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Analysis Of Financial Performance Of Muhammadiyah Aisyiyah Hospital In Jakarta Before And After The Covid-19 Pandemic

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ABSTRACT

This study aims to analyze differences in the financial performance of the Muhammadiyah-Aisyiyah Hospital (RSMA) in Jakarta before and after the COVID-19 pandemic. Data was obtained from financial reports (2017Q1-2022Q4) which were analyzed using the ANOVA difference test. Based on the analysis and discussion, it was found that there was a significant difference in financial performance in the financial ratios of TATO and PBT, while the difference in DAR was not significant before and after the COVID-19 pandemic in the RSIJ Group. Apart from that, it was found that financial performance was better after the COVID-19 pandemic.This research provides practical insights for hospital managers and stakeholders in designing more effective policies for financial management during and after the pandemic. The increase in the Debt to Assets Ratio in several hospitals shows the need for better debt management strategies, while the decrease in the Total Assets Turnover Ratio emphasizes the importance of increasing the efficiency of assets use. The increase in Profit Before Tax in several hospitals indicates opportunities to increase profitability through appropriate management despite existing challenges. To improve the financial performance of Muhammadiyah private hospitals in DKI Jakarta, it is recommended to improve asset management to make it more effective, diversify income sources to reduce financial risks, improve revenue and operational expense management strategies, and invest in advanced health technology.

Keywords: Debt to Asset Ratio, Financial Performance, Profit Before Tax, Total Assets Turnover Ratio

INTRODUCTION

Indonesia is one of the countries in Southeast Asia most affected by Covid-19 (WHO, 2020). The pandemic has magnified specific vulnerabilities in Indonesia's health system that require urgent attention. These vulnerabilities include uneven health infrastructure (Anne et al., 2019), inadequate availability and quality of health workers (Rokx et al., 2010), and inequality in accessing health services (Wiseman et al., 2018). The Covid-19 pandemic has given a significant impact on various sectors, including the health sector (Mahendradhata et al., 2021). In fact, a number of hospitals in Indonesia, especially on the island of Java, were reported to have collapsed due to the rejection of Covid-19 patients due to hospital capacity being full in 2021 (Tempo, 2021). Hospitals as the main health service also experience significant changes in financial performance, including private hospitals. This research focuses on four private hospitals in Jakarta to see how their financial performance changed before and after the pandemic.

Private hospitals in Indonesia play an important role in handling the Covid-19 pandemic. This can be seen from the appointment of 835 hospitals as referral centers for Covid-19 treatment by the government of the Republic of Indonesia in October 2020, including the Ministry of Health's national referral hospital and 703 provincial/district/city referral hospitals (Koran Bernas, 2020). Apart from that, private hospitals also play a role in increasing Covid-19 treatment capacity, including increasing intensive care unit (ICU) space, equipment such as ventilators and oxygen

Governors
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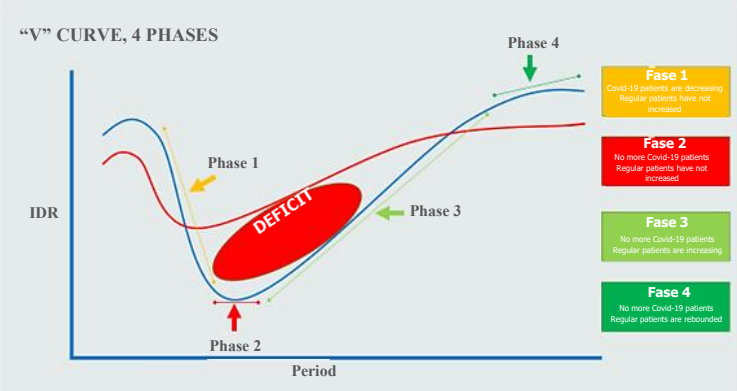
supply equipment, as well as protective equipment for staff. Siloam International Hospitals, the largest private healthcare provider in the country, reported that its net profit jumped more than fourfold as its hospitals received more non-Covid-19 patients due to restrictions on overseas travel, including medical tourism activities to neighboring countries. Additionally, Covid-19 testing and treatment accounts for 15 percent of the company's revenue (Hutton, 2021).

One stylized fact that can be used to describe this phenomenon is the concept of the "V Curve", which was actually adopted from the macroeconomic realm to describe the recovery of output losses in the dynamics of post-pandemic economic development. The V curve is a picture of the best-case scenario where the economy experiences rapid recovery and can restore output losses that occurred due to the pandemic, so that output levels in the economy return to normal pre-pandemic levels (Ridhoi, 2020). Even though this concept seems anecdotal, it can be applied in mapping a strategic framework for hospital policy responses in managing post-pandemic health management. The application of the "V Curve" concept in the context of hospital management is as follows:

Figure 1. "V" Curve, 4 Phases



Source: Al Arfah (2022)

Law Number 44 of 2009 concerning Hospitals in Indonesia regulates the financial management of private hospitals by requiring transparency and accountability in funding sources, including medical service revenues and government funds. Hospitals are required to undergo regular financial audits by independent parties, prepare work plans and budgets, and use funds to improve the quality of health services. The government has the authority to supervise and control the financial management of private hospitals, with the possibility of imposing sanctions if they do not comply with applicable regulations. This places private hospitals in a unique position, with their own autonomy in managing their daily operations accompanied by intense supervision and control by the Government. This became even more apparent during the Covid-19 pandemic, where private hospitals as part of the health service system, needed to perform coordinattion with the government in handling cases.

In this context, this research focuses on four private hospitals in Jakarta. The purpose of this research is to see how their financial performance changes before and after the pandemic. Therefore, this research contributes to the understanding of the impact of the pandemic on the health sector and how the sector can adapt and recover from this impact. In addition, this research also contributes to the literature on hospital financial management and how this management can be adapted in the context of a pandemic.

Based on Minister of Health Regulation Number 75 of 2019 concerning Health Crisis Management, a health crisis is defined as an event or series of events that results in fatalities, injuries/sickness, displacement, and/or potential dangers that impact public health which require a quick response in the area beyond normal practice and inadequate health capacity. Hospital

Governors
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financial performance is a form of evaluation of financial conditions based on financial data and information from hospital operational activities. Aspects of financial information include income, operational costs, profit and loss, and balance sheet. Thus, hospital financial performance is an important thing to look at for understanding the extent to which hospitals can manage their financial resources and knowing how effective these management activities are in achieving their goals.

There is some empirical literature that has explored the effects of health crises on hospital financial performance. Mulyadi (2021) found that the Covid-19 pandemic had different effects, depending on the hospital category. Public hospitals experienced an increase in the investment value obtained, in the form of equipment and machines to support services for Covid-19 patients. Meanwhile, special hospitals received a smaller investment value and experienced a decrease in income. The decrease in income was caused by reduced visits by non-Covid patients during the pandemic due to fear of contracting the Covid-19 virus if they were in hospital. Meanwhile, smaller scale and more specialized hospitals experienced the increase in expenditure and income is not too high, so they did not experience significant changes in financial performance. This happens because the hospital has a small scale of service and coverage and is specific to certain patients.

A study from Nugraha & Siswatibudi (2022) stated that there was an increase in hospital operational costs during the Covid-19 pandemic, especially in the costs of setting up isolation rooms, increasing the need for consumables, such as Personal Protective Equipment (PPE), and Consumable Medical Goods (BMHP). This increase was not only caused by the increasing demand of health goods, but was also caused by the increase in prices of these goods, such as medical masks, which experienced a shortage, causing prices to rise high. With operational expenses increasing drastically, hospitals are required to manage their finances well and effectively to avoid cash flow instability which can hamper operational activities. If financial management is not well performed, the hospital could face the risk of collapse due to discontinued services. Furthermore, research from Hartati, et al. (2022), actually found that the Covid-19 pandemic did not cause changes in the liquidity, solvency and asset turnover aspects of the financial performance of hospitals listed on the Indonesia Stock Exchange (BEI) compared to the period before the pandemic. Meanwhile, in the profitability aspect which is measured using net profit margin, there are differences in hospital financial performance between before and after the pandemic.

LITERATURE STUDY

Stakeholder Theory

Stakeholder theory views business as a network of relationships between parties who have an interest (stakeholders) in the activities of a business, such as consumers, suppliers, employees, investors, managers, and others (Freeman, 2023). Thus, business in this context is assigned to maintain its relationship with stakeholders, so that business activities can run more effectively and efficiently. The principles of stakeholder theory also prioritize the application of a strategic management system which can encourage the success and sustainability of companies in the capitalist system, as well as an ethical system, which is able to pay attention to values, norms, profits and losses that can be experienced by other parties (Mahajan et al., 2023). Therefore, by applying management principles in stakeholder theory, companies can optimize their services to stakeholders as well as to prevent ethical and moral issues from arising in performing their operational activities.

Signaling Theory

Signaling theory is a theoretical framework that explores how one party (signal sender) communicates important information to another party (signal receiver) under conditions of information uncertainty. In a business context, this theory is often used to understand how companies send signals to investors, customers, and other stakeholders about the value or quality of the company's products, services, or credibility. Signaling theory emphasizes the importance of

Governors
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trustworthy signals, such as audited financial reports, quality certifications, and industry awards, as a means of reducing information asymmetry between signal senders and receivers. Through the use of credible signals, companies can build reputation, attract investment, and strengthen relationships with stakeholders. This theory also describes how these signals influence the decision making and behavior of the recipient in uncertain situations (Taj, 2016).

Covid-19 pandemic

The Covid-19 disease which has infected all countries in the world has been considered a pandemic which began with the first case on November 16 2019 in Wuhan, China. This disease then spread to Indonesia which was confirmed on March 2 2020 and finally, on March 11 2020, WHO announced that Covid-19 was a global pandemic. This was done because Covid-19 has a very high level of spread with quite a large level of severity, was capable to spread to 114 countries for almost 6 months, and is a new variant of the Coronavirus type virus which at that time had not been clearly identified (WHO, 2020). The definition of pandemic in this study refers to Presidential Decree (KEPPRES) Number 12 of 2020 concerning the Determination of the Non-Natural Disaster of the Spread of Corona Virus Disease 2019 (COVID-19) as a National Disaster. For this reason, the designation of the time period "after the pandemic" starts from the second quarter of 2020 (Q2 2020).

Financial Performance

Empirical measurement of financial performance in the hospital context has been carried out using various methods. The following are the methods used to view the financial performance of private hospitals by referring to previous research (Lisamelia and Wiratno, 2022).

1. Debt-to-Assets Ratio (DAR) is a ratio that measures the value of debt against the value of capital or equity. The higher the DAR indicates, the greater the debt burden.
2. Total Assets Turn Over Ratio (TATO) is a ratio that measures how efficiently the company's assets are used by calculating sales divided by total assets. The higher the TATO shows, the better the company's efficiency in using its assets.
3. Surplus Before Tax (Profitability) or Profit Before Tax (PBT) is an indicator for measuring a company's profitability without considering the amount of tax. This indicator is generated using the net profit formula. The higher the value, the greater the profit generated before tax.

Research Hypothesis

Ismayani (2019) states that a hypothesis is a statement about a concept which validity needs to be tested.

Based on research by Larasati and Hidayat (2018), Sujarweni (2017), and Hartati et al. (2022), it is assumed that financial performance before and after Covid-19 is stated as follows:

H1 : It is suspected that there is a difference in financial performance before and after the Covid 19 pandemic in the RSIJ Group.

H2 : It is suspected that the financial performance after the Covid-19 pandemic at the Muhammadiyah-Aisyiyah Hospital in Jakarta is better.

METHOD

Research design

The research applied is a quantitative approach to measure and analyze hospital financial performance before and after the Covid-19 pandemic. Comparative studies are used to compare two or more conditions to identify differences or similarities between them (Sugiyono, 2019). In this research, a comparative study was conducted to compare the financial performance of Muhammadiyah private hospitals in DKI Jakarta before and after the Covid-19 pandemic.

Governors
Volume: 03 | Number 02 | August 2024 |
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Operational Variables

The research variables are financial ratios that reflect the hospital's financial performance which includes Debt To Assets Ratio (DER), Total Assets Turn Over Ratio (TATO), and Surplus Before Tax (Profitability). These variables were chosen because they provide a comprehensive picture of a hospital's financial structure and profitability. The following are operational definitions for each research variable:

Table 1. Operational Variables

No	Variable	Definition	Measurement	Scale
1	Debt To Assets Ratio (DAR)	A ratio that measures the extent to which a hospital uses debt to fund operational assets.	$\frac{\text{Total Debt}}{\text{Total Assets}}$	Ratio
2	Total Assets Turn Over Ratio (TATO)	Efficiency ratio for the use of total assets in generating operating income.	$\frac{\text{Operating Income}}{\text{Total Assets}}$	Ratio
3	Surplus Before Tax (Profitability)	Indikator profitabilitas yaitu laba sebelum pajak terhadap pendapatan operasional	$\frac{\text{Profit Before Tax}}{\text{Operating Income}}$	Ratio

Source: Processed Data (2024)

Research Data, Place and Time

The research is based on monthly financial report data from four Muhammadiyah hospitals in DKI Jakarta. The four hospitals that will be analyzed in this study are:

Table 2. Characteristics of Hospital Type and Capacity in the Sample

No	RSMA (The Muhammadiyah-Aisyiyah Hospital)	Type	Capacity
1	Jakarta Islamic Hospital Cempaka Putih	B	340
2	Jakarta Islamic Hospital Pondok Kopi	B	210
3	Jakarta Islamic Hospital Sukapura	C	160
4	Jakarta Islamic Psychiatric Hospital Klender	C (special)	54

Source: Processed Data (2024)

The selection of the DKI Jakarta province was made because of the high level of severity of the Covid-19 pandemic in Jakarta and the types of RSMA which are quite varied and representative. The selection of the four hospitals was based on data availability and variations in hospital types and characteristics to provide accurate and generalizable research results. Meanwhile, private hospitals were chosen because their sources of financial sustainability are more volatile compared to public/government hospitals; and differences in the orientation of Muhammadiyah private hospitals compared to private hospitals.

The time span of data collected starts (1) before the Covid-19 Pandemic from January to March 2017 (Q1 2017) to January to March 2020 (Q4 2019) and (2) after the Covid-19 Pandemic from April to June 2020 (Q2 2020) until October to December 2022 (Q4 2022). For this reason, the designation of the time period "after the pandemic" starts from the first quarter of 2020 (Q1 2020). The choice of this time period is based on its relevance to hospital business operations which have

Governors
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been directly affected by the prevalence of Covid-19 cases since the start of the pandemic, so it is assumed that there is no lag in hospital policy responses. Thus, there are 96 data in this study. Quarterly data was chosen to provide a more detailed picture of changes in financial performance. Based on the sensitivity of internal hospital data, especially data regarding operational and financial activities, this study only focuses purely on analysis based on financial data that has been aggregated in the form of financial ratios.

Preliminary data analysis will be carried out descriptively through data visualization using line graphs and descriptive statistics including mean, median, mode, standard deviation, kurtosis, up to maximum and minimum values. Comparative analysis before and after the pandemic will be carried out using the Analysis of Variance (ANOVA) statistical difference test, specifically One-Way or Single Factor ANOVA.

RESULTS AND DISCUSSION

Descriptive Statistical Analysis

The following is descriptive statistical data on the financial performance of the RSIJ Group, as shown in the following table.

Table 3. Descriptive Statistics

Descriptive	DAR	TATO	PBT
Mean	0,323212813	0,663178	0,065826
Standard Error	0,01258224	0,043779	0,009429
Median	0,340440364	0,567161	0,051847
Mode	0,304785421	0,701365	0,071782
Standard Deviation	0,123280269	0,42895	0,092386
Sample Variance	0,015198025	0,183998	0,008535
Kurtosis	0,675566216	1,817187	4,927642
Skewness	0,493537914	1,258349	1,622161
Range	0,60855443	2,0033	0,588168
Minimum	0,124886783	0,167924	-0,0988
Maximum	0,733441213	2,171224	0,489373
Sum	31,02843009	63,66513	6,319275
Count	96	96	96

Source: Processed Data (2024)

Debt to Assets Ratio

The Debt-Assets ratio shows the proportion of total debt compared to total assets owned by the hospital. From this analysis, an average (mean) of 0.3232 was obtained. This means that an average of 32.32% of hospital assets is funded by debt, indicating a significant level of leverage. A standard error of 0.0126 indicates small variation in this mean. The median value of 0.3404 is slightly higher than the average, indicating a data distribution that is slightly skewed to the right which is also reflected in the skewness value of 0.4935. This slope indicates that most hospitals have debt-to-assets ratios that are slightly higher than average.

The distribution of this ratio data is quite wide, with a minimum value of 0.1249 and a maximum value of 0.7334, resulting in a range of 0.6086. This indicates that there is considerable variation in the use of debt among the hospitals analyzed. The standard deviation of 0.1233 and sample variance of 0.0152 further indicate the existence of moderate variation in this ratio. A kurtosis of 0.6756 indicates a distribution that is slightly flatter than a normal distribution,

Governors
Volume: 03 | Number 02 | August 2024 |
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indicating a lack of extreme data. With a total of 96 observations, the sum of the Debt-Assets Ratio is 31.0284.

Total Assets Turnover Ratio

Total Assets Turn Over Ratio measures a hospital's efficiency in using its assets to generate revenue. The average of this ratio is 0.6632 which means that each unit of assets generates approximately 0.6632 units of income. A standard error of 0.0438 indicates uncertainty in this mean estimate. The median of this ratio is 0.5672, lower than the average, indicating a right-skewed distribution which is also indicated by the skewness value of 1.2583. This significant slope indicates that some hospitals have very high asset utilization efficiency which shifts the average toward the right.

This ratio has quite large variations with a minimum value of 0.1679 and a maximum value of 2.1712, resulting in a range of 2.0033. This shows that there are hospitals that are very efficient in using their assets to generate income, while others are less efficient. The standard deviation of 0.4290 and sample variance of 0.1840 further indicate considerable variation in this efficiency. The kurtosis value of 1.8172 shows a distribution that is sharper than a normal distribution, indicating the existence of several hospitals with very high assets use efficiency. The total observations for this ratio are 96 with a sum of 63.6651.

Profit Before Tax

Profit Before Tax measures a hospital's profitability before taxes. The average profit before tax is 0.0658 which shows that the average profit margin before tax is 6.58%. A standard error of 0.0094 indicates small variation in this mean. The median of this ratio is 0.0518, slightly lower than the mean, indicating a right-skewed distribution, as indicated by the skewness value of 1.6222. This significant slope indicates that some hospitals have very high profitability before taxes which shifts the average toward the right.

Profit Before Tax has quite large variations with a minimum value of -0.0988 and a maximum of 0.4894, resulting in a range of 0.5882. This shows that some hospitals are experiencing pre-tax losses, while others are highly profitable. The standard deviation of 0.0924 and sample variance of 0.0085 further indicate considerable variation in this profitability. The kurtosis value of 4.9276 shows a very sharp distribution, indicating that there are several hospitals with very high profitability before tax. The total observations for this ratio are 96 with a sum of 6.3193.

Difference Test Analysis

The hypothesis proposed through this study was examined using a statistical difference test. The statistical test used in this research is Analysis of Variance or ANOVA. The ANOVA test will also be applied in aggregate in RSIJ – Group.

Debt to Asset Ratio

The following is a different test analysis for DAR as follows:

Table 4. ANOVA Test on Variable of Debt-to-Asset Ratio in the RSIJ Group

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	5,08E-05	5,08E-05	0,003305	0,954276
Residual	94	1,443762	0,015359		
Total	95	1,443812			

Source: Processed Data (2024)

Governors
Volume: 03 | Number 02 | August 2024 |
E-ISSN: 2962-5505 | DOI: doi.org/10.47709/governors.v3i2.4316

Since the p-value (0.954276) is greater than the conventional significance level of 0.05, we fail to reject the null hypothesis that there is no significant difference in the Debt to Assets Ratio before and after the pandemic. The F value (0.003305) is also very small, indicating that the variation between groups (before and during the pandemic) is much smaller than the variation within groups.

Total Assets Turn Over Ratio

The following is a different test analysis for TATO as follows:

Table 5. ANOVA Test on Variable of Total Assets Turnover Ratio in the RSIJ Group

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0,952347	0,952347	5,416486	0,022094
Residual	94	16,52744	0,175824		
Total	95	17,47979			

Source: Processed Data (2024)

For the Assets Turnover Ratio, the p-value (0.022094) was found to be smaller than 0.05, which means the null hypothesis of no significant difference was rejected and in the alternative hypothesis, there was a significant difference in the Total Asset Turnover Ratio before and during the pandemic which was accepted. However, the F value (5.416486) is greater than the previous ratio, indicating that the variation between groups is relatively larger, but it is still not statistically significant.

Profit Before Tax

The following is a different test analysis for PBT as follows:

Table 6. ANOVA Test on Variable of Profit Before Tax in the RSIJ Group

Source: Processed Data (2024)

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0,095104	0,095104	12,49016	0,000637
Residual	94	0,715744	0,007614		
Total	95	0,810848			

In this case, the p-value (0.000637) is less than 0.05, indicating that we can reject the null hypothesis and conclude that there is a statistically significant difference in Profit before Tax before and during the pandemic. The F value (12.49016) is also relatively large, indicating that the variation between groups (before and during the pandemic) is much greater than the variation within groups. The results of the ANOVA test in the RSIJ group can be summarized as follows:

Table 7. Summary of ANOVA Test on Financial Ratio in the RSIJ Group

Financial Ratio	**ANOVA Test Result - Statistical Significance**
	RSIJ Group
Debt to Asset Ratio	No (P-Value: 0,954276)
Total Assets Turn Over Ratio	**Yes (P-Value: 0,022094)**
Profit Before Tax	**Yes (P-Value: 0,000637)**

Source: Processed Data (2024)

Governors
Volume: 03 | Number 02 | August 2024 |
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CONCLUSION

Based on the analysis and discussion, this research found that there was a significant difference in financial performance in the financial ratios of TATO and PBT, while the difference in DAR was not significant before and after the COVID-19 pandemic at the RSIJ Group. In addition, there are indications that the financial performance of these hospitals is generally better after the COVID-19 pandemic. This research has several limitations. The data used is limited to quarterly financial reports from four hospitals in Jakarta. Therefore, the results may not be generalizable to other hospitals with different characteristics and geographical contexts. This research only uses three main financial variables and does not include other aspects that may also be affected by the pandemic, such as the quantity and quality of health workers, infrastructure readiness, and daily fluctuations in COVID-19 cases. This study also does not explore the internal decision-making process during the pandemic, so it cannot provide subjective comments regarding the quality of hospital managerial capacity. This research provides practical insights for hospital managers and stakeholders in designing more effective policies for financial management during and after the pandemic. The increase in the Debt to Assets Ratio in several hospitals shows the need for better debt management strategies, while the decrease in the Total Assets Turnover Ratio emphasizes the importance of increasing the efficiency of assets use. The increase in Profit Before Tax in several hospitals indicates opportunities to increase profitability through appropriate management despite existing challenges. To improve the financial performance of Muhammadiyah private hospitals in DKI Jakarta, it is recommended to improve asset management to make it more effective, diversify income sources to reduce financial risks, improve revenue and operational expense management strategies, and invest in advanced health technology. Apart from that, it is also important to develop the competence of medical personnel through continuous training, new health service innovations such as telemedicine, and strengthening working capital to ensure sufficient liquidity to face emergency conditions such as pandemics.

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