

COMPARATIVE ANALYSIS OF COMPANY FINANCIAL PERFORMANCE BEFORE AND DURING THE COVID-19 PANDEMIC (A STUDY OF MINING AND ENERGY COMPANIES LISTED ON THE INDONESIAN STOCK EXCHANGE)

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Abstract - A company's financial performance is influenced by social, political, and economic conditions. The COVID-19 pandemic has changed the condition of a company. This study aims to test whether or not there is a significant influence between before and during the pandemic through independent variables such as Current ratio, Return On Asset, Debt to Equity Ratio, Net Profit Margin, and Total Asset Turnover. in mining and energy companies listed on the Indonesia Stock Exchange in 2017-2022. The data used in this study are secondary data, with data collection techniques using literature study and documentation methods. The research method used is descriptive quantitative. The sampling technique uses the purposive sampling method. The sample used in this study was 15 mining companies and 24 energy companies listed on the IDX. The results of this study are that the financial performance of mining and energy companies listed on the IDX experienced a significant difference in improving in terms of Current Ratio, Return On Asset, and Total Asset Turnover, then experienced a significant difference in decreasing in terms of Net Profit Margin, and did not experience a significant difference in terms of Debt to Equity Ratio.

Keywords: Current ratio, Return On Asset, Debt to Equity Ratio, Net Profit Margin, and Total Asset Turnover.

I. INTRODUCTION

The COVID-19 pandemic is one of the global health crises that was first discovered in Wuhan, China at the end of December 2019. This virus attacks the human respiratory system and quickly spreads throughout the world, including Indonesia. On March 2, 2020, the Indonesian government officially announced the first case of COVID-19 in Indonesia, which then led to an increase in cases in various regions. To suppress the spread of the virus, the government imposed Large-Scale Social Restrictions (PSBB), implemented Work from Home (WFH), and strict health protocols that had a direct impact on people's economic activities. These restrictions led to major changes in consumption patterns, community mobility, and business operations in various sectors, including the mining and energy industries. The decline in activity in this sector has an impact on the company's financial performance, which affects the value of shares and investor confidence.

The mining and energy sectors have a strategic role in the Indonesian economy. Based on data from the Indonesia Stock Exchange (IDX), there is an increase in mining and energy companies included in the list of the top 10 market capitalizations in 2024 compared to 2019, indicating a significant change in market structure. However, the impact of the pandemic on the financial performance of companies in this sector still shows mixed results.

This research chooses mining and energy companies because there are several studies on financial performance before and during the COVID-19 pandemic that have received mixed and inconsistent

results. Research conducted by Mantiri & Tulung (2022) regarding the comparative analysis of the financial performance of food and beverage companies on the Indonesian stock exchange before and during the COVID-19 pandemic, the results of the Current Ratio, Total Asset Turnover, and Earnings Per Share have significant differences before and during COVID-19. Meanwhile, the Debt-to-Equity Ratio, Return On Equity, and Net Profit Margin did not have significant differences before and during COVID-19.

Based on the above phenomenon and research gap, further research was carried out on the differences in Current Ratio, Return On Asset, Debt to Equity Ratio, Net Profit Margin, and Total Asset Turnover Ratio before and during COVID-19 on the financial performance of mining companies.

This study aims to empirically examine the financial performance changes in mining and energy companies before and during the COVID-19 pandemic, providing strategic advice for management and investors in crises and post-pandemic planning. It aims to illustrate the pandemic's effect on the financial results of Indonesian mining and energy companies, offering fresh insights and references for future research. Investors can apply these findings to make informed investment choices and evaluate the financial stability of mining and energy firms.

II. LITERATURE REVIEW

Signaling Theory explains that companies use information, especially financial statements, as signals to inform the company's condition and prospects to external stakeholders, such as investors, creditors, and the government. Information asymmetry often occurs between internal management and external parties, so accurate and transparent signals are essential for informed decision-making.

According to (Tene et al., 2023), there is an asymmetry of information in the labor market, and creating signal criteria that help in decision-making. Information asymmetry also often occurs in companies due to differences in information capabilities between internal and external companies. Information, especially in the form of financial statements, is an important factor in business and helps external parties such as investors, governments, and the general public in business decision-making. Signal theory indicates that the actions taken by the company's management provide investors with clues about management's view of the company's prospects. Signal theory focuses on communicating the company's internal actions that cannot be directly observed by external parties. Therefore, in this study, financial ratio analysis will be used to reveal information related to the company's performance.

Financial performance is a key indicator that describes a company's financial condition in achieving business goals. According to Zamami (2021), financial performance includes aspects of liquidity, solvency, profitability, and business activities that describe the effectiveness of the company's resource management.

According to Kasmir (2016), Analysis of the relationship between the items in the financial statements is a basic step in interpreting the financial and operational conditions in a company. To start this interpretation, it is necessary to have a measurement, a general measure that is usually used to determine the financial performance of a company, namely by financial analysis.

Financial ratio is the process of observing an index related to accounting on financial statements such as Balance Sheet, Profit and Loss Statement, and Cash Flow Report with the aim of assessing the financial performance of a company (Thian A., 2022). Financial ratios are the main tool for conducting financial analysis. The financial ratios used in this study are:

- Current Ratio (CR): Measures the ability of a company to meet its short-term obligations with current assets. A high ratio indicates good liquidity.

- Return on Assets (ROA): Indicates the effectiveness of the company in using assets to generate net profit.
- Debt-to-Equity Ratio (DER): Assesses the proportion of debt to capital of the company, which describes the level of financial risk.
- Net Profit Margin (NPM): Measures the efficiency of the company in generating net profit from sales.
- Total Asset Turnover (TAT): Measures the effectiveness of the use of the company's assets in generating sales.

Several previous studies have given mixed results regarding the influence of the COVID-19 pandemic on these financial ratios. Therefore, this study complements the empirical study with a focus on mining and energy companies listed on the IDX.

Hypotheses Development

The current ratio, which measures a company's ability to meet short-term liabilities, can be considered as one of the signals about the company's financial health. A high current ratio is a positive signal, while a low one is a negative signal. This analysis helps investors and others in decision-making. Research conducted by M. J. F. Esomar & Christianty (2021) shows that there is a significant difference in the current ratio before and during COVID-19. Then, supported by the results of the research carried out by Suhartini (2022) Current Ratio affects the company's financial performance; there are differences in financial performance before and during the pandemic.

H1: There is a difference in the Current Ratio before and during the COVID-19 pandemic.

Return on Assets is a ratio that shows how much the asset contributes to creating net profit. Return on Assets is used to measure the contribution of assets in generating net profit. The company is said to be good if the Return On Asset is above 5%, which means that with such results, the company is in normal circumstances (Thian A., 2022). The increase in Return On Asset from year to year means that the company has experienced a development in asset contribution in generating good profits. And vice versa, if a decline means that the company has a decrease in the contribution of assets in generating profits, it will get worse.

Signal theory emphasizes the importance of action as a signal to external parties about the condition of an entity. In the context of a company, Return On Assets (ROA) can be considered as one of the signals that provides an overview of the efficiency and productivity of the company in using its assets to generate net profit. A high ROA is a positive signal, indicating good performance, while a low ROA can be a negative signal, indicating a potential problem in a company's performance. It helps investors and other parties in decision-making. Research conducted by (Yasin & Fisabilillah, 2021) revealed that ROA experienced a significant decrease during the pandemic compared to pre-pandemic conditions. Then, supported by research (Mus & Salia, 2023) there is a significant difference or influence on the value of ROA both before and during the COVID-19 pandemic.

H2: There is a difference in Return on Assets before and during the COVID-19 pandemic.

The Debt-to-Equity Ratio is used to measure the amount of debt to capital. The company is said to be good if the Debt-to-Equity Ratio is below 1 (one), which means that with such results, the company is in normal circumstances. The decline in the Debt-to-Equity Ratio from year to year means that the company has experienced a significant increase in the amount of debt to capital. And vice versa, if it increases, it means that the company has decreased the amount of debt to capital is getting worse.

The Debt-to-Equity Ratio (DER) can be considered one of the signals. A low DER is a positive signal about financial stability, while a high DER can be a negative signal about high financial risk. It assists investors in decision-making. Based on research conducted by Suhartini (2022). The Debt-to-Equity

H3: There was a difference in the Debt-to-Equity Ratio before and during the COVID-19 pandemic.

Net Profit Margin is a ratio used to measure the percentage of net profit on net sales. Net Profit Margin is used to measure the percentage of net profit against sales. The company is said to be good if the Net Profit Margin Ratio is above 5%, which means that with such results, the company is in normal circumstances (Thian A., 2022). The increase in Net Profit Margin from year to year means that the company has experienced a growth in the percentage of net profit to sales as good as possible. And vice versa, if it decreases, it means that the company experiences a decrease in the percentage of net profit to sales, the worse it gets.

Signal theory emphasizes that a company's actions provide clues to outsiders about its condition. Net Profit Margin (NPM), which measures the percentage of net profit from net sales, can be considered one of the signals. A high NPM is a positive signal about a company's operational efficiency and profitability, while a low NPM can be a negative signal about problems in operations or pressures on profitability. It assists investors in decision-making. Research conducted by (Hertina & Andryana, 2023) said Net Profit Margin has a significant influence on the company's financial performance. Supported by research conducted by Veronika Siregar et al. (2022) NPM partially has a positive and significant effect on financial performance.

H4: There is a difference in Net Profit Margin before and during the COVID-19 pandemic.

Total Asset Turnover is a ratio used to measure the effectiveness of the company's fixed assets in generating sales, or in other words, to measure how effectively the capacity of fixed assets contributes to creating sales. Total Asset Turnover is used to measure the effectiveness of the fixed assets owned by a company in generating sales. The company is said to be good if the Total Asset Turnover is above 0.67, which means that with such results, the company is in normal circumstances (Alexander Thian, 2022). The increase in Total Asset Turnover from year to year means that the company has experienced an increase in the effectiveness of fixed assets owned by the company in generating good sales. And vice versa, if it decreases, it means that the company experiences a decrease in the effectiveness of the fixed assets owned by the company in generating sales is getting worse.

Signal theory highlights the importance of a company's actions as a clue to outsiders about its condition. Total Asset Turnover (TAT), which measures the effectiveness of fixed assets in generating sales, can be considered one of the signals. A high TAT is a positive signal about operational efficiency, while a low TAT can be a negative signal about problems in the company's asset utilization. This helps external parties in evaluating the company's performance. Research conducted by M. J. F. Esomar & Christianty (2021) shows that there is a significant difference in total asset turnover before and during COVID-19. Then, supported by the results of the research carried out by Veronika Siregar et al. (2022), TATO partially has a positive and significant effect on financial performance.

H5: There is a difference in Total Asset Turnover before and during the COVID-19 pandemic.

III. RESEARCH METHODS

This study uses a comparative descriptive quantitative method to examine the differences in the financial performance of mining and energy companies before and during the COVID-19 pandemic. The data used are the company's annual financial statements that have been audited and officially published by the Indonesian Stock Exchange (IDX) for the period 2017 to 2022.

This study observed 6 research variables. The independent variable (X) in this study is Current Ratio (X1), Return On Asset (X2), Debt to Equity Ratio (X3), Net Profit Margin (X4), and Total Asset Turnover (X5), while the dependent variable or tied variable (Y) in this study is the Company's Financial Performance.

Table 3.1
Variable Operations

No.	Variable	Concept of definition	Size	Scale
1	Current Ratio	Current ratio is a ratio used to measure a company's ability to meet its short-term obligations that are due soon by using the total available current assets.	Current Ratio = $\frac{\text{Current Assets}}{\text{Current Liabilities}}$	Scale
2	Return On Asset	Return on Assets is a ratio that shows how much the asset contributes to creating net profit.	Return On Asset = $\frac{\text{Net Profit}}{\text{Total Assets}} \times 100\%$	Scale
3	Debt-to-Equity Ratio	The Debt-to-Equity Ratio is a ratio used to measure the large proportion of debt to capital.	Debt-to-Equity Ratio = $\frac{\text{Total liabilities}}{\text{total equity}}$	Scale
4	Net Profit Margin	Net Profit Margin is a ratio used to measure the percentage of net profit on net sales.	Net Profit Margin = $\frac{\text{Net Profit}}{\text{Net sales}} \times 100\%$	Scale
5	Total Asset Turnover	Total Asset Turnover is a ratio used to measure the effectiveness of the company's fixed assets in generating sales, or in other words, to measure how effectively the capacity of fixed assets contributes to creating sales.	Total asset Turnover = $\frac{\text{Sales}}{\text{fixed assets}}$	Scale

The sampling technique in this study is purposive sampling, which is a sampling technique of data sources with certain considerations (Rosyidah & Fijra, 2021). The sample criteria that are considered in this study are as follows.

Table 3.2
Criteria of Mining Companies

No.	Criterion	Number of Companies
1	Mining companies listed on the IDX	39

No.	Criterion	Number of Companies
2	Mining companies listed on the IDX before 2017	-10
3	Mining companies that reported financial statements consecutively during the research period of 2017 – 2022	-6
4	Mining companies that have a market capitalization of more than 1 T	-8
Number of Samples		15
Number of Years of Observation		6
Total Research Sample		90

Table 3.3
Criteria of Energy Companies

No.	Criterion	Number of Companies
1	Energy companies listed on the IDX	83
2	Energy companies listed on the IDX before 2017	-30
3	Energy companies that reported financial statements consecutively during the research period of 2017 – 2022	-13
4	Energy companies that have a market capitalization of more than 1 T	-16
Number of Samples		24
Number of Years of Observation		6
Total Research Sample		144

Data analysis was carried out by a differential paired sample t-test and Wilcoxon test using SPSS version 23, to determine the significance of the difference in financial ratios between the period before and during the COVID-19 pandemic at a significance level of 5% ($\alpha = 0.05$).

Data collection is carried out through literature studies and documentation of the company's financial statements available on the IDX website and the company's official website.

The analytical unit in this study is mining and energy companies listed on the Indonesia Stock Exchange during the period 2017 – 2022. In this study, mining companies, energy companies, and mining and energy companies are compared simultaneously to get a comparison of the companies' financial performance over the predetermined period. The 2017-2022 period was taken because on June 21, 2023, President Joko Widodo announced that the government had officially revoked the status of the COVID-19 pandemic in Indonesia, and stated that it had switched from a pandemic to an endemic period. Therefore, researchers decided to take 2020 to 2022 as a pandemic period. In order to achieve a balance of data between before and during the COVID-19 pandemic.

IV. RESULTS AND DISCUSSION

This study uses financial statement data from 15 mining companies and 24 energy companies listed on the Indonesia Stock Exchange (IDX) during the period 2017 to 2022. Data analysis was carried out by comparing the company's financial ratios in the period before the pandemic (2017-2019) and during the pandemic (2020-2022).

The results of the statistical test showed significant differences in most of the financial ratios analyzed, namely Current Ratio, Return on Assets, Debt to Equity Ratio, Net Profit Margin, and Total Asset

Turnover. This indicates that the COVID-19 pandemic has had a real impact on the financial performance of mining and energy companies.

a. Current Ratio

The average current ratio before the Covid-19 pandemic in mining companies was 2.1471 with a standard deviation of 1.72367. The current ratio before the Covid-19 pandemic in mining companies ranges from a minimum ratio value of 0.21 to a maximum value of 9.20. The current ratio during the pandemic is getting better, this can be seen from the higher mean current ratio of 2.3656 with a standard deviation of 1.87537. The current ratio during the pandemic for mining companies has a maximum value of 10.10 and a minimum of 0.27.

Likewise, energy companies that have a current ratio are getting better. The average current ratio of energy companies during the Covid-19 pandemic is 2.3960, the minimum value is 0.21, the maximum value is 9.20 and the standard deviation is 1.81446. The average current ratio increased from before the Covid-19 pandemic, which was 2.0368, a minimum value of 0.27, a maximum value of 10.10 and a standard deviation of 1.46237.

b. Return On Asset

The average return on assets before the Covid-19 pandemic in mining companies was 10.3967 with a standard deviation of 10.42200. Return on assets before the Covid-19 pandemic in mining companies ranged from a minimum value of -7.00 to a maximum value of 40.51. Return on assets during the pandemic is getting better, this can be seen from the higher mean return on assets of 16.9962 with a standard deviation of 17.77174. The maximum value of the return on assets during the pandemic in mining companies was 61.76 and the lowest was -9.84.

Likewise, energy companies that have an improved return on assets. The average return on assets of energy companies during the Covid-19 pandemic was 12.3939, the minimum value was -9.84, the maximum value was 61.76 and the standard deviation was 15.64835. The average current ratio increased from before the Covid-19 pandemic, which was 8.1228, the minimum value was -9.25, the maximum value was 40.51 and the standard deviation was 9.68755.

c. Debt to Equity Ratio

The average debt to equity ratio before the Covid-19 pandemic in mining companies was 1.2078 with a standard deviation of 1.51924, while the average debt to equity ratio during the Covid-19 pandemic was 1.3518 with a standard deviation of 2.18455. This shows an increase in the average debt to equity ratio before and during the Covid-19 pandemic in mining companies. This is not good for the company because the increase in the Debt to Equity Ratio from year to year means that the company is experiencing a worsening amount of debt to capital. The debt to equity ratio before the Covid-19 pandemic in mining companies ranges from a minimum value ratio of 0.19 to a maximum value ratio of 6.43, while the debt to equity ratio during the Covid-19 pandemic in mining companies ranges from a minimum value of 0.02 to a maximum value ratio of 11.32.

Likewise, energy companies that have debt to equity ratios are getting worse. The average return on assets of energy companies during the Covid-19 pandemic was 1.3228, a minimum value of 0.02, a maximum value of 11.32 and a standard deviation of 1.90878. The average current ratio increased from before the Covid-19 pandemic of 1.2971, a minimum value of 0.03, a maximum value of 6.43 and a standard deviation of 1.44442.

d. Net Profit Margin

The average net profit margin before the Covid-19 pandemic in mining companies was 53.4204, while the average net profit margin during the Covid-19 pandemic was 21.8702. This shows a decrease in the

average net profit margin before and during the Covid-19 pandemic. The standard deviation of net profit margin before the Covid-19 pandemic was 208.83038, while the standard deviation of net profit margin during the Covid-19 pandemic was 31.63114. This shows a decrease in the standard deviation of net profit margin before and during the Covid-19 pandemic. The net profit margin before the Covid-19 pandemic in mining companies ranged from a minimum value ratio of -22.20 to a maximum value ratio of 1397.77, while the net profit margin during the Covid-19 pandemic in mining companies ranged from a minimum value of -75.21 to a maximum value of 141.59 ratio.

Likewise, energy companies that have a net profit margin are getting worse. The average net profit margin of energy companies during the Covid-19 pandemic was 15.9694, the minimum value was 75.21, the maximum value was 141.59 and the standard deviation was 26.76803. The average net profit margin decreased from before the Covid-19 pandemic, which was 34.2311, the minimum value was -43.75, the maximum value was 1397.77 and the standard deviation was 166.51263.

e. Total Asset Turnover

The average total asset turnover before the Covid-19 pandemic in mining companies was 1.3100 with a standard deviation of 1.00236. Total asset turnover before the Covid-19 pandemic in mining companies ranged from a minimum value ratio of 0.01 to a maximum value of 4.32. Total asset turnover during the pandemic is getting better, this can be seen from the mean return on assets during the higher period of 1.8582 with a standard deviation of 1.59598. Total asset turnover during the pandemic at mining companies had a maximum value of 7.21 and the lowest was 0.39.

Likewise, energy companies that have total asset turnover are getting better. The average total turnover assets of energy companies during the Covid-19 pandemic was 1.4883, a minimum value of 0.20, a maximum value of 7.21 and a standard deviation of 1.39541. The average total asset turnover increased from before the Covid-19 pandemic which was 1.1783, the minimum value was 0.01, the maximum value was 4.32 and the standard deviation was 0.89486.

Hypothesis Test

In this study, all data are not distributed normally, therefore this study uses the wilcoxon differential test. The purpose of the Wilcoxon differential test is to determine whether there is a significant difference between the two groups in the sample, without having to assume about data distribution or variance. This is useful when the data is not eligible for parametric testing such as the t-test, such as when the data is not normally distributed or when the sample size is small.

The results of the data processing of the different Wilcoxon signed-rank tests are as follows.

This test got a result of 0.039, where it was <0.05 which is a level of significance. Likewise with Energy companies and combined as shown in tables 4.21 and 4.22. The results obtained consecutively of 0.011 and 0.001, where this is <0.05 which is the level of significance. This means that in this test, mining companies and energy companies simultaneously have significant differences in the current ratio between during and before Covid-19.

The results were 0.029 and 0.045 respectively, where it was <0.05 which was a level of significance. However, if the repetition on the assets of mining and energy companies is combined as shown in table 4.25, it will get a result of 0.366, where it is >0.05 which is a level of significance. This means that in this test, mining companies and energy companies have significant differences in return on assets between during and before Covid-19. However, if mining companies and energy companies are combined, there is no significant difference in return on assets between during and before Covid-19.

This test got a result of 0.793, where it is >0.05 which is a level of significance. Likewise with the Energy companies and the combination shown in tables 4.27 and 4.28. The results were 0.366 and 0.395 respectively, where it was >0.05 which is the level of significance. This means that in this test, mining

companies and energy companies simultaneously did not have a significant difference in the debt to equity ratio between during and before Covid-19.

The results obtained consecutively of 0.011 and 0.002, where it was <0.05 which is the level of significance. However, in contrast to the mining company's net profit margin shown in table 4.29, it will get a result of 0.053, where it is >0.05 which is a level of significance. This means that in this test, energy companies and combined companies have significant differences in net profit margins between during and before Covid-19. However, mining companies did not have a significant difference in net profit margins between during and before Covid-19.

The results obtained consecutively of 0.015 and 0.008, where this <0.05 which is the level of significance. However, in contrast to the total asset turnover of energy companies shown in table 4.33, it will get a result of 0.190, where it is >0.05 which is a level of significance. This means that in this test, mining companies and combined companies have a significant difference in total asset turnover between during and before Covid-19. However, there was no significant difference in energy companies total asset turnover between during and before Covid-19.

DISCUSSION

Based on the results of the discussion above, it can be concluded that the financial performance of mining and energy companies reviewed from current assets has experienced significant differences that are getting better, so it can be said that the hypothesis is accepted, which means that the financial performance reviewed from current assets has experienced significant differences that have improved between before and during the Covid-19 pandemic.

Based on the results of the mean descriptive statistical test in the period before and during the Covid-19 pandemic, it shows that the financial performance reviewed from the return on assets of mining companies listed on the IDX is at a safe point. Based on the results of the discussion above, it can be concluded that financial performance reviewed from return on assets has experienced significant differences that are getting better, so it can be said that the hypothesis is accepted.

Based on the results of the discussion above, it can be concluded that financial performance from debt to equity experienced insignificant differences that worsened, so it can be said that the hypothesis is unacceptable, which means that financial performance reviewed from debt to equity experienced insignificant differences that worsened between before and during the Covid-19 pandemic.

Based on the results of the discussion above, it can be concluded that financial performance reviewed from the net profit margin has experienced a significant difference that is getting better, so it can be said that the hypothesis is accepted which means that financial performance reviewed from the net profit margin has experienced a significant difference that has improved between before and during the Covid-19 pandemic.

Based on the results of the discussion above, it can be concluded that financial performance reviewed from total asset turnover has experienced significant differences that are getting better, so it can be said that the hypothesis is accepted, which means that financial performance reviewed from total asset turnover has experienced significant differences that have improved between before and during the Covid-19 pandemic.

V. CONCLUSION

Based on the results of the research that has been carried out, the researchers can draw a conclusion that the financial performance of mining and energy companies listed on the Indonesia Stock Exchange (IDX) during the existence of COVID-19 is higher than before the existence of COVID-19. This can also be seen through the results of the different financial performance tests during the Covid-19

pandemic which experienced significant differences compared to during the Covid-19 pandemic reviewed from the current ratio, return on asset, net profit margin, and total asset turnover, only the debt to equity ratio did not have a significant difference.

The results of this study provide important insights for company management in developing financial and operational strategies that are adaptive to crisis conditions. In addition, these results are also a reference for investors in considering investment risks in the mining and energy sectors after the pandemic.

It is suggested that further research can examine other external factors and conduct a more in-depth sectoral analysis to provide a more comprehensive picture of the impact of the pandemic on the company's financial performance.

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