Solvency, Profitability, and Financial Performance

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Abstract
This study set out to ascertain how solvency and profitability impacted financial performance. Using a purposive sampling technique, a mining business in the coal subsector that will be listed on the Indonesia Stock Exchange between 2016–2022, serves as the research sample. The debt to equity ratio (DER) is used to assess the solvency variable. Total assets turnover (TATO), a measure of asset utilization, and net profit margin (NPM), a measure of operating performance, are used to measure the profitability variable. Return on total assets (ROA) is a metric used to assess financial performance. The findings of this study show that all independent variables—DER, TATO, NPM, and ROA—affect the dependent variable of financial performance simultaneously and partially.

Keywords: debt to equity ratio, total assets turnover, net profit margin, return on total assets

Introduction
A rise in competitiveness for company owners is a result of changes in the global economy. One of the factors contributing to Indonesia's growing degree of business rivalry is the creation of several new types of company activity. The sophistication of technology at the moment supports this economic development as well. All individuals now have easier access to information thanks to technological advancements, including customers who utilize it as well as company owners who supply goods or services. For the sake of the long-term viability of their organization, business owners must thus stay informed of changes in the global economy and enhance operating efficiency.

In 2020, Indonesia overtook China and India as the world's third-largest producers of bamboo, making bamboo the official building material of the Republic of Indonesia at the time (Asmarini, 2021). Despite being the fourth-largest economy in the world, Indonesia, the impact of Covid 19 goes to coal producers. As a result of the 2019 Covid Pandemic, coal producers are urged to engage in large-scale social networking initiatives so that their business initiatives can no longer be carried out with the utmost efficiency. This might result in certain batubara manufacturers experiencing financial difficulties, which would make their business's operations less profitable.

According to initial assumptions, a business is designed to satisfy every customer, but for the owner, the goal of the initiative at hand is to promote peace by exerting the greatest amount of labor. By increasing company productivity and employee motivation in order to
monitor the growth of the industry in the future, profits may succeed to the greatest extent possible. In terms of company performance, a company will achieve maximum profit if it can judge the efficacy and efficiency of its performance. This may be seen and understood from the business's approved bank statement.

For both internal and external users, financial reports are one of the most crucial standards. Financial reports can be utilized by externals as a guidance when choosing between different financing and investment options. Internally, financial reports are used to assess business performance and inform management choices. In order for consumers to have a comprehensive image of the company's operational operations and financial status, companies must be able to provide financial reports simply and properly. Financial ratio analysis must be done to examine financial reports before they can be used as a source of information for consumers. The study of solvency and profitability ratios is one of the financial measures used to judge the financial performance of the organization.

If the company's solvency ratio study shows that it is in a solvable state—that is, that its total assets exceed its liabilities—then the company's financial situation may be regarded as sound. The debt to equity ratio (DER) computation can be used to determine a company's viability. According to Darmawan (2020), DER is a ratio that identifies the split between debt and equity financing. In other words, the equity employed as debt collateral is shown by this percentage. Because they won't have to worry about the firm going bankrupt because of its debt, investors will be willing to contribute money when they know the company is in a manageable situation, meaning the value of debt financing to equity is low.

According to Silfin & Gunawan (2019) the performance of the firm (return on assets) is significantly impacted by solvency as measured by DER. According to Sijabat (2020), financial performance was significantly positively impacted by solvency as determined by DER. The debt to equity ratio, as reported by Sari et al. (2021), also has a little impact on financial performance. These findings deviate from those of Diana & Osesoga (2020) study, which found that solvency had no impact on financial performance. The findings of this study are consistent with those of research by Miranti, (2020), which found that partially measuring solvency by DER had little impact on financial performance.

If a business can produce maximum profit with the least amount of sacrifice, it is seen as excellent. The profitability ratio, which assesses management's success in generating the highest return possible from all resources available, is the metric used to gauge this. According to Darmawan (2020), strong profitability indicates that a business can deliver positive returns on its investments and keep its long-term viability. Profitability also demonstrates the company's future potential, which helps investors see the business as having sound financial management and being able to pay back financiers fairly.

There were conflicting findings in a number of research that looked at how profitability affected financial success. According to Miranti (2020), profitability is determined by net profit margin, and Asniwati (2020), which determines profitability by return on assets, all of these metrics have a marginally significant impact on financial performance. Their research's findings contrast from those of Astutik et al. (2019), who found no relationship between profitability and financial success.

According to the justification given, there continue to be discrepancies between the findings of earlier studies and the phenomena that exist in mining firms, making it worthwhile to continue researching financial performance. As a result, the purpose of this study is to reconsider how profitability and solvency affect the financial performance of a corporation. Since solvency influences financial performance, the study topic is if it does. Do profits have an impact on how well a business performs financially?
Literature Review and Hypotheses

Agency Theory
Agency theory (Jensen & Meckling, 1976), which analyzes the interaction between agents and principals in a corporation, was the theory employed in this study. According to this idea, there are conflicts that might arise between the agent and the principal as a result of the agent and principal having different interests. When one side (information asymmetry) has more information than the other, conflicts between agents and principals may arise. In general, agents may be privy to more information than the owner, particularly in regards to the business' operational operations.

Financial reports are one type of information used to lessen information asymmetry. Financial reports, in the form of financial ratio analysis, give the financial information required to analyze corporate performance. Owners can utilize the results of the financial ratio analysis to make business choices. As a result, financial ratio analysis is one of the instruments that owners use to analyze the company's financial performance and future prospects (Sutrisno, 2017).

Financial report analysis
According Septiana (2019) and Darmawan (2020), financial statement analysis is a process of analyzing financial reports, specifically statements of financial position and profit/loss reports and their attachments, with the goal of making decisions, knowing the financial position, and understanding the company's health condition. Theoretically, "analysis" is the dissection of a problem that explains the link between its elements and then acquires an overall knowledge. This understanding leads to the conclusion that financial statement analysis is a detailed description of the aspects of financial statements performed to identify the company's financial status. As a result, financial statement analysis is deemed vital since it may offer an overview of a company's health within a specific time period.

Solvency Ratio Analysis
Solvency ratio analysis is a method of determining a company's ability to meet its commitments and exist for an extended length of time (Jusup, 2011). Because this ratio reflects how much of the company's financial component is financed with debt, the lower the debt financing, the better the company's financial situation. As a result of the solvency ratio study, the firm might evaluate the financing that will be carried out in the future.

According to Darmawan (2020) the solvency ratio is tied to the company's funding decision, whether it decides to employ debt or its own capital. Long-term debt and own capital both have advantages and downsides. As a result, managers' roles are critical in managing finances as effectively as possible so that long-term debt financing does not exceed financing with business capital. Managers require information on the percentage of financing under appropriate terms or not to aid them in managing these funds by examining at a company's level of debt to equity ratio. The greater the amount of the firm's debt to equity ratio, the more sources of funding the company requires in comparison to its own capital.

Profitability Ratio Analysis
As stated by Darmawan (2020), profitability is vital in the endeavor to sustain the firm's long-term existence since it demonstrates that the company has strong future possibilities. As a result, the corporation makes attempts to operate the organization effectively and efficiently. When a firm's profitability is good, it has good performance, which allows investors and creditors to participate in paying the company's operational operations, allowing the company to continue for a long time.
Based on Jusup (2011), profitability ratio analysis assesses a company's profit and operating performance while also analyzing the efficacy of management operations through time. The amount of net profit margin produced by the firm may be used to gauge the profit and success of operations. The greater a company's net profit margin, the more operational operations it does within one productive time. Furthermore, strong operational activity management may be observed in the company's capacity to use its assets to create sales throughout that time period. This may be observed in a company's asset turnover (total assets turnover). The greater the company's overall asset turnover rate, the more efficiently it uses its assets to create sales.

Financial Performance
In the words of Wahyudi & Sitohang (2017), financial performance is a firm's success that indicates the level of soundness of the company using benchmarks based on standards and criteria for a certain period. Financial performance is required by the firm in order to understand the description of the financial state and then evaluate the company's level of success based on the financial activities carried out by the organization.

Miranti (2020) says financial performance is an assessment of a company's efficiency and productivity in the financial sector that is done on a regular basis based on the company's financial reports. Financial performance indicates the outcomes produced by the firm for the management that was carried out, as evidenced by the profit made during that period. The higher the rate of return, the bigger the company's profit. The return on assets of a corporation is one metric that may be used to gauge a company's success in producing profits. The higher a corporation's return on assets, the higher its rate of return, suggesting superior corporate success. As a result, higher corporate performance suggests that the corporation can use its assets efficiently to maximize earnings.

The Impact of the Debt-to-Equity Ratio on Financial Performance
Investors utilize the debt to equity ratio to compare a company's debt to its equity, according to Kasmir (2019). This is done to determine the quantity of cash given by creditors and firm owners, so that investors may determine the value of each rupiah of their own capital used as security for loan. The greater the value of this ratio, the more debt the firm has, which might have an impact on its financial success.

If the overall stock value exceeds the debt, the firm is considered solvable. This indicates that the firm is exhibiting strong financial performance, particularly the ability to manage its equity and finance its operational activities without relying on debt. This is consistent with the findings of study undertaken by Sijabat (2020), Asniwati (2020), Silfina & Gunawan (2019), Fibriyanti (2018), Tasmil et al. (2019) and Sari et al. (2021), who found that the debt to equity ratio has a substantial influence on financial performance. The following hypothesis is offered based on the theory and findings of prior research:

**H1**: Debt to equity ratio influences financial performance

Total Asset Turnover's Impact on Financial Performance
A study by Darmawan (2020), total assets turnover evaluates sales value compared to assets and is utilized as an indicator of asset efficiency in generating profit. Total assets turnover compares net sales to average total assets, allowing the company's capacity to produce sales from total assets to be shown.

Companies with the capacity to deliver good returns have a solid financial performance. This indicates that the corporation may make strong sales while sacrificing assets. This is consistent with the findings of Putry & Erawati (2013), Wahyudi & Sitohang (2017), and Diana & Osesoga (2020), who found that total assets turnover (TATO) has an influence on financial
performance (ROA). The following hypothesis is offered based on the theory and outcomes of past research:

\( H2a \): Total asset turnover influences financial performance

**The Impact of Net Profit Margin on Financial Performance**

Darmawan (2020) defines net profit margin as a ratio that displays the magnitude of a company's net profit in relation to its sales. That is, the net profit margin demonstrates the company's capacity to manage sales in order to generate net profit. As a result, in this ratio, a high level of corporate efficiency is required to lower operating costs.

Companies that can effectively manage their costs and income will raise their earnings, so improving their financial performance. This is consistent with the findings of Putry & Erawati (2013) and Widiyawati et al. (2021), who found that net profit margin influences financial performance (ROA). The following hypothesis is offered based on the previous statement:

\( H2b \): Net profit margin influences financial performance

**The Impact of Debt to Equity Ratio, Total Asset Turnover, and Net Profit Margin on Financial Performance**

Managers frequently use financial ratios as a baseline to evaluate corporate success. The solvency and profitability ratios are thought to be capable of accurately representing the company's financial status. The return ratio and bankruptcy forecast are two criteria that investors might evaluate. A solvable firm demonstrates that the company can withstand the long term. A prosperous corporation demonstrates that the company is capable of providing good earnings to investors. A debt-to-equity ratio, total asset turnover, and a high net profit margin indicate that the firm is able to manage its finances in such a way that debt is used sparingly while producing maximum returns. This is consistent with the findings of Christianti et al. (2017) who discovered that net profit margin, return on total equity, debt to equity ratio, and total assets turnover all have a substantial impact on a company's financial success. The hypothesis provided is based on the above theory and past study results:

\( H3 \): Debt to equity ratio, total assets turnover, and net profit margin influences financial performance

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**Figure 1. Research Model**
Research Method

This study focused on coal mining firms that were listed on the Indonesia Stock Exchange between 2016 and 2022. The yearly financial reports of coal mining businesses listed on the Indonesia Stock Exchange (IDX) from 2016 to 2022 are the subject of this study.

The dependent variable in this study is Financial Performance. Return on total assets (ROA) is used to quantify financial performance (Y) in this study. This is because the return on total assets is thought to be capable of summarizing the company's financial performance by comparing earnings after tax to average total assets. The formula for calculating the return on total assets is as follows:

$$\text{Return on total assets} = \frac{\text{Profit after tax}}{\text{Average total assets}} \quad \text{(Eq.1)}$$

Solvency and profitability were employed as independent variables in this study. The debt to equity ratio (DER) is a proxy for solvency. While total assets turn over (TATO) and net profit margin (NPM) are used to approximate profitability. The profitability ratio defines asset utilization and operating performance.

Debt to equity ratio (DER) is used to proxies solvency. The following is the formula used to calculate the debt to equity ratio:

$$\text{Debt to equity ratio} = \frac{\text{Total liabilities}}{\text{Total equity}} \quad \text{(Eq.2)}$$

Total asset turnover is used to approximate profitability by describing asset use. The formula for calculating total asset turnover is as follows:

$$\text{Total assets turnover} = \frac{\text{Net sales}}{\text{Average total assets}} \quad \text{(Eq.3)}$$

Net profit margin is a term used to describe operating performance and is used to increase profitability. The net profit margin is calculated using the following formula:

$$\text{Net profit margin} = \frac{\text{Profit after tax}}{\text{Net sales}} \quad \text{(Eq.4)}$$

Secondary data is used in this investigation. The annual financial reports of coal mining businesses listed on the Indonesia Stock Exchange (IDX) for the period 2016-2022 were utilized in this study; the data was obtained from the websites www.idx.co.id and the company's official website.

Purposive sampling was utilized, and the following sampling criteria were applied (1) mining businesses in the coal sub-sector that were listed on the Indonesia Stock Exchange between 2016 and 2022 and were still in operation at the conclusion of the 2022 timeframe; and (2) mining businesses in the coal subsector that publish their full financial reports on the Indonesia Stock Exchange between 2016 and 2022.

Multiple regression analysis was done to assess the influence of each variable, either partially or concurrently, to test hypothesis 1, hypothesis 2, hypothesis 3, hypothesis 4, and hypothesis 5. This study's multiple regression model is as follows:

$$\text{ROA}_{it} = \alpha_{it} + \beta_1 \text{DER}_{it} + \beta_2 \text{TATO}_{it} + \beta_3 \text{NPM}_{it} + \varepsilon_{it} \quad \text{(Eq.5)}$$
where \( ROA_i \) is the financial performance of company \( i \) in year \( t \), \( \alpha_{it} \) is company constant \( i \) in year \( t \), \( \beta_1 \text{DER}_{it} \) is debt to equity ratio of company \( i \) in year \( t \), \( \beta_2 \text{TATO}_{it} \) is total assets turnover of company \( i \) in year \( t \), \( \beta_3 \text{NPM}_{it} \) is net profit margin of company \( i \) in year \( t \), and \( \epsilon_{it} \) is company \( i \) error in year \( t \).

**Results and Discussion**

The descriptive analysis of the research variables yielded 147 observational data points. The table data shown below is a descriptive statistics table data that provides an overview of the average (mean), minimum maximum value, and standard deviation:

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>147</td>
<td>-.173</td>
<td>.572</td>
<td>.083</td>
<td>.121</td>
</tr>
<tr>
<td>DER</td>
<td>147</td>
<td>-2.114</td>
<td>34.056</td>
<td>1.766</td>
<td>3.821</td>
</tr>
<tr>
<td>TATO</td>
<td>147</td>
<td>.005</td>
<td>2.562</td>
<td>.880</td>
<td>.571</td>
</tr>
<tr>
<td>NPM</td>
<td>147</td>
<td>-2.189</td>
<td>13.978</td>
<td>.213</td>
<td>1.474</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>147</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The number of samples (N) is 147, as shown in the descriptive statistics table above. ROA, as a proxy for financial success, has a minimum value of -0.173, a maximum value of 0.572, an average value of 0.083, and a standard deviation of 0.121. The DER-proxied solvency variable has a minimum value of -2.114, a maximum value of 34.056, an average value of 1.766, and a standard deviation of 3.821. The TATO-proxied profitability variable has a minimum value of 0.005, a maximum value of 2.562, an average value of 0.880, and a standard deviation of 0.571. NPM's profitability variable has a minimum value of -2.189, a maximum value of 13.978, an average value of 0.213, and a standard deviation of 1.474.

Before evaluating the hypothesis, the classical assumptions must be tested to ensure that the regression equation has estimation accuracy, is not biased, and is consistent. The traditional assumption tests used include the normality test, multicollinearity test, autocorrelation test, and heteroscedasticity test. The traditional assumption test in this study was met based on the test findings, allowing a regression analysis test to be performed.

The results of the test for the coefficient of determination (R2) are reported in Table 2 from the Adjusted R Square of 0.846. This demonstrates that the dependent variables, namely debt to equity ratio (DER), total assets turnover (TATO), and net profit margin (NPM), have an effect on the dependent variable, namely financial performance (ROA) of 84.6%. The remaining 15.4% is explained by factors outside of this research. Based on the t test in the table above, it may be partially read as the effect of the relationship between the independent factors, namely the debt to equity ratio (DER), total assets turnover (TATO), and net profit margin (NPM), on the dependent variable, namely financial performance.

The hypothesis testing produced by the t-test findings of 0.205 in Table 2 is positive with a significance value of less than 0.05. As a result, hypothesis 1 (that DER has an influence on financial performance) may be determined to be validated by evidence. According to Sijabat (2020), Asniwati (2020), Silfina & Gunawan (2019), Fibriyanti (2018), Tasmil et al. (2019), and Sari et al. (2021), solvency as assessed by the debt to equity ratio has a substantial influence on financial performance.

The debt to equity ratio (DER) is a ratio that indicates how the amount of financing carried out by the corporation is the proportion of debt to equity. So, the higher the DER value, the better the company's capacity to manage its finances. As a result, the firm will readily attract further foreign money because it is seen capable of producing returns through its activities. So
when a firm receives foreign cash, it can increase its financial performance since more capital implies more possibility to profit.

### Table 2. Hypothesis Test Result

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>t-statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>0.352</td>
<td>3.130*</td>
</tr>
<tr>
<td>DER</td>
<td>0.070</td>
<td>0.205*</td>
</tr>
<tr>
<td>NPM</td>
<td>0.078</td>
<td>0.940*</td>
</tr>
<tr>
<td>TATO</td>
<td>0.024</td>
<td>0.437*</td>
</tr>
<tr>
<td>Adj. R2</td>
<td>0.846</td>
<td></td>
</tr>
<tr>
<td>F-Stat</td>
<td>143.463*</td>
<td></td>
</tr>
</tbody>
</table>

\[
\text{ROA} = 0.352 + 0.070(\text{DER}) + 0.078(\text{NPM}) + 0.024(\text{TATO}) + e \quad \text{......... (Eq.5)}
\]

The t test results received from the hypothesis testing table were 0.437, with a significance value of less than 0.05. As a result, hypothesis 2a, stating that TATO has an influence on financial performance, may be determined to be supported by evidence. These findings support the findings of Putry & Erawati (2013) and Wahyudi & Sitohang (2017), who found that total assets turnover (TATO) has a partially favorable and substantial influence on financial performance.

Total assets turnover (TATO) is a ratio that reflects how much money is made with the assets that are held. If a corporation has a high total assets turnover, it suggests that total assets turnover can be used effectively and efficiently. The stronger the company's capacity to manage assets, the higher the sales generated by asset turnover. As a result, the larger the overall asset turnover, the better the financial performance of the organization.

The t test results received from the hypothesis testing table were 0.940 with a significance value less than 0.05. As a result, hypothesis 2b, stating that NPM has an influence on financial performance, may be determined to be supported by data. These findings are consistent with study by Putry & Erawati (2013), Widiyawati et al. (2021), and Wahyudi & Sitohang (2017), which found that net profit margin (NPM) had a minor impact on financial performance.

Net profit margin (NPM) is a statistic that reflects how much net profit a firm may produce from its sales. If a corporation has a high net profit margin, it suggests that it can effectively distribute sales revenues. The greater a company's capacity to allocate the revenues of its sales, the more effective and efficient its financial performance will be. As a result, the bigger the net profit margin, the better the financial performance of the organization.

The estimated F test results from the hypothesis testing table above are 143.643, with a significance value of less than 0.05. As a result, the debt-to-equity ratio (DER), total assets turnover (TATO), and net profit margin (NPM) all have an impact on financial performance. These findings are consistent with the findings of Christianti et al. (2017), who discovered that the net profit margin, debt to equity ratio, and total assets turnover all have a substantial impact on the financial success of a firm.

Financial ratios are ratios that are thought to be capable of representing a company's financial status at a certain point in time. Debt to equity ratio, total assets turnover, and net profit margin are examples of financial ratios. The debt to equity ratio, total assets turnover, and net profit margin all have a substantial impact on the company's financial success at the same time. That is, the greater the debt to equity ratio, total assets turnover, and net profit margin, the better the company's financial performance, and vice versa. A low debt-to-equity ratio, a high total asset turnover, and a high net profit margin indicate that the corporation can manage its finances to reduce debt while producing maximum returns.
Conclusion
The purpose of this study is to look at the impact of solvency, as measured by the debt to equity ratio, and profitability, as measured by total assets turnover and net profit margin, on financial performance as measured by return on total assets from 2016 to 2022. This research's sample consisted of 21 coal mining enterprises that matched the criteria for inclusion in the study. In general, based on the 4 hypotheses provided, it may be inferred that the four hypotheses are accepted. This suggests that the debt-to-equity ratio, as a proxy for solvency, influences financial performance. Then, proximal profitability, total asset turnover, and net profit margin all have an impact on financial success. At the same time, the debt-to-equity ratio, total asset turnover, and net profit margin all have an impact on financial success.

This study has some limitations, including the fact that the sample is confined to the coal mining sector and only covers the years 2016-2022. This study's variable indicators are confined to three independent variables: debt to equity ratio (DER), total assets turnover (TATO), and net profit margin (NPM). Future study should broaden the sample and lengthen the research time since the greater the number of samples and population employed, the higher the quality of the research results. Furthermore, subsequent study can employ the same variables but with alternative ratios, such as solvency being assessed by debt to assets ratio or profitability being measured by fixed assets turnover or gross profit margin. Furthermore, rather than return on total assets, financial success can be proxied by other indicators, such as sales or other measurements.

References


