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Comparative Analysis Of Pharmaceutical Company's Financial Performance Before and During Covid-19 Crisis

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ABSTRACT	INFO ARTIKEL
The COVID-19 crisis caused a drastic decline in Indonesia's economic growth. This study will analyze pharmaceutical companies' financial performance before and during the COVID-19 crisis, as measured by profitability ratios such as ROA, ROE, NPM, and GPM, indicate the extent to which the crisis had affected the pharmaceutical companies' financial performance, and illustrate the resilience of the pharmaceutical sector while facing the crisis. In addition, this study is expected to help stakeholders in making strategic and adaptive decisions to crisis conditions. This research is a comparative quantitative research, and will use paired sample t-test and Wilcoxon Signed Ranks Test. This study indicates that the COVID-19 crisis does not strongly affected the pharmaceutical companies' financial performance, so there is no significant difference between before the crisis and during the crisis. Therefore, pharmaceutical companies belong to a stable sector and can give positive signals to stakeholders even in times of crisis. © 2025 Kantor Jurnal dan Publikasi UPI	Article History: <i>Submitted/Received 6 June 2025</i> <i>First Revised 10 June 2025</i> <i>Accepted 27 June 2025</i> <i>First Available online 01 August 2025</i> <i>Publication Date 07 August 2025</i> Keyword: <i>Comparativ,, COVID; Financial Performance; Pharmaceutical; and Profitability</i>

1. INTRODUCTION

Indonesia's first case of COVID-19 was in 2020, which affected 2 Indonesians from Depok, West Java. Later on, WHO declared COVID-19 as pandemic, which was followed by COVID-19 determined as a national non-natural disaster by President Joko Widodo on April 13, 2020. As time went by, the government began to issue restrictions on the community, such as the ban on Lebaran homecoming, the issuance of PSBB which was planned to be implemented for 14 days, but continued to be extended by the government until January 11, 2021, it was transferred to the PPKM. These restrictions imposed by the government certainly hamper community activities, especially economic activities such as production, distribution, and consumption, so that sooner or later this will have an impact on companies in various fields both directly and indirectly. This event is also shown by Indonesia's stable economic growth for 5 consecutive years (2015-2019) with an average increase of 5.03%, experiencing a drastic decline to -2.07% in 2020 (Badan Pusat Statistik, 2025).

Although the pandemic will affect many companies, the pharmaceutical industry is likely to remain stable even in recessionary conditions, because the demand for its products is very inelastic, people will still need medicines in any economic situation. This statement is reinforced by a survey of business activities during the COVID-19 crisis conducted by Central Statistics Agency in 2021 involving 47,871 respondents from 16 different industrial sectors, with the result that 83.53% of health service companies always operated as usual and never closed during the pandemic. During the period of the Enforcement of Restrictions on Community Activities (PPKM), 66.81% of health service companies experienced no change in activity, even 9.01% experienced an increase in activity, making health service companies the sector that experienced the highest increase in activity among the other 16 industries (Badan Pusat Statistik, 2021). However, this does not mean that all pharmaceutical companies have stable and increasing financial performance, there are also companies that have experienced a decline in performance due to increased operational costs and disruption in supply flow.

Based on previous research conducted by (Nuzula & Siregar, 2022) , (Dikri, Putra, Hidayati, & Irawan, 2022), and (Martani & Aprilya, 2023), it was found that there were several companies' profitability ratios increase and decrease before and during the crisis. Research by (Alisyah & Susilowati, 2022) showed the profitability ratio decreased during the pandemic. Meanwhile, (Rexana & Widjaja, 2021), (Kamaludin & Anisa, 2023), and (da Silva, Malikah, & Junaidi, 2024) concluded in their research that there were no changes in pharmaceutical companies' financial performance. In contrast, there was a significant difference in (Susanti, Irawati, Hasan, Bayu, & Wahju, 2023) research. The results of these previous studies show inconsistencies, so further study is needed. Most of the previous studies used only 1-2 indicators. Different from previous studies, this study will include 4 indicators of profitability ratios, and the pharmaceutical companies that will be used are pharmaceutical companies that are listed on IDX and succeeded to generate profit for 5 consecutive years before the crisis happened, unlike previous studies that only used a few of pharmaceutical companies. The research will analyze the differences in the financial performance of pharmaceutical companies before the crisis (2019) and during the COVID-19 crisis (2020), which will be measured by a comparative analysis of 4 indicators of corporate profitability ratios such as ROA, ROE, NPM, and GPM. This study aims to indicate the extent to which the COVID-19 crisis will impact the financial performance of pharmaceutical companies and illustrate the resilience of the pharmaceutical industry to face of the economic

crisis due to the pandemic. In addition, it's expected to help company management, investors, and other stakeholders in making strategic and adaptive decisions to crisis conditions.

Literature Review and Hypothesis Development

This research is based on Signaling Theory which explains the importance for companies to convey information to external parties in order to make decisions to invest (Putri & Hudiwinarsih, 2018) and Stakeholder Theory, which emphasizes that companies must be responsible to stakeholders involved in their operations, including employees, consumers, government, the wider community, not only to shareholders. Profitability can measure the company's financial performance. ROA, ROE, NPM, and GPM will be used as the indicators. During a crisis, measuring profitability is important for companies to demonstrate their ability to fulfill their responsibilities to stakeholders, one of which is by maintaining and improving their financial performance to increase the trust of stakeholders. Financial condition of a company can be known from its financial performance (Trianto, 2017), so stakeholders need to know about the financial performance before and during the crisis to indicate the durability of pharmaceutical companies in times of crisis, which will support the decision-making process by stakeholders in the future.

ROA measures the level of profit on assets used in generating profits. An increase in ROA can be influenced by efficiency in managing company assets to get a return. During the pandemic, demand for pharmaceutical companies' products tends to increase, which is an opportunity for companies to be able to increase the effectiveness of the use of their assets in generating profits. However, decreased productivity due to labor restrictions or health protocols can reduce the effectiveness of asset use in generating profits, so there will be differences between ROA before the crisis and during the crisis. As in the research of (Nuzula & Siregar, 2022) which states that there is an increase in ROA during the crisis, (Martani & Aprilya, 2023) and Silva et al. (2024) who found a decrease in ROA during the crisis, and (Dikri et al., 2022) who found an increase and decrease in ROA during the crisis.

H1: There is a significant difference between the ROA of pharmaceutical companies before and during the crisis.

ROE measures ability to generate profits from a company's capital. ROE can be influenced by the effective use of debt, the more optimal the use of corporate debt, the higher the resulting ROE. In crisis conditions, the high demand for products allows pharmaceutical companies to generate profits and not rely too much on debt, so ROE tends to increase. However, not all pharmaceutical companies can manage the use of debt well, so there is a chance that ROE value might decrease. So there will be a difference between ROE before the crisis and during the crisis. As in the research of (Nuzula & Siregar, 2022), which states that there is an increase in ROE during the crisis, (da Silva et al., 2024) who found a decrease in ROE during the crisis, and (Dikri et al., 2022) who found an increase and decrease in ROE during the crisis.

H2: There is a significant difference between the ROE of pharmaceutical companies before and during the crisis.

NPM is an indicator to compare profit after interest and tax compared to sales. Net profit is the main foundation for NPM, the higher the net profit, the higher the NPM. With highly inelastic product demand, pharmaceutical companies can increase their net profit even in times of crisis. However, restrictions on factory activities due to the pandemic can prevent companies from generating net profit. So there will be differences between NPM before the crisis and during the

crisis. As in the research of (Nuzula & Siregar, 2022), which states that there is an increase and decrease in NPM during the crisis, and (Martani & Aprilia, 2023), who found a decrease in ROA during the crisis.

H3: There is a significant difference between the NPM of pharmaceutical companies before and during the crisis.

GPM is an indicator that can be used in measuring the efficiency to earn gross profit per rupiah of sales. During a crisis, pharmaceutical companies will face several production challenges, such as increasing cost of goods sold (COGS), which can cause GPM to decrease. This can hinder the company in controlling production costs and selling prices during a crisis. However, with high product demand during the crisis, pharmaceutical companies have the potential to increase selling prices, so the company's GPM value can increase, so there will be a difference between NPM before the crisis and during the crisis. As in the research of (Nuzula & Siregar, 2022), which states that there is an increase and decrease in GPM during the crisis.

H4: There is a significant difference between the GPM of pharmaceutical companies before and during the crisis.

2. METHODOLOGY

This study will use a quantitative and comparative descriptive approach, which was conducted in the period March to May 2025 to analyze the differences in pharmaceutical companies' financial performance in Indonesia before and during pandemic. The sample used was chosen using a purposive sampling and are based on certain criteria. The data are taken from annual financial statements of pharmaceutical companies listed on IDX from IDX's official website and the company's official website with the specifications of having complete financial reports and recording net profit consistently for five consecutive years before the crisis period, namely 2015 to 2019. This study uses 9 pharmaceutical companies that suit the sample criteria. The data collected includes information needed to calculate profitability ratios, namely ROA, ROE, NPM, and GPM. Descriptive statistical analysis techniques are used to overview the financial performance of the companies, while to determine whether or not there is a significant difference between the financial performance of pharmaceutical companies before and during the COVID-19 crisis, a paired sample t-test will be conducted on normally distributed data and the Wilcoxon Signed Ranks Test on data that is not normally distributed. The entire data analysis process was carried out with the help of IBM SPSS Statistics version 26 software to ensure the accuracy of the results.

3. RESULT AND DISCUSSION

This study will examine the extent to which the COVID-19 crisis will affect the pharmaceutical companies' financial performance, especially in two periods, namely before the crisis and during the crisis, and describe the resilience of the pharmaceutical sector in facing the economic crisis due to the pandemic. Pharmaceuticals are one of the industries whose product demand is highly inelastic and much needed, especially during a pandemic. However, not all pharmaceutical companies are able to take advantage of this situation optimally, because on the other hand, companies also experience various challenges such as supply chain delays and fluctuations in raw material prices. Therefore, the analysis of ROA, ROE, NPM, and GPM is important to indicate the

extent to which the pandemic has impacted the profitability of pharmaceutical companies, such as the effectiveness of asset utilization, the ability to generate profits from their capital, and the efficiency of sales management, as well as the implications for company management and stakeholders.

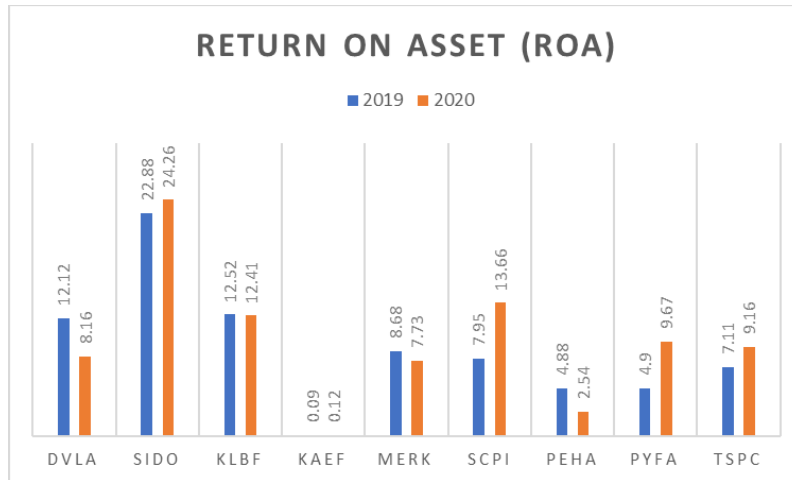


Figure 1. Pharmaceutical Company ROA Chart 2019-2020.

Source: Processed data, (2025)

Figure 1 shows that before the crisis, PT SIDO got the highest ROA value among the pharmaceutical companies studied, which amounted to 22.88%. This value shows it can efficiently use its assets to generate profits before the crisis, even when entering the crisis period, it managed to increase its ROA to 24.26%. Means the company can manage its assets optimally even in times of crisis. Meanwhile, PT Kimia Farma Tbk (KAEF) recorded the lowest ROA value among the pharmaceutical companies studied, which is only 0.09%, which means that the profit generated is very small when compared to the assets owned. However, although it is still relatively low, PT Kimia Farma Tbk (KAEF) managed to increase its ROA during the crisis to 0.12%. This shows that during the pandemic, there is a difference in it's ROA compared to before the crisis.

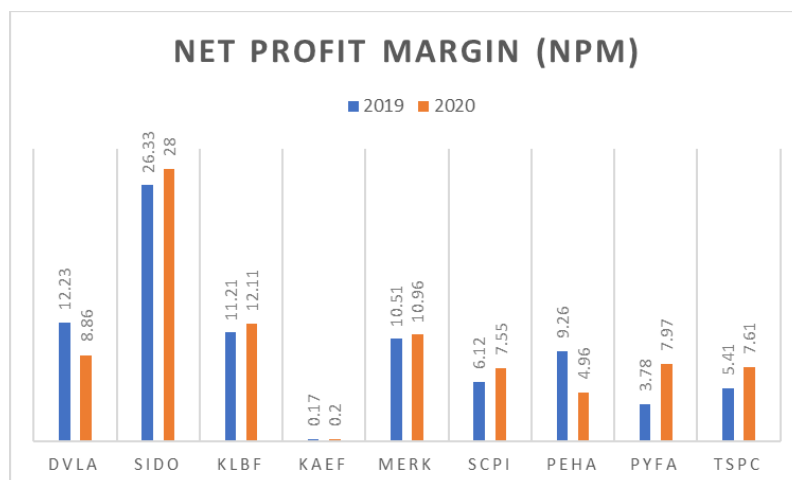


Figure 2. Pharmaceutical Company NPM Chart 2019-2020.

Source: Processed data, (2025)

Figure 2 shows that before the crisis, PT SIDO generated the highest net profit from its sales among the pharmaceutical companies studied, at 26.33%. This means that more than a quarter of every dollar of its sales can be converted into net profit. It also managed to improve its performance in generating net profit during the crisis period, namely to 28%, which means it can optimize the management of operating expenses and other costs. Meanwhile, PT Kimia Farma Tbk (KAEF) recorded the lowest NPM value in the pre-crisis period among the pharmaceutical companies studied, which was only 0.17%, meaning that it couldn't generate its net profit from its sales efficiently. However, although still relatively low, PT Kimia Farma Tbk (KAEF) managed to increase its ROA during the crisis to 0.2%. This shows that during the pandemic, there are differences in its ROA compared to before the crisis. To test the significance of these differences statistically, a Paired Samples Test and a Wilcoxon Signed Ranks Test analysis will be conducted.

Table 1. Hypothesis Test Results

Hypothesis		Sig. (2- tailed)	Result
H1	There is a significant difference in the ROA of pharmaceutical companies before and during the crisis.	0.504	Rejected
H2	There is a significant difference in the ROE of pharmaceutical companies before and during the crisis.	0.578	Rejected
H3	There is a significant difference in the NPM of pharmaceutical companies before and during the crisis.	0.441	Rejected
H4	There is a significant difference in the GPM of pharmaceutical companies before and during the crisis.	0.256	Rejected

Source: SPSS Statistics processed data, (2025)

From the table above, the Sig. (2-tailed) of 0.504 for ROA, 0.578 for ROE, 0.441 for NPM, and 0.256 for GPM. This means that the significance value of each indicator tested is greater than 0.05. Means that there is no significant difference in ROA, ROE, NPM, or GPM of pharmaceutical companies between the pre-crisis period and during the crisis, so H1, H2, H3, and H4 are rejected.

ROA's t-test results are in line with previous study by (Kamaludin & Anisa, 2023), namely that there is no significant difference in ROA during the crisis period. This means that although there are 5 out of 9 pharmaceutical companies experiencing an increase in ROA during the crisis, it turns out that this change is not large enough and consistent across the entire sample, so the difference is not significant. This result shows that the COVID-19 crisis does not have a strong impact on the effectiveness and efficiency of asset use in pharmaceutical companies, this can be a positive signal for pharmaceutical company stakeholders because the products produced by pharmaceutical companies are needed during the pandemic, so that the ROA of pharmaceutical companies tends to be stable even in times of crisis.

ROE's t-test results are in line with previous study by (Rexana & Widjaja, 2021) and (Kamaludin & Anisa, 2023), namely that there is no significant difference between ROE before the crisis and during the crisis. This means that although 6 out of 9 pharmaceutical companies experienced an

increase in ROA during the crisis, it turned out that this change was not large enough and consistent across the entire sample, so the difference was not significant. This result shows that the use of capital in the companies to generate profits is not strongly affected by the COVID-19 crisis. This can be a positive signal for the stakeholders of pharmaceutical companies because in a crisis, the demand for products remains high, so that pharmaceutical companies can still generate profits, so ROE tends to be stable.

The difference test results on NPM are supported by the research conducted by (Rexana & Widjaja, 2021), namely that there is no significant difference between NPM before the crisis and during the crisis. This means that although 7 out of 9 pharmaceutical companies experienced an increase in NPM during the crisis, it turns out that this change was not large enough and consistent across the sample, so the difference was not significant. This result shows that COVID-19 does not have a strong impact on the NPM of pharmaceutical companies. This insignificant change indicates that with highly inelastic product demand, pharmaceutical companies are able to maintain their net profit even in times of crisis, so this can be a positive signal for pharmaceutical company stakeholders.

GPM's t-test results show that there is no significant difference between GPM before the crisis and during the crisis. This means that although during the COVID-19 crisis pharmaceutical companies will face several production challenges such as supply chain delays and increasing cost of goods sold (COGS), which can hinder companies in controlling production costs and selling prices, the impact of COVID-19 is not strong enough on the company's GPM, so that pharmaceutical companies can still provide positive signals to stakeholders with their ability to control production costs and selling prices during the crisis because it is offset by the demand for their products which tends to increase even during the crisis.

4. CONCLUSION

The COVID-19 crisis did not have a strong impact on the pharmaceutical companies' financial performance, so there is no significant difference in financial performance between before the crisis and during the COVID-19 crisis, especially the efficiency use of assets and use of capital, controlling production costs and selling prices, and the ability to generate net income. Because, despite being faced with supply chain delays, raw material price fluctuations, and productivity limitations due to health protocols, pharmaceutical companies can offset these challenges with increased demand for their products during the crisis. Thus, pharmaceutical companies belong to a stable sector and can provide positive signals to their stakeholders during times of crisis.

To obtain more generalized results, further research can expand the research objective by covering more pharmaceutical companies, including non-TK pharmaceutical companies or those not listed on the Indonesia Stock Exchange.

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