Analysis of Financial Performance in the Metal Sub-Sector and The Like on The Indonesian Stock Exchange for The Period 2018-2022

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ABSTRACT

This study was conducted with the aim of knowing the effect of Current Ratio (CR), Debt to Asset Ratio (DAR), Debt to Equity Ratio (DER) and Net Profit Margin (NPM) on Return on Equity (ROE) in metal sub-sector companies and the like listed on the Indonesia Stock Exchange for the period 2018-2022. The methods used are statistical analysis and descriptive analysis, then the model selection / feasibility test, namely the chow test, followed by the classical assumption test. Meanwhile, hypothesis testing uses multiple linear regression analysis tests, t statistical tests, f statistical tests and adjusted R-squared tests. The data source of this research comes from (www.idx.co.id and www.ajaib.co.id) in the form of secondary data. The sampling technique in this study used purposive sampling technique. The data is then analyzed using panel data regression through the Eviews 10 program. Based on the results of the Classical Assumption Test, Partial Test and Simultaneous Test. It can be concluded that the results of the Classical Assumption Test show that it meets the requirements and there are no significant problems with both the Multicollinearity Test and the Heteroscedasticity Test. The results of this study indicate that CR, DAR, DER and NPM have an effect on ROE in metal sub-sector companies and the like listed on the Indonesia Stock Exchange for the period 2018-2022 either partially or simultaneously.

Keywords: CR, DAR, DER, NPM, ROE

INTRODUCTION

Large companies and small companies make various efforts in anticipation of global competition. This effort is a separate problem for the company, because it involves the fulfillment of the necessary funds. When the company becomes larger, the greater the need for additional capital. If the need for funds is met from within the company, it can reduce the company's dependence on outside parties. However, if internal funds are insufficient, management is faced with a choice, namely debt or issuing shares. The trend of Initial Public Offering (IPO) companies or also known as going public continues to experience a decrease in the number of issuers from 2013 to 2016, namely only 15 companies, this is because Indonesia's economic growth conditions are slowing down, thus affecting the number of companies that decide to go public. Other factors such as the budget cycle, the government's deliberate element in limiting imports, the increase in the Provincial Minimum Wage and investors want to see the policies of the new government regime. In 2017, the situation began to...
reverse where companies offering their shares on the stock exchange increased and reached a peak in 2018 of 59 companies (Ritha & Kurniasari, 2021).

The development of the number of companies that go public in Indonesia from year to year has increased significantly every year. Based on data from databoks.katadata.co.id in 2023, there are 833 issuers listed on the Indonesia Stock Exchange as can be seen from the following table:

![Figure 1. Number of Issuers on the Indonesia Stock Exchange (2015-January 2023)](image)

Referring to the data above, it is known that companies listed on the Indonesia Stock Exchange increase every year. The company was established with the hope of being able to survive in its business continuity and develop rapidly for a long period of time. However, over time, business competition has increased, so strategies are needed to make companies survive and win increasingly fierce business competition. In implementing the strategy, the company is faced with quite a lot of obstacles. One of them is the difficulty in obtaining funding. Along with this, the capital market is present to answer complaints from entrepreneurs who are constrained in obtaining funds to develop their business (Yuliarni et al., 2016).

Along with the world economy that has developed and leads to a free market economic system, companies are increasingly encouraged to increase competitiveness. Every company must have the right strategy in order to win this competition by managing the company as well as possible. One of the indicators that a company can be said to have achieved success and succeeded in winning competition with other companies is by generating profits that will be shared with the owners of interests (Balqish, 2020).

Profitability ratio is a ratio that measures how effectively the company utilizes existing investments and economic resources to achieve a profit, so that the company is able to provide profit sharing to investors who have invested in the company.
Profitability ratio aims to determine the company's ability to generate profits during a certain period, it also aims to measure the level of management effectiveness in running the company's operations. The results of these measurements can be used as an evaluation of management performance so far, whether they have worked effectively or not (Handayani & Handayani, 2022).

Indicators in measuring profitability are Gross Profit Margin, Net Profit Margin, Return On Investment, Return On Equity and Earning Per Share (Balqish, 2020) (Barus et al., 2017). Referring to several indicators in measuring profitability, the authors are interested in using Return On Equity (ROE) as the dependent variable in the study. Return on equity can be influenced by the size of the company's debt. The higher the return on share capital, the higher the amount of net profit generated from each fund embedded in share capital. Conversely, the lower the return on share capital, the lower the amount of net profit generated from each fund embedded in share capital (Fanalisa & Juwita, 2022).

Based on research conducted by Henny and Susant in 2019 with the title "Factors Affecting Profitability in Manufacturing Companies" states that what affects ROE is the Total Asset Turnover Ratio (TATO) and company size (SIZE), while Current Ratio (CR) and Debt to Equity Ratio (DER) have no effect on ROE (Sofia Prima Dewi, 2022). However, this is inversely proportional to other studies stating that CR and Net Profit Margin (NPM) affect ROE (Resare, 2019).

In addition, one component of the profitability financial ratio that can be used to measure the company's financial performance is Net Profit Margin (NPM), because the figure from NPM can show the company's ability to earn profit from earnings. According to research conducted by (Priatna, 2016) explains where the greater the profitability ratio that can be calculated using the NPM ratio, the higher the company's ability to earn profits or profits and the better its financial performance (Rivalda Firstania Prabo Wijayanti et al., 2022).

Liquidity ratios can be used to measure financial performance by seeing how liquid the company is, by showing the company's ability to meet obligations or pay its short-term debt. Current Ratio (CR) or commonly called the current ratio is one of the components included in the simplest liquidity ratio compared to others and is most often used, the calculation considers between current assets and current debt. The solvency ratio is used to measure the company's financial performance by describing the company's ability to pay its long-term debt. In the solvency ratio there is one component of the ratio, namely the Debt to Equity Ratio (DER) which compares the amount of debt (debt) with the amount of equity (equity) (Rivalda Firstania Prabo Wijayanti et al., 2022).

Based on the previous explanation, the researchers are interested in conducting research on "Analysis of Financial Performance in the Metal and Similar Sub-Sectors on the Indonesia Stock Exchange for the 2018-2022 Period".
RESEARCH METHOD

The research method used descriptive statistical analysis, then the model selection/feasibility test, namely the chow test, followed by the classical assumption test. Meanwhile, hypothesis testing uses multiple linear regression analysis tests, t statistical tests, f statistical tests and adjusted R-squared tests. The population in this study are metal sub-sector companies and the like listed on the Indonesia Stock Exchange for the period 2018-2022. To determine the sample in this study, purposive sampling technique was used. The certain considerations or criteria that must be met for sample selection in this study are as follows: Companies listed on the IDX; The company publishes complete financial reports for 5 consecutive years, namely from 2018 to 2022; The company did not experience delisting in the study; and The company provides the information needed in accordance with the research variables. The data source of this research comes from (www.idx.co.id and www.ajaib.co.id) in the form of secondary data. The data analysis method used in this research is statistical analysis method. The purpose of this research method is to determine the effect of the independent variable on the dependent variable.

The following researchers include the operational variables in the study, namely as follows:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Draft Variable</th>
<th>Indicator</th>
<th>Unit</th>
</tr>
</thead>
</table>
| Current Ratio (CR)        | The ratio used to describe ability company in fulfil obligation financial period in short. | \[
\frac{\text{Current Asset}}{\text{Current Liability}} \times 100\%
\] | Ratio |
| Debt to Asset Ratio (DAR) | The ratio used as an intermediate ether param amount debt with amount assets. | \[
\frac{\text{Total Debt}}{\text{Total Asset}} \times 100\%
\] | Ratio |
| Debt to Equity Ratio (DER)| DER reflects ability company in fulfil all over indicated obligations by as it feels A large amount of own capital is used to pay debt. | \[
\frac{\text{Total Debt}}{\text{Total Equity}} \times 100\%
\] | Ratio |
| Net Profit Margin (NPM)   | NPM ie ability company to produce profit after tax compared to with sales achieved. | \[
\frac{\text{Net Profit}}{\text{Sales}} \times 100\%
\] | Ratio |
Return On Equity (ROE)

Ratio profitability is used to find out level return on investment invested by shareholders or investors.

\[
ROE = \frac{\text{Earning after tax}}{\text{Total Equity}} \times 100\%
\]

Referring to the previous explanation, this research can be hypothesized as follows:

1. There is an influence between the variables CR, DAR, DER and NPM on ROA in the Metal and Similar Sub-Sectors on the Indonesia Stock Exchange for the 2018-2022 Period.
2. There is no influence between the variables CR, DAR, DER and NPM on ROA in the Metal and Similar Sub-Sectors on the Indonesia Stock Exchange for the 2018-2022 Period.

RESULTS AND DISCUSSION

Descriptive Analysis

Descriptive statistics of this research data are used to determine the characteristics of each research variable in the form of minimum and maximum values, average values (mean), and standard deviations.

CR, DAR, DER, NPM and ROE are the variables that the authors use in this study. To see the results of descriptive statistics in this study can be seen in the following table:

<table>
<thead>
<tr>
<th></th>
<th>X1</th>
<th>X2</th>
<th>X3</th>
<th>X4</th>
<th>Y</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>179.2373</td>
<td>57.89945</td>
<td>184.3478</td>
<td>2.826182</td>
<td>12.67709</td>
</tr>
<tr>
<td>Median</td>
<td>130.3100</td>
<td>63.32000</td>
<td>107.0000</td>
<td>1.730000</td>
<td>7.020000</td>
</tr>
<tr>
<td>Maximum</td>
<td>625.0000</td>
<td>92.00000</td>
<td>642.2900</td>
<td>29.76000</td>
<td>126.4000</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>134.0079</td>
<td>22.46424</td>
<td>165.2411</td>
<td>5.747162</td>
<td>25.64836</td>
</tr>
<tr>
<td>Skewness</td>
<td>1.590393</td>
<td>-0.285562</td>
<td>1.078549</td>
<td>1.817755</td>
<td>2.714065</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>4.834354</td>
<td>1.744410</td>
<td>3.182932</td>
<td>11.02583</td>
<td>11.73552</td>
</tr>
<tr>
<td>Jarque-Bera</td>
<td>30.89684</td>
<td>4.360330</td>
<td>10.73998</td>
<td>177.9043</td>
<td>242.3985</td>
</tr>
<tr>
<td>Probability</td>
<td>0.000000</td>
<td>0.113023</td>
<td>0.004654</td>
<td>0.000000</td>
<td>0.000000</td>
</tr>
<tr>
<td>Sum</td>
<td>9858.050</td>
<td>3184.470</td>
<td>10139.13</td>
<td>155.4400</td>
<td>697.2400</td>
</tr>
<tr>
<td>Sum Sq. Dev.</td>
<td>969737.9</td>
<td>27250.68</td>
<td>1474449.</td>
<td>1783.613</td>
<td>35523.26</td>
</tr>
<tr>
<td>Observations</td>
<td>55</td>
<td>55</td>
<td>55</td>
<td>55</td>
<td>55</td>
</tr>
</tbody>
</table>
Based on the output results using Eviews 12, it is known that the CR (X1) variable data shows that the highest score achieved is 625 and the lowest score is 28.65. This shows that the maximum score is far above the mean value, thus indicating a very good CR variable with a standard deviation of 134 which indicates that the distribution of data in the sample is close to the mean value so that it can represent the entire population. This also occurs in the DAR (X2) variable, this variable data shows that the highest score achieved is 92 and the lowest score is 16 with a standard deviation of 22.46.

The DER variable (X3) shows that the highest score achieved is 642.29 and the lowest score is 19. This shows that the maximum score is far above the mean value, thus indicating an excellent DER variable with a standard deviation of 165.24 which indicates that the distribution of data in the sample is close to the mean value so that it can represent the entire population. Likewise occurs in the NPM variable (X4) this variable data shows that the highest score achieved is 29.76 and the lowest score is -10.26 with a standard deviation of 5.74.

Furthermore, the ROE (Y) variable shows that the highest score is 126.40 and the lowest score is -38.31. This explains that the maximum score is far above the mean value, so the standard deviation is 25.64 which indicates that the distribution of data in the sample is close to the mean value so that it can represent the entire population.

**Panel Data Regression Model Selection**

This panel data regression model selection is a step in the analysis to determine the best method between the Common Effect Model (CEM), Fixed Effect Model (FEM), Random Effect Model (REM) (Napitupulu et, al., 2021).

**Table 3. Chow Test Results**

<table>
<thead>
<tr>
<th>Effects Test</th>
<th>Statistic</th>
<th>d.f.</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cross-section F</td>
<td>1.260989</td>
<td>(10,40)</td>
<td>0.2846</td>
</tr>
<tr>
<td>Cross-section Chi-square</td>
<td>15.071356</td>
<td>10</td>
<td>0.1295</td>
</tr>
</tbody>
</table>

Based on the table above, it is known that the chi square value is 0.1295> 0.05, so the CEM test is chosen. If the chosen one is CEM, then the classical assumption test must be carried out. The classic assumption tests used are multicollinearity and heteroscedasticity.
Classical Assumption Test

Multicollinearity Test

Table 4. Multicollinearity Test Results

<table>
<thead>
<tr>
<th></th>
<th>X1</th>
<th>X2</th>
<th>X3</th>
<th>X4</th>
</tr>
</thead>
<tbody>
<tr>
<td>X1</td>
<td>1</td>
<td>-0.7574652...</td>
<td>-0.5510118...</td>
<td>-0.2639884...</td>
</tr>
<tr>
<td>X2</td>
<td>-0.7574652...</td>
<td>1</td>
<td>0.73332130...</td>
<td>0.17441052...</td>
</tr>
<tr>
<td>X3</td>
<td>-0.5510118...</td>
<td>0.73332130...</td>
<td>1</td>
<td>0.13147314...</td>
</tr>
<tr>
<td>X4</td>
<td>-0.2639884...</td>
<td>0.17441052...</td>
<td>0.13147314...</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: output eviews-12, 2022

Based on table 3 above, it is known that the results of the correlation coefficient (r) between the independent variables (independent variables) are below or smaller (<) than 0.80. The correlation coefficient between X1 and X2 is -0.7574652 < 0.85, X1 and X3 are -0.551118 < 0.85 and X1 and X4 are -0.2639884 < 0.85. In addition, X2 and X3 are 0.73332130 < 0.85, X3 and X4 are 0.13147314 < 0.85. So, it can be concluded that the regression model does not have a problem or is free from multicollinearity.

Heteroscedasticity Test

Table 5. Heteroscedasticity Test Results

Source: output eviews-12, 2022

Based on the residual graph (blue color) above, it can be seen that it does not exceed the limits (500 and -500), meaning that the residual variance is the same. Therefore, there are no symptoms of heteroscedasticity or pass the heteroscedasticity test (Napitupulu et al., 2021).
Multiple Linear Regression Analysis Results

To determine the pattern of influence of the independent variables in this study, a multiple linear regression equation was compiled. Multiple linear regression in this study was used to determine the effect of the independent variables CR, DAR, DER and NPM on the dependent variable ROE in metal companies and the like listed on the Indonesia Stock Exchange for the period 2018-2022.

Table 6. Multiple Linear Regression Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>-55.13214</td>
<td>12.04498</td>
<td>-4.577188</td>
<td>0.0000</td>
</tr>
<tr>
<td>X1</td>
<td>0.068532</td>
<td>0.023557</td>
<td>2.909262</td>
<td>0.0054</td>
</tr>
<tr>
<td>X2</td>
<td>1.046910</td>
<td>0.168929</td>
<td>6.197336</td>
<td>0.0000</td>
</tr>
<tr>
<td>X3</td>
<td>-0.073001</td>
<td>0.017955</td>
<td>-4.065731</td>
<td>0.0002</td>
</tr>
<tr>
<td>X4</td>
<td>2.960808</td>
<td>0.364176</td>
<td>8.130149</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

Source: output eviews-12, 2022

The results of the multiple linear regression analysis above obtained a multiple regression equation model, which is as follows:

\[ Y = -55.132 + 0.068 X1 + 1.046 X2 - 0.073 X3 + 2.960 X4 \]

From the multiple linear regression equation above, it can be explained as follows:

1. The constant value (a) has a negative value of -55.132. The negative sign means that it shows the opposite effect between the independent variable and the dependent variable. This shows that if all independent variables including CR, DAR, DER and NPM are 0 percent or have not changed, then the ROE value is -55,132;

2. The regression coefficient value for variable X1 (CR) has a positive value of 0.068. This shows that if X1 experiences a 1% increase, then Y will increase by 0.068, assuming other independent variables are considered constant. The positive sign means that it shows a unidirectional influence between the independent variable and the dependent variable;

3. The regression coefficient value for variable X2 (DAR) has a positive value of 1.046. This shows that if X2 experiences a 1% increase, then Y will increase by 0.068, assuming other independent variables are considered constant. The positive sign means that it shows a unidirectional influence between the independent variable and the dependent variable.
4. The regression coefficient value for variable X3 (DER) is -0.073. This value shows a negative effect (opposite direction) between the X3 and Y variables. This means that if the X3 variable increases by 1%, the Y variable will decrease by -0.073. Assuming that other variables remain constant;

5. The regression coefficient value for variable X4 (NPM) has a positive value of + 2.960. This shows that if X4 experiences a 1% increase, then Y will increase by 2.960, assuming other independent variables are considered constant. The positive sign means that it shows a unidirectional influence between the independent variable and the dependent variable.

Hypothesis Testing

The t test

The purpose of the t test is to partially determine the effect between the independent variables significantly or not on the dependent variable. In this study, the t test was used to test the effect of CR, DAR, DER and NPM on ROE. If the significance value is less than 0.05, the independent variable independently can affect the dependent variable. Conversely, if the significant value is more than 0.05, the independent variable independently has no effect on the dependent variable. For more details, it can be seen from the table as follows:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>-55.13214</td>
<td>12.04498</td>
<td>-4.577188</td>
<td>0.0000</td>
</tr>
<tr>
<td>X1</td>
<td>0.068532</td>
<td>0.023557</td>
<td>2.909262</td>
<td>0.0054</td>
</tr>
<tr>
<td>X2</td>
<td>1.046910</td>
<td>0.168929</td>
<td>6.197336</td>
<td>0.0000</td>
</tr>
<tr>
<td>X3</td>
<td>-0.073001</td>
<td>0.017955</td>
<td>-4.065731</td>
<td>0.0002</td>
</tr>
<tr>
<td>X4</td>
<td>2.960808</td>
<td>0.364176</td>
<td>8.130149</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

Source: output evalu8-12, 2022

1. The t test results on the CR (X1) variable obtained a t value of 2.909262 > t table, namely 2.005746 and a significance value of 0.000 < 0.05. So H0 is rejected and Ha is accepted, meaning that the CR variable affects ROE in metal sub-sector companies and the like on the Indonesia Stock Exchange;

2. The t test results on the DAR (X2) variable obtained a t value of 6.197336 > t table, namely 2.005746 and a significance value of 0.005 <0.05. Then H0 is rejected and Ha is accepted, meaning that the DAR variable affects ROE in metal sub-sector companies and the like on the Indonesia Stock Exchange;

3. The t test results on the DER variable (X3) obtained a t value of 4.065731 > t table, namely 2.005746 and a significance value of 0.000 <0.05. Then H0 is rejected and Ha is accepted, meaning that the DER variable affects ROE in metal sub-sector companies and the like on the Indonesia Stock Exchange;
4. The t test results on the NPM variable (X4) obtained a t value of 8.130149 > t table, namely 2.005746 and a significance value of 0.000 < 0.05. Then H0 is rejected and Ha is accepted, meaning that the NPM variable affects ROE in metal sub-sector companies and the like on the Indonesia Stock Exchange.

F test

The F statistical test or regression coefficient test tests independent variables that simultaneously have a significant effect on the dependent variable. The significance value of the probability F test results < 0.05 (α = 5%), then the test results show that the independent variables as a whole have a significant effect on the dependent variable. For more details, it can be seen from the table as follows:

<table>
<thead>
<tr>
<th>Source: output ekviews-12, 2022</th>
</tr>
</thead>
</table>

Based on the results that have been obtained using the simultaneous test or F test in the table above, it shows an F-statistic value of 27.92421 with a probability value of 0.00000. Where the probability value of 0.00000 < 0.05 which means that Ho is rejected and Ha is accepted. With an F table of 2.557179, then F count > F table which means that Ho is rejected and Ha is accepted. So it can be concluded that CR, DAR, DER and NPM simultaneously or together have a significant influence on ROE in metal subsector companies and the like listed on the IDX for the period 2018-2022.

Coefficient of Determination (R2)

Testing the coefficient of determination (R2) or Adjusted R2 is carried out to consider the effect of the independent variable on the dependent variable described by the regression equation. The range of R2 values is between 0 and 1. The closer to 1, the more accurate the R2 value. For more details, it can be seen from the table as follows:
Table 9. Test Results of the Coefficient of Determination (R2)

<table>
<thead>
<tr>
<th></th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
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<td>0.0054</td>
</tr>
<tr>
<td>X2</td>
<td>1.046910</td>
<td>0.168929</td>
<td>6.197336</td>
<td>0.0000</td>
</tr>
<tr>
<td>X3</td>
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<td>X4</td>
<td>2.960808</td>
<td>0.364176</td>
<td>8.130149</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

Based on the results that have been obtained using the coefficient of determination (R²) test in the table above, it shows the coefficient of determination (R²) value of 0.666042, where the R2 value is close to one. So that the influence of the independent variable on the dependent variable is getting stronger, it can be formulated that the independent variables CR, DAR, DER and NPM in explaining the dependent variable ROE by 66%, the remaining 34% is explained by other variables not examined in this study.

CONCLUSIONS AND SUGGESTIONS

Based on the results of the analysis, it can be concluded that CR, DAR, DER and NPM partially have an influence and are significant to ROE in metal and similar subsector companies listed on the IDX for the period 2018-2022. Likewise, simultaneously that CR, DAR, DER and NPM have an influence and are significant to ROE in metal subsector companies and the like listed on the IDX for the period 2018-2022. As for suggestions for future researchers, it is advisable to expand the research sample and use different types of companies as comparisons. Using different types of companies as comparisons, as well as to try to replace other variables not examined in this study, or it is also possible to use a longer period of time for the research period so that the results obtained are more accurate.

REFERENCE


dan PT. Goodyer Indonesia, Tbk yang Go Public di Bursa Efek Indonesia.  


