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THE IMPACT OF FINANCIAL RATIOS ON STOCK PRICES OF HEALTHCARE SECTOR COMPANIES LISTED ON THE INDONESIA STOCK EXCHANGE (IDX) IN THE 2020-2023 PERIOD

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Abstract

In order to determine the impact that the Return On Asset (ROA), Current Ratio (CR), and Debt to Asset Ratio (DAR) have on the stock prices of health sector companies that are listed on the Indonesia Stock Exchange (IDX) between the years 2020 and 2023, this study will investigate the correlation between these three ratios. Secondary data are utilized in the research process. The approach of purposive sampling was utilized in order to identify ten businesses that met the requirements. The method of analysis that is utilized is called panel data regression, and it is realized through the utilization of the EViews 12 application. It has been determined that the fixed effect model (FEM) is the most effective model for panel data regression. In contrast to ROA, which did not have a significant relationship with stock price effects, the results showed that CR and DAR were marginally related to stock price influences (t test). It is also important to note that the three factors ROA, CR, and DAR all have an impact on stock prices simultaneously. With a value of 69.7%, the independent variable exerts a strong influence on the variable that is being studied. Due to the fact that these three factors are representative of the stock price of the company, the research was carried out with the intention of supporting investors in the process of decision-making and companies in the process of developing financial policies.

Keywords: Return On Asset (ROA), Current Ratio (CR), Debt to Asset Ratio (DAR), stock price

Introduction

The hardest blow to the Indonesian economy began in March 2020 when the Covid-19 pandemic broke out. Work From Home (WFH) and social distancing implemented in Indonesia had a significant impact on the Indonesian economy. The consequences of these transactions indirectly affected the business world, such as decreasing demand for goods, then causing many employees to be laid off and not get jobs so that purchasing power for goods decreased. Covid-19 made investors hesitate to set aside their money to invest. According to Putri and Yulfiswandi (2022), in the midst of the Covid-19 pandemic, there are sectors that continue to run and are not affected, one of which is the health sector. The demand for goods in the health sector is very high because it is very much needed by the community, such as: test kits, health drugs, and the number of patients being treated in hospitals has also increased. According to Latif et al. (2022), stock prices in the health sector have predominantly increased and become one of the main choices for investment. In addition, the health sector is a sector that can be an economic recovery after the Covid-19 pandemic.

As market players, investors have the right to have information about stock prices to determine whether the selected stocks are good or not. By looking at the stock price, it can be seen how much supply and demand there is for the stock, so that investors can decide which company is the right one to invest in. According to Susilo et al. (2022), there are three criteria that determine the recording of stock prices on the Indonesia Stock Exchange (IDX), namely: closing price, lowest price, and highest price. To help investors know how stock prices change over time, this study uses the closing stock price that occurs at the end of the stock exchange year every December. This is done because the closing price is a reference for prices for both the previous and subsequent periods.

Stock prices are influenced by a number of financial ratios, including liquidity, solvency, and profitability. An effective method for assessing a company's capacity to fulfil its immediate financial obligations is by utilising liquidity ratios, such as the current ratio (Darmawan, 2020). Then, the company's ability to pay taxes in the event of liquidation is the definition of the solvency ratio (leverage). The choice

to use debt financing rather than equity is relevant here. One type of solvency ratio is the Debt to Asset Ratio (DAR). The profitability ratio is a measure of a business's capacity to create profits. ROA, or Return On Asset, is a specific form of profitability ratio.
Multiple research studies have been carried out to examine the influence of financial ratios on the pricing of stocks in the healthcare industry, for example, research by Susilo et al. (2022) which uses independent variables, namely ROA, DER, and DAR, then processed, it was found that only ROA has a significant effect and all three have a simultaneous effect. Similar studies were also conducted by Tambunan et al. (2023) and Adlia et al. (2023) that if the study uses several independent variables such as CR, DER, and ROA but the years are different, then the partial and simultaneous results can also be different. Furthermore, Evasoyaningrum et al. (2023), analysed the impact of Return on Assets (ROA), Debt-to-Equity Ratio (DER), and Current Ratio (CR) on stock prices, concluding that only CR exhibited a statistically significant influence on the dependent variable. This could be due to the impact of Covid-19 which made the variable slightly unstable. The findings of prior research on the impact of financial ratios on stock prices are inconclusive. The disparity across variables is referred to as the Research Gap. Researchers will employ panel data regression analysis to examine the impact of ROA, CR, and DAR on stock prices. This is because this study uses three independent variables, namely time series data and cross-section data.

This study aims to examine the impact of Return On Asset (ROA), Current Ratio (CR), and Debt to Asset Ratio (DAR) on the stock prices of health sector companies listed on the IDX. The focus of the research is the main sector of healthcare companies with a range of years starting since Covid-19 spread in Indonesia, namely 2020-2023.

Research Hypothesis

Impact of Return on Asset (ROA) on Stock Prices

According to Sari (2020), ROA shows how effectively a company can use all its assets to generate after-tax profits. A greater return on assets (ROA) value signifies that the organisation is effectively utilising its assets. Dewi and Suwarno (2022) found that companies with a greater return on assets (ROA) tend to have higher stock prices. An increase in ROA indicates that the company's assets are being utilised efficiently, which in turn can lead to higher earnings. Consequently, the company's profitability will improve as the return on goods increases, which can entice investors to purchase shares. Therefore, the subsequent hypothesis is formulated:
H_1: stock prices are impacted by Return on Assets.

Impact of Current Ratio (CR) on Stock Prices

According to Aiki (2018), the current ratio (CR) is one type of several liquidity ratios that are determined by dividing total assets by total current liabilities. This serves as an indicator of the company's level of capital security. Corporate responsibility (CR) enables investors to comprehensively analyse the data presented in a company's financial statements in order to evaluate its veracity. The results indicate that a higher current ratio (CR) is directly related to the company's capacity to settle its current obligations and short-term debt. Furthermore, a higher CR is also associated with an increase in the company's stock price. Therefore, the subsequent hypothesis is formulated:
H_2: stock prices are impacted by Current Ratio (CR).

Impact of Debt to Asset Ratio (DAR) on Stock Prices

According to Aiki (2018), the Debt to Asset Ratio (DAR) reveals the extent to which a company's total debt can be funded by all of its debts. Simply put, DAR shows the extent to which a company's debt impacts the management of its assets as a whole. A higher DAR implies a greater reliance on debt for funding, while a lower DAR suggests less dependence on debt. However, using funds from debt can cause problems, namely the difficulty of obtaining loans because the company cannot cover its debts and this can make investors less interested in investing. Thus, the following hypothesis is developed:
H_3: stock prices are impacted by Debt to Asset Ratio (DAR).

Method

In accordance with its nature, this study uses quantitative data, namely numbers. This study uses secondary data collected from the financial reports of health sector companies listed on the IDX in 2020 to 2023. The research year in the 2020-2023 period was chosen because it was the year of Covid-19 and made the health sector one of the backbones of economic recovery in Indonesia. Researchers collect information for their research through documentation, namely looking for details of variables in documents such as books, reports, and so on. Annual financial report data is obtained through the websites of each health sector

company. In the sampling process, the purposive sampling method is used. According to Amruddin et al. (2022), purposive sampling is the process of selecting research according to research objectives. The following are the criteria and basic considerations in selecting samples based on the purposive sampling technique:

- Registered on the IDX for business actors in the health sector between 2020 and 2023.
- The list of companies appears on the main listing board.
- The company's registration date must be before 2020.
- Companies that have submitted annual financial reports for 2020-2023.
- Clear annual financial reports every year.

The dependent variable (Y) describes the variables that are influenced and caused by the independent variables. This study uses stock prices as the dependent variable (Y). According to Santosa (2018), stock prices are a depiction of the company's strength in facing current economic conditions and occur at closing (closing price). Meanwhile, according to Gunawan (2020), stock prices in the stock market are determined by supply and demand and usually the closing price every year. The independent variables (X) are utilisied to exert effect on the dependent variable (Y) are ROA, CR, and DAR. The definition of the three variables is:

Return On Asset (ROA)

If a company's return exceeds the value of its assets, it signifies effective management and suggests that the company will likely sustain profitability in the future (Susilo et al., 2022). The formula for calculating ROA is:

$$ROA = \frac{net\ profit\ after\ tax}{total\ assets}, \tag{1}$$

Current Ratio (CR)

According to Darmawan (2020), one way to find out whether current assets are sufficient to meet current liabilities is to look at the current ratio. In general, companies maintain a current ratio of at least 1 because if it is less than 1, the corporation is at risk of defaulting. If the value is 2, then the company's current assets are worth twice the amount of debt that must be repaid. A value of two is considered good and so on. The formula for calculating CR is:

$$CR = \frac{total\ assets}{total\ current\ liabilities}, \tag{2}$$

Debt to Asset Ratio (DAR)

According to Darmawan (2020), this ratio is used to assess the impact of a company's assets on debt or the amount of debt used by the company to manage assets. The higher the DAR, the more difficult it is to obtain funding because there is a risk of not being able to pay its debts. In general, the average industry DAR is 35% and the DAR value should be below 35% because this will make it easier for the company to obtain financing. The DAR calculation formula is:

$$DAR = \frac{total\ debt}{total\ assets} \times 100\%, \tag{3}$$

Panel data regression analysis is used in this study because it uses three independent variables, which consist of a combination of time series data and cross-sectional data. Performing panel data regression analysis with the EViews 12 application. The steps in model testing must pass three tests, including: chow test, hausman test, and lagrange multiplier test. Then proceed to the classic assumption test. To assess existing assumptions and provide accurate and consistent results, the classic assumption test is used to evaluate statistical assumptions. Only multicollinearity and heteroscedasticity tests are performed in panel data regression. If both tests are met, then the panel data regression analysis test can be continued. According to Susilo et al. (2022), panel data regression is an excellent method for simulating the influence of independent and dependent variables in many sectors of research objects observed during a predetermined period. If X_1, X_2, dan X_3 are the three independent variables, then the regression equation is as follows.

$$Y_{it} = a + b_1X_{1it} + b_2X_{2it} + b_3X_{3it} + e_{it}.$$

After that, do a t-test (partial test). According to Ghozali (2016), the t-test is used to measure the specific impact of each independent variable on the dependent variable. This test is used to test the hypothesis H_0 and $H_{alternative}(H_1, H_2,$ and $H_3)$ with a significant level in this study set at 0.05 (5%). Furthermore, a simultaneous test is carried out. According to Kuncoro (2009), the F test is employed to ascertain if the independent variables together exert significant impact on the variables identified as dependent. To determine the proportion of the impact of the independent variables on the dependent variable Y, the

coefficient of determination (K_d) is used, namely by multiplying the Adjusted R Square by 100%. The greater the greater the influence, but if it is between the interval 0< K_d <1, the magnitude of the influence is in accordance with the K_d value and the rest comes from other factors.

Result and Discussion

The study involved 33 health sector companies listed on the IDX in 2020 to 2023. The research sample was determined using purposive sampling. The criteria in chapter 2 became the basis for the sample selection process, namely:

Table 1 Selection Criteria for Determining Sample Size

No	Description	Number of Companies
1	Registered on the IDX for business actors in the health sector between 2020 and 2023	33
2	Companies are included in the main listing board	(18)
3	The date of registration of health sector companies before 2020	(3)
4	Health sector companies that have submitted annual financial reports in the 2020-2023 period	(1)
5	Presentation of clear annual financial reports every year	(1)
Number of Research Samples		10

Based on the research sample selection procedure using certain criteria, 10 companies were obtained as samples. Based on the panel data regression model, data from 10 companies was obtained and multiplied by 4 year periods, so that a total of 40 observation data were obtained. ROA, CR, and DAR can be found using equation Eq. 1, Eq. 2, dan Eq. 3. Next, the chow test, hausman test, and lagrange multiplier test are carried out to select the panel regression model. From these three tests, the REM, FEM, and CEM models will be determined. The first test determines between the CEM or FEM model using the chow test which can be seen in Table 2.

Table 2 Results of Chow Test

Effect Test	Prob.
Cross-section F	0,0000
Cross-section Chi-Square	0,000

The cross-section probability value is 0.0000 <0.05 as seen in Table 2 so FEM is chosen. Because FEM is selected, it is mandatory to continue to the next test, namely the hausman test. Table 3 shows the results of the hausman test used to compare REM or FEM.

Table 3 Results of Hausman Test

Test Summary	Prob.
Cross-section random	0,0018

From Table 3, a significant value of 0.0018 <0.05 is obtained, which indicates that the FEM model is selected without the need to perform a multiple lagrange test. Therefore, FEM is the best model found through the chow and hausman tests. The classic assumption test is the next stage. For the panel data regression model, only multicollinearity and heteroscedasticity tests are used. Table 4 shows the results of the multicollinearity test conducted with EViews12.

Table 4 Results of Multicollinearity Test

	X_1	X_2	X_3
X_1	1,000000	0,219898	-0,057229
X_2	0,219898	1,000000	0,233625
X_3	-0,057229	0,233625	1,000000

The data presented in table 4 indicates that there is no multicollinearity problem in each variable because the coefficient value is less than 0.85. Furthermore, the glejser test was employed to test for heteroscedasticity, and the findings are displayed in Table 5.

Table 5 Results of Heteroscedasticity Test

Variable	Prob.
C	0,7850
X_1	0,6859
X_2	0,6024
X_3	0,6508

Based on Table 5, the significant values of each independent variable are 0.6859, 0.6024, and 0.6508. It is concluded that the significant value is >0.05, so there is no heteroscedasticity. Because the necessary conditions for classic assumption test have been satisfied, the panel data regression test can be continued with a significant level (α) = 0.05 using EViews 12 software. The test results are:

$$Y = -11.537{,}79 + 3{,}81\,X_1 + 20{,}95X_2 + 700{,}88\,X_3.$$

As a result of the interpretation of the previous regression equation, the results are:

- Constant a = -11,537.79 indicates that the stock price will fall by 11,537.79% if ROA, CR, and DAR are zero.
- Coefficient b_1 = 3.81 means that the ROA variable shows a positive relationship to the stock price. If ROA increases by 1% CR and DAR are considered constant, the stock price increases by 3.81%.
- Coefficient b_2 = 20.95 means that the CR variable shows a positive relationship to the stock price. If CR increases by 1% ROA and DAR are considered constant, the stock price increases by 20.95%.
- Coefficient b_3 = 700.88 means that the DAR variable shows a positive relationship to the stock price. If DAR increases by 1% ROA and CR are considered constant, the stock price increases by 700.88.

To determine the effect of the independent variables on the dependent variable partially, a t-test was carried out. Table 6 shows the results of the t-test.

Table 6 Results of T-test

Variable	t-Statistic	Prob.
C	-3,197715	0,0035
X_1	0,189795	0,8509
X_2	2,148857	0,0408
X_3	3,919410	0,0005

Based on Table 6, the partial influence of independent variables is obtained, namely:

- Impact of ROA (X_1) on stock prices
  The first hypothesis states that the company's ability to use all assets to generate greater profits is related to a higher ROA value. Using EViews 12, the results obtained if ROA has no effect on stock prices are shown by the calculated t_{count} of 0.189795 < t_{table}, which is 2.024394 and the sig. value of 0.8509> 0.05, then the hypothesis is rejected. This supports the research of Evasoyaningrum et al. (2023) if ROA shows no effect on stock prices. The increase in X_1 has no impact on Y due to investors often not considering ROA in decision making. In the 2020-2023 research data, ROA experienced irregular movements so that it could cause ROA to have no impact on the dependent variable.
- Impact of CR (X_2) on stock prices
  The second hypothesis is proven, namely that CR has a positive effect on stock prices, as indicated by the calculated t_{count} of 2.148857> t_{table}, namely 2.024394 and a significance value of 0.0408<0.05. The findings of this study support the research of Tambunan et al. (2023) which partially has a significant effect on stock prices. This means that the company has succeeded in converting its excess assets into investments that have the potential to generate profits. Investors will invest because they believe they will not lose money if they invest.
- Impact of DAR (X_3) on stock prices
  The third hypothesis is proven, namely that DAR has a positive effect on stock prices, as indicated by the calculated t_{count} of 3.919410> t_{table}, namely 2.024394 and sig. 0.0005<0.05. It can be interpreted that if the company is able to cover all debts that must be paid through its assets, it will have an impact on increasing the company's profits and making investors invest in the company. The next step is to determine the significance of the influence of the independent variables on the dependent variables simultaneously. Table 7 shows the results of the simultaneous test.

Table 7 Results of the F test (simultaneous)

Adjusted R-squared	0,697401
F-statistic	8,490280
Prob(F-statistic)_	0,000002

Based on the table above, the calculated F value of 8.490280 is greater than the F table value of 2.866266. The conclusion is that H_0 is rejected while H_a is accepted. This means that ROA, CR, and DAR affect stock prices simultaneously. Furthermore, the coefficient of determination (K_d) was tested by looking at the Adjusted R Square value and obtained 0.697401 or 69.7%. This shows that ROA, CR, and DAR affect 69.7% of stock prices and 30.3% are other factors.

Conclusion

This study uses a panel data regression model to determine the effect of ROA, CR, and DAR on stock prices. Through purposive sampling techniques, it was found that there were 10 companies that met the criteria with the best regression model being the fixed effect model (FEM). Based on the analysis carried out, it is known that CR and DAR have a major effect on stock prices, while ROA does not have a significant effect on stock prices through the t-test. Furthermore, the results of the F test show that ROA, CR, and DAR simultaneously affect stock prices. Then, 69.7% of the variance of the dependent variable (stock price) can be explained by the independent variables (ROA, CR, and DAR) in the regression model, while the remaining 30.3% is influenced by variables not included in the study.

Suggestions

Suggestions for further research include:

- Because the variables used are limited, further research can use other types of independent variables in the liquidity, solvency, and profitability ratios so that the information obtained is more complete.
- Extending the duration of the study allows for more precise results. In addition, it can be done by comparing the effect of independent variables on the dependent variables before Covid-19 and after Covid-19 whether they are the same or not.
- Further research can use companies in other sectors besides health, for example the energy, financial, infrastructure sectors, etc. In addition, it can also use sectors that are developing other than the health sector during the Covid-19 pandemic.

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