How the Financial Performance of Coal Mining & Metal, and Mineral Mining Companies in Indonesia's Stock Market From 2017 to 2022 Influenced Their Stock Prices

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Abstract
This research ascertained the effect of return on asset, debt to equity, company size, and current ratio on stock prices. The study applied descriptive quantitative. The method includes library research that utilizes data from secondary sources. The population in this study are all coal mining, metal, and mineral mining companies registered on the Indonesia Stock Exchange in the 2017-2022 period. Using the purposive sampling method, 26 companies are obtained with a total of 31 data observations. In analysing the data, the research used panel data analysis (fixed effect). Meanwhile data testing was done by using the E-views 10 program. The findings revealed that partial return on assets and company size had an effect on stock prices, whereas debt-to-equity and current ratios had no effect on stock prices. The study found that several factors which are return on asset, debt-to-equity, company size, and current ratio all simultaneously impact stock prices.

Keywords: return on asset, debt to equity, company size, current ratios, stock prices

INTRODUCTION
The capital market is composed of the words "market" and "capital" (Martalena, M. M., & Malinda, M., 2011). Therefore, the capital market can be defined as a convergence point for the demand and supply of capital, with a focus on fairness and long-term development. The capital market is vital to the Indonesian economy because it acts as a conduit for capital to move from investors, or capital owners, to firms, enhancing the capital structure of those companies. This bridge facilitates the promotion of more efficient capital allocation. The capital market has a significant role in encouraging capital formation and sustaining economic growth in a country (Indonesia Investment Coordinating Board, 2018).

With over 17,000 islands, the country with newly moved capital city Nusantara boasts the world's largest archipelago and is the fourth most populous country globally. Indonesia is considered one of the developing countries with abundant mineral resources. Energy plays a vital role in Indonesia's economic development. It contributes as both a provider of fuel and industrial raw materials, as well as an important component of the country's economic expansion. By following taxation, energy sector, mining industry, and mineral resources sector rank as the second-largest revenue-generating sectors (Gursida, 2019).

In order to win business competition, business people must manage and operate their companies more effectively and efficiently. A technique for examining a company's financial
statements is ratio analysis, which offers important data and indications to gauge profitability and evaluate the performance and well-being of the company's finances. Understanding the firm's operations can aid analysts, investors, and management in identifying the company's advantages and disadvantages.

Stock prices are a critical factor that investors, manufacturers, and other stakeholders need to pay attention to (Hashmi et al., 2021). Investors need different types of information to be able to evaluate company performance for investment decisions, investing in stocks wants to earn as much as possible. Financial information holds the utmost importance and serves as the fundamental factor among various influences on stock prices.

Performances are important in the business world (Hanafi et al., 2023; Lutfillah & Amadea, 2022). Financial performance is the achievement that a company attains during a specific period, reflecting the extent to which the company adheres accurately and appropriately to financial execution rules. In mature capital markets, investors tend to allocate their funds to companies with sound operational performance and outstanding financial results. As a result, these companies receive the capital they need to expand. Therefore, in order to understand their impact on stock prices and identify the key financial indicators that influence stock prices, it is crucial to examine the financial metrics of publicly traded companies. Hence, the research comes out with several research questions as a compass and guidance of the study.

1. Does Return on Assets (ROA) have a significant impact on stock prices?
2. Does Debt to Equity Ratio (DER) have a significant impact on stock prices?
3. Does Company Size (CS) have a significant impact on stock prices?
4. Does The Current Ratio (CR) have a significant impact on stock prices?

LITERATURE REVIEW AND HYPOTHESIS

Market players set stock prices based on the supply and demand dynamics of pertinent stocks in the capital market. These prices represent the current value of stocks listed or traded on stock exchanges (Sukesti et al., 2021). Numerous essential signals, including the opening price, average price, highest price, closing price, and lowest price, and other forms comprise stock market price. The closing price is a widely known benchmark in the securities market, holding significant reference value for investors (Ding, 2012). The study's definition of the stock price is the closing price at year's end for the 2017–2022 period.

One measure used to evaluate a company's ability to generate net income in relation to a particular asset level is the return on assets (ROA) (Hanafi, M., 2004). A measure of a company's operational profitability that is expressed as a percentage of profit over a given time period is called return on assets (ROA). The more profitable the company is, the higher its return on assets (ROA).

The debt-to-equity ratio, or "DER," is a solvency measure that contrasts the total amount of debt that the business has taken on with its equity. The corporation is more at danger to its liquidity the greater the DER. In company finance, the debt-to-equity ratio is a crucial statistic. It is a gauge of how much a business relies on debt rather than its own resources to fund its operations. A heightened debt-to-equity ratio (DER) correlates with increased risk for the company (Harahap, 2018).

According to (Masakure, 2016), total assets, sales, or company capital are useful data to measure firm's size. The entire assets owned by the firm are used to compare the companies in this study. The size of the company is calculated using the natural logarithm of its total
assets. Considering the substantial worth of the firm’s assets while determining the overall asset value, which is determined in millions of rupiah.

The current ratio, a type of liquidity ratio, assesses how well a company can use its current assets to pay down its short-term debt (Hertina & others, 2021). By examining the current ratio, investors can gain a more comprehensive understanding of the company’s ability to settle short-term debt with current assets.

The connection between financial success and stock prices has been well studied in the past. However, it is not in the case of correlation between stock price and financial performance. Based on Table 1, Ginting and Hidayat (2019) study found an insignificant negative impact of the current ratio on the stock prices and an insignificant positive impact of debt to equity (DER) on the stock prices. While Prasetyo et al. (2021) argued for an insignificant negative impact of DER on stock prices. Murniati (2016) and Prasetyo (2021) indicated ROA has a significant positive impact on stock prices, and Mulyono (2018) research concluded that ROA has an insignificant positive impact on stock prices. At the same time, Mulyono shows that company size has a favorable and considerable influence on stock values.

On the other hand, Indonesia possesses abundant mineral resources, making it a primary attraction for mining companies to conduct operations in the country. Considering the direct impact of fluctuations in coal and metal/mineral extraction prices on business operations, such volatility may be reflected in financial performance. An in-depth analysis of the relationship between the financial performance of mining companies and stock prices is essential for investors, managers, and decision-makers to gain a thorough understanding of the operational status of mining companies, given that stock prices are a factor that investors must closely monitor in addition to the significant long-term risks associated with stocks. Such research has the potential to enhance the accuracy and effectiveness of investment decision-making. This table provides an overview of recent studies regarding stock price.

<table>
<thead>
<tr>
<th>Study by</th>
<th>Variables</th>
<th>Sample</th>
<th>Time</th>
<th>Data resources</th>
<th>Method</th>
<th>Results</th>
</tr>
</thead>
</table>
| (Ginting & Hidayat, 2019)| Dependent variables: Share Price              | 36     | 2014-2017     | secondary data | Panel data regression  | ROE, CR do not have substantial negative effect to stock prices, EPS  
|                          | Independent variables: Earnings per Share, ROE, Current Ratio, DER, Price to Book Value |        |               |                |                         | DER do not display a strong positive influence on company prices, whereas PBV has a considerable positive impact on share prices. |
| Murniati, S. (2016).     | Dependent variables: Stock Price               | 11     | 2011-2014     | secondary data | Multiple Regression Analysis | DAR has a considerably negative effect on stock prices, ROE and NPM do not display a major negative influence on stock prices; DER, ROA and firm size have an important positive effect on stock prices. |
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<table>
<thead>
<tr>
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<th>Data resources</th>
<th>Method</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Prasetyo et al., 2021)</td>
<td>Dependent variables: Stock Price Independent variables: Earning Per Share, ROA, DER</td>
<td>11</td>
<td>2015-2019</td>
<td>secondary data</td>
<td>Quantitative descriptive</td>
<td>EPS, ROA and DER concurrently impact stock prices; ROA has large positive influence on company price, EPS has positive but not crucial effect, DER has negative but not significant effect to stock price;</td>
</tr>
<tr>
<td>(Mulyono et al., 2018)</td>
<td>Dependent variables: Stock Price Independent variables: Corporate Governance Perception Index (CGPI), ROA, Total Asset Turnover (TATO), and firm size (SIZE)</td>
<td>13</td>
<td>2009-2012</td>
<td>secondary data</td>
<td>Multiple linear regression</td>
<td>ROA provides favorable but insignificant influence on stock prices. Meanwhile, TATO and SIZE have a favorable and considerable influence on stock values. There is no important favorable impact of CGPI on SP.</td>
</tr>
</tbody>
</table>

Table 1. Previous studies on financial performance to stock price

**THEORETICAL FRAMEWORK**

![Theoretical Framework](image)

**Hypothesis**

According to the theoretical framework, the hypothesis for this research is constructed as follows:
1. Hypothesis 1: There is a significant influence of Return on Asset (ROA) towards Stock price.
2. Hypothesis 2: There is a significant influence of Debt to Equity (DER) towards Stock price.
3. Hypothesis 3: There is a significant influence of Company Size (CS) towards Stock price.
4. Hypothesis 4: There is a significant influence of Current Ratio (CR) towards Stock price.
5. Hypothesis 5: There is a simultaneously significant influence of ROA, DER, CS, and CR towards Stock price.

RESEARCH METHOD

The descriptive quantitative method was used in this research to conduct the study. The S&P Capital IQ database, Yahoo Finance, the Indonesia Stock Exchange, and other sources provided the secondary data for this study. To obtain the desired outcomes, the gathered data is processed further using E-Views 10 after being imported into Microsoft Excel 2021. Next, the data will be examined and interpreted to make judgments grounded in the literature review. The conclusion will address the research questions and provide an overview of the study's tone. From this research, interested parties will expectedly receive recommendations.

Sample and Population Size

The population in this paper were 22 coal mining sector companies and 9 metal & mineral mining sector company registered at IDX from 2017-2022. According to Sekaran, U., & Bougie, R. (2016), a sample population is any group of individuals, occasions, or objects that the researcher wants to concentrate on. Sample is part of the population that is considered to represent characteristics of the population (Memon et al., 2020). If the sampling is accurate, statistical analysis can be used by the study to generalize to the entire population.

Several criteria are used in determining the sample of the study. Those criteria can be detailed as follows:

b. List coal mining and mineral mining companies is active that did not experience delisting from 2017 to 2022.
c. It has published complete financial data in the period 2017 to 2022.
d. Coal mining and mineral mining company stock prices are fluctuating from 2017-2022.

Operationalization of Research Variables

This research aims to find the relationship between financial performance and stock price. Other financial ratios (ROA, DER, CS, and CR) are explained by independent variables, while the stock price is explained by dependent variables.

<table>
<thead>
<tr>
<th>Variable Types</th>
<th>Variable Names</th>
<th>Acronyms</th>
<th>Measurement</th>
<th>Scale</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dependent Variables</strong></td>
<td>Stock Price</td>
<td>SP</td>
<td>Stock price: The value of stocks due to trading in secondary Market, stock price measured with the stock price at the closing price</td>
<td>Rupiah</td>
<td>(Saputra, 2022); (Sukesti et al., 2021); (Sulistyanie &amp; Sumantri, 2020);</td>
</tr>
<tr>
<td></td>
<td>Return on Asset</td>
<td>ROA</td>
<td>Return on Assets (ROA) =</td>
<td>Ratio</td>
<td>(Hertina &amp; others, 2021); (Husna &amp; Satria,</td>
</tr>
</tbody>
</table>
There are three regression models, common effect model, fixed effect model and random effect model.

1) The common effects model is the simplest of the three panel data models. The panel data modeling technique simply mixes time series and cross-sectional data.

2) The Fixed Effects Model (FEM) pertains to variables that remain constant across individuals; these variables, such as age, gender, or race, do not vary over time or at a fixed rate.

3) This model is employed for estimating panel data, considering the possibility of correlation among disturbance variables across different time periods and entities. In the random effects model, the variations in intercepts are adjusted by the error terms associated with each company (Zulfikar & STp, 2018).

The Test for Determining the Regression Model

To ascertain which model is most appropriate, two tests are being performed: the Chow and Hausman tests.

a) The Chow test is a method used to determine whether the Common Effects (CE) or Fixed Effects (FE) model is more suitable for estimating panel data. If the probability is >0.05, will choose the common effect model; If the probability is <0.05, will choose the fixed effect model;

b) Hausman test, is employed to make the selection between utilizing the most appropriate fixed effects model or a random effects model(Zulfikar & STp, 2018). If the probability is >0.05, random effect model will be chosen; If the probability is <0.05, fixed effect model will be chosen;
Multiple Regressions Analysis

A regression analysis to explain the relationship between the dependent variable and multiple independent variables is called a multiple regression model. In this research, there are: Return on Asset (X1), Debt to Equity (X2), Company Size (X3), Current Ratio (X4), and Stock Price (Y). Thus, the following:

\[ Y_{it} = \alpha_i + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \epsilon_{it} \]

Where: Y=Stock Price, \( \alpha \)= constant, \( \beta_1-\beta_4 \)=the regression coefficient, \( X_1 \)=Return on Asset, \( X_2 \)=Debt to Equity, \( X_3 \)=Company Size, \( X_4 \)=Current Ratio, \( \epsilon \)=random error

Classical Assumption Test

This research Classical Assumption Test uses the following tests: normality test, multicollinearity test, heteroskedasticity examination and autocorrelation test.

1. To determine whether the normal distribution of data is done, a normality test is applied (Santoso, 2010). a. If Jarque-Bera probability > 5%, thus the data is normally distributed. b. If Jarque-Bera probability < 5%, thus the data is not normally distributed.
2. Multicollinearity Test: To determine the existence of high correlation between variables in a multiple regression model. The result value below 0.8 which means the independent variables have no correlation;
3. Auto-correlation test is used to see that there is a linear relation between the errors on a series of observations, sorted by time (time series). Durban-Watson's confidence level \( \alpha \) = 5%. If DW is between -2 and +2, then there is no auto-correlation;
4. The heteroscedasticity test aims to test whether in the regression model there is an inequality of variance from the residuals of one observation to another observation. If the prob value > 0.05 it means that there is no heteroscedasticity problem.

RESULTS AND DISCUSSION

Chow Test result

When the common effects model and the fixed effects model are compared using the Chow test, the following outcomes are displayed:

<table>
<thead>
<tr>
<th>Redundant Fixed Effects Tests</th>
<th>Equation: Untitled</th>
<th>Test cross-section fixed effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effects Test</td>
<td>Statistic</td>
<td>d.f.</td>
</tr>
<tr>
<td>Cross-section F</td>
<td>26.93656</td>
<td>(25,126)</td>
</tr>
<tr>
<td>Cross-section Chi-square</td>
<td>288.225139</td>
<td>25</td>
</tr>
</tbody>
</table>

Table 3. Chow test by using E-view version 10

Based on table 3, the probability value of the Chow test is 0.0000 less than 0.05, therefore, we will choose the fixed effect model.

Hausman Test result

When the results of the fixed effects model and the random effects model were compared using the Hausman test, the findings are as follows:
Based on table 4, the probability value of this test is 0.0024 which is less than 0.05, thus the fixed effect model is more suitable for this model.

**Multiple Regression Model**

The study employs a fixed effects model, tested using E-Views. The data is 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>-0.866204</td>
<td>1.019355</td>
<td>-0.849756</td>
<td>0.3971</td>
</tr>
<tr>
<td>ROA</td>
<td>0.855533</td>
<td>0.261322</td>
<td>3.273859</td>
<td>0.0014</td>
</tr>
<tr>
<td>DER</td>
<td>-0.000921</td>
<td>0.015729</td>
<td>-0.058546</td>
<td>0.9534</td>
</tr>
<tr>
<td>@LOG10(CS)</td>
<td>0.546264</td>
<td>0.149171</td>
<td>3.662007</td>
<td>0.0004</td>
</tr>
<tr>
<td>CR</td>
<td>-0.001969</td>
<td>0.001453</td>
<td>-1.354835</td>
<td>0.1779</td>
</tr>
</tbody>
</table>

**Table 5. Multiple Regression results by using E-views version 10**

According to table 5, the researcher gets a return on asset’s correlation coefficient value is 0.855533, debt to equity correlation coefficient value is -0.000921, company size correlation coefficient value is 0.546264, current ratio correlation coefficient value is -0.001969. The C value is -0.866204. The regression result for the model is shown below:

\[
\text{Stock price} = -0.866204 + 0.855533 \text{ROA} - 0.000921 \text{DER} + 0.546264 \text{CS} - 0.001969 \text{CR}
\]

The equation can be described as follows.
A. The coefficient for ROA is 0.855533, indicating a positive influence on stock price. This is substantiated by the P value of 0.0014, suggesting that the impact of ROA on stock price is significant.

B. The coefficient associated with DER is -0.000921, signifying a negative effect on stock price. This conclusion is supported by the P value of 0.9534, indicating that the influence of DER on stock price is not significant.

C. The coefficient attributed to CS is 0.546264, suggesting a positive impact on stock price. This is further corroborated by the P value of 0.0004, affirming that the effect of CS on stock price is statistically significant.

D. The coefficient linked to CR is -0.001969, indicating a negative effect on stock price. The P value of 0.1779, however, suggests that the impact of CR on stock price is insignificant.

Normality Test Result
Normality tests assess whether the observed data significantly deviates from a normal distribution.

Based on table 6, the probability value of Jarque-Bera is 0.495458 which is higher than 0.05, therefore, the data is normality distribution.

Multi-collinearity Test
Multicollinearity Test tests the correlation among return on asset, debt to equity, company size and current ratio. The results display as follows:

<table>
<thead>
<tr>
<th></th>
<th>ROA</th>
<th>DER</th>
<th>@LOG10(CS)</th>
<th>CR</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>1.000000</td>
<td>-0.280789</td>
<td>0.156083</td>
<td>-0.06205</td>
</tr>
<tr>
<td>DER</td>
<td>-0.280789</td>
<td>1.000000</td>
<td>0.07833</td>
<td>0.093062</td>
</tr>
<tr>
<td>@LOG10(CS)</td>
<td>0.156083</td>
<td>0.07833</td>
<td>1.000000</td>
<td>-0.333508</td>
</tr>
<tr>
<td>CR</td>
<td>-0.06205</td>
<td>0.093062</td>
<td>-0.333508</td>
<td>1.000000</td>
</tr>
</tbody>
</table>

Table 7. Multi-collinearity Test result by using E-views version 10
As the results above, the maximum correlation coefficient value between all independent variables is negative 0.333508, which is less than 0.8, so it means there is no Multi-collinearity problem in this model.

**Heteroscedasticity Test Result**

Heteroscedasticity tests are used to test whether the results deviate from our classical hypothesis. If there is no heteroskedasticity, the regression model is good.

<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>2.66E-13</td>
<td>0.157778</td>
<td>1.69E-12</td>
<td>1.000</td>
</tr>
<tr>
<td>ROA</td>
<td>8.68E-15</td>
<td>0.15166</td>
<td>5.72E-14</td>
<td>1.000</td>
</tr>
<tr>
<td>DER</td>
<td>1.76E-15</td>
<td>0.01008</td>
<td>1.75E-13</td>
<td>1.000</td>
</tr>
<tr>
<td>@LOG10(CS)</td>
<td>-3.87E-14</td>
<td>0.023046</td>
<td>-1.68E-12</td>
<td>1.000</td>
</tr>
<tr>
<td>CR</td>
<td>-6.69E-16</td>
<td>0.001097</td>
<td>-6.10E-13</td>
<td>1.000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Mean dependent var</th>
<th>S.D. dependent var</th>
<th>Akaike info criterion</th>
<th>Schwarz criterion</th>
<th>Durbin-Watson stat</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-squared</td>
<td>0.000000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusted R-squared</td>
<td></td>
<td>0.186070</td>
<td>-0.026490</td>
<td>-0.183653</td>
<td></td>
</tr>
<tr>
<td>S.E. of regression</td>
<td>0.186070</td>
<td>0.186070</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sum squared resid</td>
<td>5.227924</td>
<td>5.227924</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Log likelihood</td>
<td>43.52125</td>
<td>43.52125</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F-statistic</td>
<td>-6.41E-15</td>
<td>6.41E-15</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prob(F-statistic)</td>
<td>1.000000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 8. Test result by using E-views version 10

From table 8, we can see the probability of all independent variables is more than 0.05, which means this study does not have a heteroscedasticity problem.

**CONCLUSION AND RECOMMENDATION**

**Conclusion**

The purpose of this study is to investigate the relationship between stock prices and financial performance for mining companies that are listed on the Indonesia Stock Exchange and mine coal and metals and minerals. This study chooses 26 companies from 18 coal mining companies and 8 metal and mineral mining companies from 2017 to 2022. The conclusions are shown as follows:

1. Return on asset (ROA) demonstrates a positive and significant influence on stock prices. In general, ROA reflects the level of profitability a company earns on its assets. A high ROA usually indicates that a company is using its assets efficiently to achieve higher profitability. This can increase investor confidence and improve the company's profitability, thereby supporting rising stock prices.
2. The impact of debt-to-equity (DER) on stock prices is observed to be negative and insignificant. DER reflects the relationship between a company's debt and shareholder equity, that is, how much debt capital a company uses relative to shareholder equity to finance its operations and expansion. High DER may be viewed as a risk. A high DER may mean that the company faces greater risk. If investors believe its financial risk is too high, the stock will decline.

3. The stock price exhibits a positive and significant correlation with company size (CS). In general, a larger company size is indicative of increased competitiveness and a stronger market position. Larger companies have access to higher liquidity, making stocks easier to buy and sell, and high liquidity can have a positive impact on stock prices. In addition, large companies generally have easier access to financing. Because they have the resources and strong credibility, this allows the company to pursue strategies such as expansion and investment that can have a positive impact on the company's long-term growth and stock price.

4. The effect of the current ratio (CR) on stock price is observed to be negative, although not significant. If the current ratio rises, it means the company has more current assets to pay off its short-term liabilities, which is usually seen as a positive financial sign. However, if there are too many liquid assets, investors may think that the company is not effectively using its liquid assets to obtain higher return opportunities, and investors may be dissatisfied with the company's capital allocation decisions, which will have a negative impact on the stock price.

5. The stock price is greatly impacted by the combined effects of return on assets, debt to equity, firm size, and current ratio. The collective variation in these determinant factors can comprehensively account for approximately 90.59% of the observed changes.

**Recommendations**

Based on the findings and deductions drawn from this study, the researcher proposes the following recommendations:

For business managers, financial performance research results can be used to optimize their financial management strategies, reduce financial risks, improve asset utilization, etc. Understanding how financial indicators affect stock prices can help companies better plan future investment and expansion plans.

Investors can make better investment selections if they comprehend the connection between financial performance and stock price.

For more researchers, this study selected 6 years of data and 4 research variables. It is recommended that future researchers increase sample size, time, and variables appropriately to achieve a more perfect study.

**REFERENCES**


