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ANALYSIS OF THE FINANCIAL PERFORMANCE OF MANUFACTURING COMPANIES BEFORE AND DURING THE COVID 19 PANDEMIC

Mazliza, Arum Kusumaningdyah Adiati
Universitas Sebelas Maret
Mazlizaza97@gmail.com

ABSTRACT

Corona virus or commonly known as Covid 19 is a virus that can cause disturbances in the respiratory system to problems in the lungs. The first case of the virus occurred in December 2019 in the Chinese city of Wuhan. This study aims to determine the financial performance condition of manufacturing companies listed on the Indonesia Stock Exchange before and during the Covid-19 pandemic. The sample in this study amounted to 426 observations from 142 manufacturing sector companies listed on the Indonesia Stock Exchange in 2019 – 2021. The manufacturing company was chosen as the object of research because this company is engaged in the real sector which has various types of businesses and the number of companies dominates more than other companies so that it is felt that manufacturing companies can provide a big picture of the impact of the covid 19 pandemic. The test used in this study used the *Wilcoxon ranked signed rank test* method. The results showed that there was a difference between the profitability variable and the activity variable which was measured using *return on* assets and *total assets turnover* before the pandemic and during the Covid-19 pandemic. Meanwhile, the liquidity and solvency variables measured using the *current* ratio and *debt to equity ratio* have no difference between before the Covid-19 pandemic and during the Covid-19 pandemic.

Keywords: *financial performance, current ratio, return on assets, debt to equity ratio, total assets turnover*

INTRODUCTION

Coronavirus or commonly known as Covid 19 is a virus that can cause disturbances in the respiratory system to problems in the lungs (Mohamed & Alawna, 2020). The first case of the virus occurred in December 2019 in the Chinese city of Wuhan. On March 2, 2020, President Joko Widodo officially announced the presence of residents who were confirmed positive for Covid-19 in Indonesia. Until now, the spread of Covid 19 in Indonesia as of August 4, 2022 amounts to 6.22 million confirmed cases and 157 thousand deaths. Various preventive efforts have been carried out by the government to minimize the rapid spread of the virus, one of which is the implementation of large-scale social restrictions (PSBB) (Golar et al., 2020). The existence of PSBB has caused many companies to reduce the number of workers to reduce operational costs and temporarily suspend their production activities in order to reduce imports of raw materials.

In 2020, the JCI of the manufacturing sector fell to 45.3 from the previous level of 51.9. Not only that, the company also laid off some of its employees due to a decrease in consumer demand during the pandemic. According to the Central Statistics Agency (BPS), during the Covid-19 pandemic, 32.66% of companies reduced working hours in order to reduce operational costs amid the decline in revenue due to the pandemic. While 17.06% laid off their employees without pay, 6.46% of companies laid off employees with partial wage payments, while laid-off employees with full paid wages were only 3.69%. Not only that there are 12.83%

of employees who are laid off in a short period of time, (CNN, 2020). So this has resulted in a decrease in revenue and changes in the company's financial performance statements.

Financial performance is a description of the company's financial health condition that will reflect its performance within a certain period of time through financial statement analysis tools (ErnitaSianturi, 2015). Financial performance measurement is used to obtain information related to funding flow, use of funds, effectiveness, and efficiency and to facilitate godecision-making (Almajali et al., 2012). In addition, financial performance can be used as a benchmark to find out whether before and during the Covid-19 pandemic the company had a positive impact or negatively impacted the company's financial statements.

This study used manufacturing companies that were listed on the IDX in 2019 before the Covid-19 pandemic and in 2020 – 2021 when the COVID-19 pandemic occurred in Indonesia. The manufacturing company was chosen as the object of research because this company is engaged in the real sector which has various types of businesses and the number of companies dominates more than other companies so it is felt that manufacturing companies can provide a big picture of the impact of the covid 19 pandemic.

Company Financial Performance

Financial performance is one of the indicators of the company's achievement in a period in terms of financial aspects related to income, operating costs, debt, assets and company investment results. Financial performance is used by the company to assess the prospects, growth, and potential development that has been achieved by the company. This is reinforced by Putri & Dharma (2016) who explained that financial performance is a picture of the achievements achieved by a company or bank in a period through company operations in order to generate profits efficiently and effectively and can be measured its development using data analysis on financial statements.

Financial performance largely depends on the policies, strategies, and actions used by management to achieve an organizational goal. Measuring financial performance is important to do in order to assess whether the company's goals have been achieved so that the interests of stakeholders can be met. This is reinforced by the statement of Rhamadana & Triyonowati,(2016), stated that the assessment of financial performance is one of the ways that management does to fulfill its obligations to funders and is used to achieve the company's goals and the company's potential in carrying out its business as indicated in the financial statements.

Financial Ratios

The financial ratio is a figure obtained from the results of a comparison between one financial statement post and another financial statement post that has a relevant and significant relationship (Hery, 2018). According to Putri & Dharma (2016), financial ratios can be used as a benchmark in estimating the origin of funds that can be obtained and estimating the reaction of investors and creditors to determine the funds to be determined. In addition, financial ratio analysis can help companies in evaluating financial performance and is carried out periodically according to company policy. Munawir (2004) suggests four categories of ratios used to analyze financial performance, namely liquidity ratio, profitability ratio, solvency ratio, and activity ratio.

Liquidity Ratio

The liquidity ratio is a ratio that describes the company's ability to finance operations and meet financial obligations due in one year. One of the ratios that is often used to measure liquidity is the *current ratio*. The current ratio is a common measure used for short-term solvency and is used to measure a company's ability to pay short-term obligations or debt as a whole that is about to mature (Fahmi, 2017). The current ratio is used to describe the comparison between current assets and current debt. This ratio is one of the indicators that analysts or economists often use to conduct balance sheet analysis.

H1: There is a difference in liquidity ratios before and during the Covid-19 pandemic which is measured using the *current ratio* (CR).

Profitability Ratio

The profitability ratio is a ratio that describes the company's ability to profit from policies and decisions that have been taken by the company. A common and frequently used profitability ratio is *the return on assets* (ROA). Return on assets is also often called return on investment because ROA is used by companies to see the extent to which investments that have been invested in a company are able to provide a return on profits as expected (Fahmi, 2017). If ROA has a high value, the company's financial performance in making profits can be said to be good.

H2: There is a difference in profitability ratio before and during the Covid-19 pandemic which is measured using *return on assets* (ROA).

Solvency Ratio

The solvency ratio measures the extent to which a company's assets are financed by debt. The solvency ratio used in this study is *the debt-to-equity ratio* (DER). *Debt* to equity ratio (DER) is a comparison between liabilities and equity and is used to see the ability of capital owned by the company to meet all obligations (Endri et al., 2020). The higher the value of the company's DER, the higher the risk borne by the company in paying its debts.

H3: There is a difference in solvency ratio before and during the Covid-19 pandemic which is measured using the *debt to equity ratio* (DER).

Activity Ratio

The activity ratio is used to measure the company's ability to carry out daily activities and the effectiveness of the company in utilizing its assets. The activity ratio that can be used is the turnover of total assets *or total assets turnover* (TATO). The turnover ratio is used to measure how effectively and efficiently a company is in utilizing its assets to make a profit (Endri et al., 2020). Companies with a high TATO value indicate that the company has good performance because the company is able to utilize and process the total assets owned optimally in obtaining income (Atmaja & Davianti, 2022).

H4: There is a difference in the ratio of activities before and during the Covid-19 pandemic which is measured using *total assets turnover* (TATO).

METHOD

The approach and type of research used in this study is quantitative descriptive research. The data used in this study is data sourced from secondary data that has been processed and collected by other organizations or parties. The secondary data in this study uses financial report data for the 2019-2021 period from manufacturing companies listed on the Indonesia Stock Exchange (IDX). The financial statement data is obtained through the official IDX website which can be accessed on.

The test used in this study was the *Wilcoxon signed test*. *Wilcoxon signed* test is a test conducted to test the significance of the comparison of two samples that are interconnected but not normally distributed (Sugiyono, 2013). *The Wilcoxon signed test* used in this study aims to measure how much difference in the financial performance of manufacturing companies before and during the announcement of the COVID-19 pandemic case in Indonesia. Using the purposive sampling method, there were 142 manufacturing companies during the 2019-2021 period that met the criteria to be used as samples in this study.

Table 1

Research Sample Selection Criteria

No	Criterion	Year 2019-2021
1	Manufacturing companies listed on the Indonesia Stock Exchange (IDX) during the period 2019-2021	193
2	The Company does not present financial statements using Rupiah currency and does not have complete data or information	(32)
3	Companies that are delisted and suspended from the IDX during the period 2019-2021	(12)
4	Companies that did not release audited financial statements during the period 2019-2021	(7)
	Number of companies that have sample criteria	142
	Number of financial statement data to be observed (142 x 3 years)	**426**

Operational Definition

The variables in this study are financial performance consisting of liquidity, profitability, solvency and activity. The measurement of the variables to be used is described in the following explanation.

Table 2
Variable Measurement

No	Variable	Measurement
1	Liability	$Current\ Ratio\ = \frac{Current\ Assets}{Current\ Liabillities}$
2	Profitability	$ROA\ = \frac{\text{Laba Bersih}}{\text{Total Aset}} \times 100\%$
3	Solvency	$DER\ = \frac{Total\ Liabilities}{Total\ Equity}$
4	Activity	$TATO = \frac{Net\ Sales}{Total\ Assets}$

RESULTS AND DISCUSSION

Manufacturing companies listed on the Indonesia Stock Exchange became the population in this study with a total of 193 companies listed during the 2019-2021 period. Based on the predetermined sample criteria, there are 124 companies that will be used in the study.

Descriptive Statistical Test Results

The following are the results of a descriptive statistical test of the research variables:

Table 3
Descriptive Statistical Test

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
CR Before	142	.00	21.70	2.5766	2.77777
CR During	142	.07	308.03	5.3470	27.16938
ROA Before	142	-.40	.61	.0466	.09773
ROA During	142	-.75	1.41	.0384	.17320
DER Before	142	-4.24	103.29	1.9819	8.94728
DER During	142	-7.56	14.46	1.0668	1.94488
TATTOOS Before	142	.00	3.67	.9608	.51968
TATTOOS During	142	.00	5.92	.9447	.79539
Valid N (listwise)	142				

Table 3 shows the descriptive statistical results of the research variables. Based on the table, *current ratio, return on assets, debt to equity* before the pandemic and during the Covid-19 pandemic have a standard deviation value above the average, which means that the distribution

of data in the study varies. While the *variable total assets turnover* both before the pandemic and during the covid 19 pandemic had a smaller standard deviation than the average, this shows less varied data.

Normality Test Results

Normality tests are used to see whether or not the research data is normally distributed. A data can be said to be normal if the probability value of the test result is more than 0.05, if the probability value is less than 0.05 then the data is not normally distributed.

Table 4

Normality Test

Tests of Normality						
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistics	Df	Sig.	Statistics	Df	Sig.
CR Before	.223	142	.000	.639	142	.000
CR During	.423	142	.000	.126	142	.000
ROA Before	.163	142	.000	.806	142	.000
ROA During	.208	142	.000	.614	142	.000
DER Before	.402	142	.000	.161	142	.000
DER During	.262	142	.000	.629	142	.000
TATTOOS Before	.084	142	.016	.931	142	.000
TATTOOS During	.191	142	.000	.701	142	.000
Data source processed author 2022						

Based on table 4 above, a significance value of less than 0.05 is obtained, which means that the data is not normally distributed. When the data is not normally distributed, hypothesis testing can be done using the *Wilcoxon Signed Rank* Test. While the data is normally distributed, hypothesis testing can be done using *paired sample t-test*. Therefore, this study used *the Wilcoxon signed rank test* in hypothesis testing.

Wilcoxon Signed Rank Test

The hypothesis test in this study uses the *Wilcoxon signed rank test* which has decision-making criteria when the value of Asymp.Sig is less than 0.05 (<0.05) then the hypothesis or Ha is accepted. Conversely when Asymp.Sig is more than 0.05 (>0.05) then the hypothesis or Ha ditolak.

Table 5

Wilcoxon Signed Rank Test Statistics

Test Statistics				
	CR During – CR Before	ROA During – ROA Before	DER During – DER Before	TATTOO DURING – TATTOO Before
Z	-.846[b]	-2,455[c]	-.262[c]	-4,298[c]

Asymp. Sig. (2-tailed)	.397	.014	.794	.000

Table 6

Ranks Wilcoxon Signed Rank Test

Ranks				
		N	Mean Rank	Sum of Ranks
CR During - CR Before	Negative Ranks	65[a]	71.71	4661.00
	Positive Ranks	77[b]	71.32	5492.00
	Ties	0[c]		
	Total	142		
ROA Over – ROA Before	Negative Ranks	80[s]	78.53	6282.00
	Positive Ranks	62[e]	62.44	3871.00
	Ties	0[f]		
	Total	142		
DER During - DER Before	Negative Ranks	75[g]	69.40	5205.00
	Positive Ranks	67[h]	73.85	4948.00
	Ties	0[i]		
	Total	142		
TATTOO DURING – TATTOO BEFORE	Negative Ranks	92[h]	78.12	7187.00
	Positive Ranks	50[K]	59.32	2966.00
	Ties	0[l]		
	Total	142		

Based on the results of the *Wilcoxon signed rank test* on research variables before and during the COVID-19 pandemic in tables 5 and 6 as follows:

1. Differences in *the current ratio* (CR) before the pandemic and during the COVID-19 pandemic in manufacturing companies listed on the IDX

   Liquidity variables measured using *the current ratio* (CR) before and during the covid 19 pandemic have a significance value of 0.397. The value of the sig. 0.397 > 0.05 was rejected, meaning that there was no difference between the H_1*current ratio* (CR) before and during the COVID-19 pandemic in manufacturing companies listed on the IDX. The results of this study are in line with research conducted by Esomar & Christianty (2021), showing the same result that there is no significant difference between the *current ratio* (CR) before and during the Covid-19 pandemic.

   Table 6 shows 65 manufacturing companies that have less good CR during the covid 19 pandemic than before covid 19, this is because the company has not been able to maximize existing lancer assets so the lancer assets are less optimal in guaranteeing their current debt. And as many as 77 companies have better CR during the covid 19 pandemic than before the covid 19 pandemic, which means that the company maximizes the management of its assets so that it can guarantee its smooth debt. The results of the *Wilcoxon signed rank test* explain that manufacturing companies in Indonesia during the Covid-19 pandemic have current

assets that are stable enough to be able to pay off the short-term debt that matures. This research is in line with research conducted by Violandani (2021) which explains that during the Covid-19 pandemic, the assets owned by the company are still able to cover and pay off their short-term challenges.

2. Differences in *return on assets* (ROA) before the pandemic and during the Covid-19 pandemic in manufacturing companies listed on the IDX

   The profitability variable measured using *return on assets* (ROA) before and during the covid 19 pandemic has a significance value of 0.014. The value of Sig. 0.014 < 0.05 is accepted, meaning that there is a difference between the H_2 *return on assets* (ROA) before and during the Covid-19 pandemic in manufacturing companies listed on the IDX. The difference in ROA that occurs is due to the profit or profit obtained by the company during the Covid-19 pandemic, the majority of which decreased. This research is supported by research from Rahmani (2020) which shows that during the Covid-19 pandemic, ROA has decreased very drastically.

   ROA is used to measure the effectiveness of companies in managing existing assets to generate profits. The covid 19 pandemic has had a bad impact on the company's financial performance, we can see in table 6, there are 80 manufacturing companies that have a less good ROA during the covid 19 pandemic than before covid 19. Almost all the companies sampled in this study suffered losses when the Covid-19 pandemic entered Indonesia. This loss occurred because, during the Covid-19 pandemic, many companies had to make adjustments to several government policies in minimizing the transmission of the COVID-19 virus, requiring companies to stop their operations and even temporarily close their businesses.

3. The difference in *debt to equity ratio* (DER) before the pandemic and during the Covid-19 pandemic in manufacturing companies listed on the IDX

   The solvency variable measured using the *debt-to-equity ratio* (DER) before and during the covid 19 pandemic had a significance value of 0.794. The value of Sig. 0.794 > 0.05 was rejected, meaning that there was no difference between the H_3 *debt to equity ratio* (DER) before and during the Covid-19 pandemic in manufacturing companies listed on the IDX. A company that has a low DER indicates that the company has fewer liabilities than the overall equity held, so when the company is in a bad state (bankrupt), the company can still pay off all obligations that must be paid. Conversely, a high DER indicates the amount of liabilities is greater than the total equity held.

   Based on table 6, there are 75 companies that have a less good DER during the covid 19 pandemic than the DER before the covid 19 pandemic where the company experienced an average DER decrease of 69.40. Meanwhile, 67 companies have better DER during the covid 19 pandemic than DER before the covid 19 pandemic with an average increase in DER of 73.85. The results of this study are supported by research conducted by Ibrahim et al (2021), Violandani (2021) and Fachira (2022) which show that there is no significant difference between DER before and during the COVID-19 pandemic. For a company, the use of large debts is quite dangerous because the company will have difficulty in maintaining the stability of its cash flow so and it can reduce the company's performance (Ambarwati et al., 2021). The results of the *Wilcoxon signed rank test* explain that during the COVID-19 pandemic, there were several companies that chose to increase debt as an

alternative to funding. Although the use of large debts can harm the company, these companies are confident in the prospects of their companies in the future.

4. Differences in *total assets turnover* (TATO) before the pandemic and during the Covid-19 pandemic in manufacturing companies listed on the IDX

   Activity variables measured using *total asset turnover* (TATO) before and during the Covid-19 pandemic have a significance value of 0.00. The value of Sig. 0.00 < 0.05 is accepted, meaning that there is a difference between TATO before and during the covid 19 pandemic in manufacturing companies listed on the IDX. This difference occurs because during the COVID-19 pandemic, TATO has decreased very drastically. We can see this in table 6, based on the results of the H_4 *Wilcoxon signed rank test*, there are 92 companies that have less good TATO during the covid 19 pandemic than before the covid 19 pandemic, where 92 of these companies experienced a decrease in the average value of TATO by 78.12. Meanwhile, 50 companies have better tattoos during the covid 19 pandemic than before the covid 19 pandemic with an increase in the average value of 59.32.

   This research was strengthened by research from Aqila & Suji (2022), Violandani (2021), and Tirmoriani, Marjam & Indrie (2022) which stated that there were significant differences between TATO before and during the COVID-19 pandemic. The decline in the value of TATO is caused by many factors, one of which is high production but demand from consumers decreases so that the company cannot meet its sales target.

CONCLUSION

This research was conducted to determine the condition of the financial performance of manufacturing companies before and during the Covid-19 pandemic. The hypothesis in this study was carried out using the *Wilcoxon Signed Rank Test*. Based on the test results from *Wilcoxon signed rank test*, shows that there are significant differences in profitability and activity variables measured using *return on* assets (ROA) and *total assets turnover* (TATO).

The Wilcoxon signed rank test on liquidity variables measured using the current *ratio* (CR) showed no difference between before and during the covid 19 pandemic. This is because, during the Covid-19 pandemic, manufacturing companies in Indonesia have current assets that are stable enough to be able to pay off their short-term debt. Meanwhile, the results of the study on solvency variables measured using the debt-to-equity *ratio* (DER) showed that there was no difference between before and during the Covid-19 pandemic. This is because during the Covid-19 pandemic, there were several companies that chose to increase their debt even though this could endanger the company but they were confident in the prospects of their company in the future.

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