic era. The subject of this study is Food Beverage Companies listed on Bursa Efek Indonesia in 2021 during the Covid-19 period. This study uses secondary data obtained from website pages www.idx.co.id and www.financeyahoo.com. This thought is a background to distinguish this study from previous research.

Bursa Efek Indonesia (BEI), also known as the Stock Exchange, is an appointment place for buyers and sellers of stock exchanges or securities for trading. Some of the products offered on the BEI are stocks, bonds, EFT or Exchange Traded Funds, derivatives, indices, and others. Investors are demanding familiar products such as; stocks, bonds, and mutual funds. These products are easier to buy and sell quickly than ever before. As it is today, one of its products is stock, and now investors can open a stock account online. It is the same for mutual funds and bond products; investors can buy them online, and capital owners can access all of the financial records of all companies listed on the stock market. In that way, the capital owners can make assessments of which company they choose to invest their capital in.

The most crucial information that investors should be aware of before making a purchase is the company's financial ratios. According to (Kasmir, 2018) financial ratios are the activity of comparing scores in a financial report with the trick of dividing one score by another. Financial ratios consist of liquidity, solvency, movement, and profitability ratios. An important indicator known by the owners of capital is the stock price. Fluctuations in stock prices can affect a company's profitability ratios, such as the ROA (Efendi & Ngatno, 2018). This study uses part of the solvency and profitability ratios, a debt ratio, also known as DAR and ROA, as independent variables. As the dependent variable, this study uses stock prices.

A Return on Asset Ratio predicts how invested capital can provide a return profit as expected (Fahmi, 2013). In addition, ROA is also measuring company profits to compare the profit position of the current period with the previous period. In general, the formula for ROA is written as follows:

\[
ROA = \frac{\text{Net Profit After Tax}}{\text{Total Asset}}
\]

where the formula is the distribution of net profit after tax with total assets. (Hery, 2015) said that ROA predicts how the role of investment brings profit. The efficiency and influenceiveness of asset management in a company will improve if the resulting ROA is greater (M.Hanafi, 2010). However, based on research (N. R.
Sari, Nurhasanah, & Hersona, (2022) the ROA ratio partially has a negative and non-specific influence on stock prices.

The Debt to Asset ratio or debt ratio strongly correlates with a company's financial health. According to (Kasmir, 2014) the solvency ratio, the Debt to Asset (DAR) assesses the quality of the quotient between total debt and total assets. The DAR ratio also shows the influence of company debt on asset financing (Hery, 2015). In general, the debt ratio formula (DAR) is shown as follows:

\[ \text{DAR} = \frac{\text{Debt Total}}{\text{Total Asset}} \]

Some opinions above conclude that the DAR ratio and the risk have a linear relation. If the DAR in a company increase, the risk of the company becoming bankrupt would be increase (Basri, Batubara, & Simatupang, 2022).

Stocks are one of the most popular capital market products for investors. (Hermuningsih, 2012) defines stock as securities traded through the stock market issued by a company in the form of a limited liability company. Depending on the level of ownership, the person who purchases shares becomes the owner of the business. Stocks are also an important part that affects financial ratios. The stock price is a score set by a company that has gone public, which can influence the supply and demand when buying and selling stocks. The rise and fall of stock prices are using fundamental analysis and technical analysis to be seen.

This study intends to demonstrate how ROA and DAR affected stock prices for food and beverage companies during the period of COVID-19. (Hasanudin et al., 2022) conducts an observation to show the influence of ROA, DAR, and Current Ratio on stock prices. Research's objects were using transportation companies listed on the BEI from 2014 - 2019. The formulation of the problem in this study is whether ROA affects stock prices and does DAR affect stock prices.

2. Literature Review

Signaling Theory
One of the well-known theories in the capital market is MM Theory. Modigliani and Miller (1963) is the person who put this theory. This theory mainly implies that companies can utilize debts as much as possible compared to other alternative funding such as price (Modigliani & Miller, 1963). The company’s debts indicate to investors that the company can still survive, compared to companies that increase the sale of their shares.(Ross, 1977) develops this theory as a signal that claims asymmetry information between investors and companies and claims how companies give a sign to financial report users. This theory is closely related to Return on Asset (ROA), a type of profitability theory, and Debt to Asset Ratio (DAR), the solvability ratio.
Return on Assets (ROA)
Return on Assets (ROA) is a profitability ratio that deviates from the division between Net Profit After Tax and Total Assets. ROA is part of the profitability ratio to determine the net parameter profit of the company by using all the assets. (Brigham & Houston, 2018). In other words, it shows the successes of a company’s financial performance. According to (Sirait, 2017) ROA is the earning power ratio, which means the company’s tricks in resulting profit from used assets. Mathematically, the ROA can be written as follows:

\[
\text{ROA} = \frac{\text{Net Profit After Tax}}{\text{Total Asset}}
\]

The increase in ROA values aims to increase the company's performance improves. This condition can improve the company's profit values to attract investors in investing in stock investment form. This condition can also affect the improvement of the company's stock price. A company's asset management efficiency and effectiveness will improve if the resulting ROA improves. (Putri Khairani & Septianti, 2020) claims that ROA has a significant impact on stock prices also (Husaini, 2012) claims that way. However, the research from ((P. A. Sari & Batubara, 2020) shows that the ROA ratio negatively impacts and is not significant on the stock price.

Debt To Asset Ratio (DAR)
The debt ratio (DAR) is a type of solvability ratio resulting from dividing debt total by assets total. DAR measures how much a company is funded by debts and its strength to fulfil its obligations through its assets. (Andhani, 2019),The company's bankruptcy risk is greater if the total owned DAR is greater. Because the debt ratio (DAR) is a robust correlation with a company's healthy finances, mathematically, the DAR formula can be written as follows:

\[
\text{DAR} = \frac{\text{Debt Total}}{\text{Total Asset}}
\]

The research (Widjiarti, 2019) shows that Debt to Asset Ratio impacts the stock price. However, this condition differs from previous research (Salden, 2021) that claims DAR has no significance on the stock price.

Stock Price
Stocks are a type of financial investment that investors are interested in and traded on the financial market, Bursa Efek Indonesia (BEI). Stock prices are an essential indicator that investors need to consider because the ups and downs of stock prices can affect the level of investor profits and the company’s good name (Suryawan & Wirajaya, 2017). (Imran, Shahzad, Chani, Hassan, & Mustafa, 2014) said that the stock price is a parameter to provide full power to the company because if the company’s stock price continues to be better, it can indicate that the company and its management have worked well. The value of a company’s stock price can be maximized using the company’s operational efficiency. People can access updated information about stock prices through the linked
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Websites [www.idx.co.id](http://www.idx.co.id) and [www.financeyahoo.com](http://www.financeyahoo.com). At this time, the transaction of share purchase becomes easier. The condition is shown in the products offered by banks; for example, Bank Mandiri has Mandiri Securities for buying and selling shares, Bank BRI has the BRIGHTS application as an application used to conduct money market transactions and several other types of applicants.

3. Research Methods

This study uses quantitative research category with multiple linear regression analysis methods to determine how ROA and DAR impact stock prices of food and beverage companies listed on the BEI during the Covid-19 pandemic. This study uses secondary data to obtain financial reports audited in 2012 accessed from [www.idx.id](http://www.idx.id). People can access stock data for food and beverage companies on [www.yahoofinance.com](http://www.yahoofinance.com), which aims to obtain closing stock prices using monthly frequency from 1st January until 31st December 2021. This study's total data used as a sample is thirty companies from 36 companies listed on BEI until 2021 because six companies need to fulfil the criteria in sampling—for example, PT.Agri Resources Tbk is no longer registered on Bursa Efek Indonesia (BEI), while sedangkan PT. Aman Agrindo Tbk, PT. Formosa Ingridient Factory Tbk., PT. Indo Boga Sukses Tbk., and PT. Toba Surimi Industries Tbk., is a newcomer to BEI in 2021, so the financial report on BEI is not yet available/released.

This research was conducted in several stages:

**1. Variabel Identification**

Variable identification determines the dependent and independent variables based on the data used in the research. The dependent variable is ROA and DAR, while the independent variable is the stock price.

**2. Data Analysis**

The data analysis stages carried out were:

a. Classical Assumption Test

   This test is integral to using the multiple linear regression analysis methods. Multicollinearity, heteroscedasticity, linearity, and normalcy tests are all part of this test. This test is also called the prerequisite test.

b. Hypothesis Test

   Hypothesis testing is part of inferential statistics used for decision-making based on the results of data analysis. If all the classical assumption tests meet, then the next step is to carry out a significance test (T-test) to determine whether the proposed hypothesis is rejected or accepted. It aims to see the significant influence of the ROA and DAR variables on stock prices and a simultaneous test (F test) to see whether the impact of the ROA variable and DAR have a significant influence on stock prices. The multiple linear regression equation models are:

   \[ Y = b_0 + b_1X_1 + b_2X_2 + \varepsilon \]

   Note:
   
   \( Y \) = Stock Price
   \( X_1 \) = ROA
   \( X_2 \) = DAR
4. Results

Descriptive Statistic

Table 1 displays the number of samples, minimum, maximum, mean, and standard deviation values of the variables utilized in this study as the result of a descriptive statistical test. These variables consist of stock price, ROA and DAR variables. The amount of each - each data used is 30 data. This table also shows the following:

a. The stock price has a range of 4.35 to 8.24 and a mean value of 6.53 with a standard deviation of 1.051. It also has a maximum value of 8.24 and a minimum value of 4.35.

b. With a mean value of 0.1 and a standard deviation of 0.0836, ROA achieves a lowest value of -0.1 and a maximum value of 0.2.

c. Debt to Asset (DAR) has a range of 0.1 to 2.40 with a mean value of 0.54 with a standard deviation of 0.452. It also has a minimum value of 0.1 and a highest value of 2.40.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Number of Samples (N)</th>
<th>Minimum Value</th>
<th>Maximum Value</th>
<th>Mean Value</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stock Price</td>
<td>30</td>
<td>4.35</td>
<td>8.24</td>
<td>6.53</td>
<td>1.051</td>
</tr>
<tr>
<td>ROA</td>
<td>30</td>
<td>-0.1</td>
<td>0.2</td>
<td>0.1</td>
<td>0.0836</td>
</tr>
<tr>
<td>DAR</td>
<td>30</td>
<td>0.1</td>
<td>2.40</td>
<td>0.54</td>
<td>0.452</td>
</tr>
</tbody>
</table>

Source: Processed Data 2022

Pearson Correlation Test

Table 2 below is the result of the Pearson correlation test, which shows the closeness between the variables of stock price and ROA and stock price and DAR. The results of the Pearson correlation test on stock prices on ROA are 0.707 with a significance of 0.00. That means that the ROA stock price has a strong correlation. While the correlation between stock prices and DAR is -0.319 with a value of 0.043. That means that stock prices with DAR have a weak correlation.

<table>
<thead>
<tr>
<th>Pearson Correlation Test</th>
<th>Stock Price</th>
<th>ROA</th>
<th>DAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stock Price</td>
<td>1</td>
<td>0.707</td>
<td>-0.319</td>
</tr>
<tr>
<td>Sig (1-tailed)</td>
<td>Stock Price</td>
<td>-</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Source: Processed Data 2022

Classical Assumption and Hypothesis Test

Autocorrelation and Coefficient Determination Test

Table 3 is an autocorrelation test from the results of the Durbin Watson and Adjusted R Square tests to see the results of the determination coefficient test. The Adjusted R Squared value shown in table 3 is 0.515 or 51.5%, where the regression model in this study is relatively good or strong. That indicates that a model may
account for 51.5% of the role ROA and DAR play in affecting stock price, with the remaining portion coming from the influence of other factors not covered in this study. Then, the Durbin-Watson test shown in table 3 is equal to 1.896; in other words, the variables in this study do not experience autocorrelation disorders because these values are between dU (1.5666) and 4 – dU (2.4334).

Table 3. Autocorrelation Test & Coefficient Determination Test

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square Value</th>
<th>Adjusted R Square</th>
<th>Std. Error of The Estimate</th>
<th>Durbin Watson Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.741</td>
<td>0.550</td>
<td>0.515</td>
<td>0.79689</td>
<td>1.896</td>
</tr>
</tbody>
</table>

Source: Processed data 2022

Normality Test
The purpose of carrying out the normality test is to show that the variables used in this study meet a normal distribution. The normality test results in this study used the Kolmogorov - Smirnov Test with a significant value of 0.20 > 0.005, meaning that the variables used met a normal distribution. Table 4 below shows these results. P – P Plot graph in Figure 2 can also show the Normality Test can also.

Table 4. Normality Test

<table>
<thead>
<tr>
<th>Data (N)</th>
<th>Asymp. Sig (2-Tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>0.200</td>
</tr>
</tbody>
</table>

Sourced : Processed Data 2022

Figure 2. P – P Plot Normality Test

Homoscedasticity Test
This study must meet the homoscedasticity test as one of the definitive assumption tests. The results of the homoscedasticity test using the Glejser test contained in Table 5 fulfill or, in other words, the residual variance values in this study are the same, meaning that there are no symptoms of heteroscedasticity. The graph of Figure 3 can also show the homoscedasticity test, namely the scatter plot graph.

**Table 5. Homoscedasticity Test**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficient</th>
<th>Standardized Coefficients Beta</th>
<th>t</th>
<th>Significant Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std Error</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>0.773</td>
<td>0.192</td>
<td>4.028</td>
<td>0.00</td>
</tr>
<tr>
<td>ROA</td>
<td>1.253</td>
<td>1.241</td>
<td>0.192</td>
<td>1.010</td>
</tr>
<tr>
<td>DAR</td>
<td>-0.129</td>
<td>0.230</td>
<td>-0.107</td>
<td>-0.562</td>
</tr>
</tbody>
</table>

Sourced: Processed Data 2022

**Figure 3. Scatter Plot Homoscedasticity Test**

**Multicollinearity Test**

The multicollinearity test in this study can be shown in Table 6 by looking at the tolerance and VIF values. If the tolerance value is > 0.10 and VIF < 10, we can conclude that the independent variables, namely ROA and DAR, in this study are free from symptoms of multicollinearity with a tolerance value of 0.969 > 0.10 and VIF 1.032 < 10.

**Table 6. Collinearity Test**

<table>
<thead>
<tr>
<th>Model</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tolerance</td>
</tr>
<tr>
<td>ROA</td>
<td>0.969</td>
</tr>
<tr>
<td>DAR</td>
<td>0.969</td>
</tr>
</tbody>
</table>

Sourced: Processed Data 2022

**Linearity Test**

The linearity test is one of the classical assumption tests that must meet to obtain the best linear regression model. The stock price and ROA variables have a value of F = 0.458 with sig = 0.637. The stock price pair and DAR variables have a value
of $F = 0.534$ with $\text{sig} = 0.817$. The two variables show $P > 0.05$ ($0.637 > 0.05$) and $0.817 > 0.05$. The meaning of the relationship between the two pairs of variables is declared linear. Table 7 and 8 below show the results of the linearity tests:

**Table 7. Linearity Test of Stock Price*ROA**

<table>
<thead>
<tr>
<th></th>
<th>Sum of Square</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stock Price*ROA</td>
<td>1,012</td>
<td>2</td>
<td>0,506</td>
<td>0,458</td>
<td>0,637</td>
</tr>
</tbody>
</table>

Source: Processed data 2022

**Table 8. Linearity Test of Stock Price*DAR**

<table>
<thead>
<tr>
<th></th>
<th>Sum of Square</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stock Price*DAR</td>
<td>9,409</td>
<td>8</td>
<td>1,176</td>
<td>0,534</td>
<td>0,817</td>
</tr>
</tbody>
</table>

Source: Processed data 2022

**Multiple Linear Regression Analysis Model**

The multiple linear regression analysis models have at least one dependent variable and two dependent variables. The dependent variable of this research is the stock price, and the independent variables are ROA and DAR. Table 9 below shows the regression model:

**Table 9. Analysis Regression Model**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients Beta</th>
<th>t</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std.Error</td>
<td>t</td>
<td>Sig</td>
</tr>
<tr>
<td>Constant</td>
<td>2,690</td>
<td>0,202</td>
<td>13,345</td>
<td>0,000</td>
</tr>
<tr>
<td>ROA</td>
<td>8,538</td>
<td>1,780</td>
<td>0,651</td>
<td>4,798</td>
</tr>
<tr>
<td>DAR</td>
<td>-0,726</td>
<td>0,425</td>
<td>-0,232</td>
<td>-1,709</td>
</tr>
</tbody>
</table>

Sourced: Processed Data 2022

The regression equation model is:

$$Y = 2,690 + 8,538X_1 - 0,726X_2 + \varepsilon$$

The $b_1$ value of 8.538 indicates that each increase in value of 1 in ROA will increase the share price by 8.538, and the $b_2$ value of -0.726 indicates that each increase in value of 1 in DAR will decrease the share price by -0.726 in the share price.

**Test-T**

Table 9 of the linear regression analysis model also includes the test-t result, which is used to assess the degree to which each independent variable has an overall or partial impact on the dependent variable. Suppose the sig value $< 0,05$ means that there is an influence of the independent variable on the dependent variable. However, if the sig value $> 0,05$, the independent variable has no significant influence on the dependent variable. The substantial value in the ROA variable on
stock prices is $0.00 < 0.05$. It means that there is a significant positive influence on ROA while the ROA variable on stock prices is $0.099 > 0.05$, meaning that the DAR variable has no significant or negative impact on stock prices.

**Test-F**

The test-F shows the significant influence of the independent variables jointly or simultaneously on stock prices. Table 10 below shows the results of the test-F analysis.

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Square</th>
<th>Degree of Freedom</th>
<th>Mean Square</th>
<th>F value</th>
<th>Significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>20,157</td>
<td>2</td>
<td>10,078</td>
<td>15,871</td>
<td>0.00</td>
</tr>
<tr>
<td>Residual</td>
<td>16,511</td>
<td>26</td>
<td>0,635</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>36,668</td>
<td>28</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source : Processed Data 2022

Based on the analysis’s results in table 10, an F count value of 15.871 with an F (0.95;30;2) of 3.32. The value of F count > F_table with a significance level of 0.00 means a significant influence between ROA and DAR or simultaneously on stock prices.

**The Impact of Return on Asset (ROA) on Stock Prices**

This study's results indicate a positive and significant influence between ROA and stock prices. Table 7 shows the ROA regression coefficient value of 8.538 with a significance of 0.00. The results of this study support H1; there is a positive and significant influence of the ROA variable on stock prices, so the H1 hypothesis is accepted. This study contradicts (Safitri, Fasa, & Suharto, 2021), which claims that ROA has little bearing on stock prices. This study supports (Suryawan & Wirajaya, 2017), which found that ROA has a favorable and significant impact on stock prices. The study’s results can illustrate that if a company's ROA increases, then this also increases the company's stock price. It is because the increasing ROA's value signals the success of the company's management in managing its assets.

**The Impact of Debt To Asset (DAR) on Stock Prices**

This study's results indicate a negative and insignificant influence between the DAR variable and stock prices. It means a rejection of the H2 hypothesis. Table 7 shows the value of the regression coefficient DAR -0.726 with a significance of 0.099. This research is in line with (Nufzatutsaniah & Saepurohman, 2022) that partially the DAR variable has no significant influence on stock prices. The results of this study are also in line with (P. A. Sari & Batubara, 2020), which states that the Debt to Asset Ratio (DAR) does not affect stock prices. Company assets whose funds come from company liabilities cause high risk but do not always affect stock prices. However, this can cause the value of the Debt to Asset Ratio (DAR) to increase (Nufzatutsaniah & Saepurohman, 2022).
The Impact of Return on Assets (ROA) and Debt to Assets (DAR) on Stock Prices (Stock Price)
The test-F in this study shows a significant influence of ROA and DAR simultaneously or together on stock prices. This can be seen in table 10 where F count is 15.871 with F(0.95;30;2) of 3.32. F count > F_table with a significance level of 0.00.

5. Conclusion and Suggestion
Based on The Statistical Test, there is an impact of ROA, and there is no impact of DAR on Stock Prices in Food Beverage Companies listed on the IDX during Covid 19. This study also shows the impact of ROA and DAR on stock prices simultaneously or at once. Although the DAR does not always affect stock prices, this ratio is crucial. This ratio (DAR) is crucial in controlling the debt limit for companies to finance their assets. In addition, the ROA and DAR are essential for an investor to decide on an investment. The following study expected to use a variable affecting the stock price and use the "new normal" era period (post-Covid-19 pandemic) to obtain the best regression model. In the next step, the research can remove the variable of DAR and replace it with other variables for powering the research.

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