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Stock Price Analysis in Healthcare Sector Companies on the Indonesia Stock Exchange

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Abstract:

This study analyzes the influence of profitability, liquidity, and solvency on stock prices with dividend policy as a mediator variable in healthcare sector companies listed on the Indonesia Stock Exchange for the 2020-2023 period. Using a quantitative approach with a comparative causal design, this study involved 9healthcare companies selected through purposive sampling, resulting in 36 observations. Profitability is measured using Return on Assets (ROA), liquidity using Cash Ratio, solvency using Equity to Assets Ratio, and dividend policy using Dividend Payout Ratio. Data analysis uses Moderated Regression Analysis (MRA)after meeting the classical assumption test. The results of the study show that profitability has a negative effect on stock prices (β=-4.236.647; p=0.026). Liquidity showed a positive but insignificant effect(p=0.075), while solvency had a significant positive effect (p=0.023) on stock valuation. The dividend policy has been proven to moderate the relationship between profitability and stock price positively (p=0.033), not moderate the relationship between liquidity and stock price (p=0.119), but to moderate the negative relationship between solvency and stock price (p=0.017). The research model showed superior predictive ability with an adjusted R-square of 0.750, indicating that 75% of stock price variations could be explained by the variables in the model. These findings make a theoretical contribution to understanding the dynamics of the healthcare sector capital market and the strategic implications for management in the formulation of optimal financial policies

Keywords: Profitability, Liquidity, Solvency, Dividend Policy, Healthcare

1. Introduction

The drive to increase asset value and achieve long-term financial goals is the main reason why most parties choose to allocate their funds to various investment instruments. The allocation of funds in various investment instruments such as stocks, bonds, mutual funds, and property is based on comprehensive risk-return considerations, with the expectation that these investments will not only provide optimal returns but also serve as a hedge against inflation and market volatility (1). Especially in stock investment, the potential for significant profits can be obtained through the dividend distribution mechanism of companies listed on the Indonesia Stock Exchange, with the terms and frequency of distribution regulated in the dividend policy of each entity.

The healthcare sector has unique characteristics as an industry that provides essential health products and services to the community. Although the demand for this sector is relatively high and stable, healthcare companies continue to experience fluctuations in stock values that reflect the market's assessment of the company's performance over time. The stock price dynamics of the healthcare sector are very responsive to global and local health issues, where health crisis conditions tend to trigger a surge in demand for medicines, vaccines, and medical equipment, while the improvement in the global health situation can reduce market interest in this sector because it is considered no longer urgent.

The context of investment in the health sector offers attractive opportunities given the essential health needs, so it can be a strategic choice for investors who prioritize long-term stability and growth. The sector's performance has proven to be resilient, with growth reaching 17.8% in 2020 despite the COVID-19

pandemic. In aggregate, IDX Health showed a positive performance with a total appreciation of 43.67% until the end of the 2022 period.

In analyzing the performance of this investment, the closing price of the stock is a crucial indicator that reflects the market value of the stock at the end of the trading day and provides a comprehensive picture of the market's assessment of the company's performance.

Based on empirical data on healthcare companies in Indonesia for the 2020-2023 period, significant stock price fluctuations were identified with an average growth of 52% in 2021, but experienced a contraction of 30% in 2022 and 24% in 2023. This decline can be attributed to various factors including regulatory changes, intensification of competition with other sectors, shifts in consumer preferences, and the transition to the endemic phase of COVID-19. Macroeconomic conditions such as inflation and changes in interest rates also put pressure on the profitability of healthcare companies.

The determinants of stock price movements can be categorized into internal and external factors (2). Internal factors include the company's profitability, annual asset growth, and liquidity level, while external factors include government policies, interest rate fluctuations, rupiah exchange rate volatility, inflation, and market sentiment. Financial statements as a representation of the company's performance in a certain period are a vital instrument for investors in evaluating the investment risks to be taken.

Profitability, as an indicator of the company's ability to generate profits from normal operational activities, indicates the competitiveness of business entities (3). In the framework of signalling theory developed by Michael Spence, high profitability is a positive signal that the company has a healthy financial condition, thereby increasing the attractiveness of investors to the company's shares (4,5). Researchers show that profitability has a significant positive effect on stock prices, but contradicts findings that there is no relationship between profitability and stock prices (6).

Liquidity as a measure of a company's ability to meet short-term obligations provides an important signal to investors. Companies with optimal liquidity can attract investors because they demonstrate the ability to meet financial obligations well, indicate sound financial conditions and efficient management (7). Husain found that liquidity ratios have a significant effect on stock prices, in contrast to Sitorus & Elinarty's research which shows liquidity has no impact on stock prices (7,8).

Solvency, is a ratio that measures the extent to which a company's assets are financed by debt and determines the company's ability to meet long-term obligations (9). Too high solvency can indicate financial pressures that undermine investor confidence and negatively impact stock prices (10). Marsela & Yantri stated that solvency shows a positive impact because investors view high-debt companies as bold risk-takers with the potential for big profits, in contrast to Khairuddin & Wandita's findings which show a negative influence of solvency on stock prices (11,12).

Dividend policy acts as a moderating variable that can affect the relationship between financial ratios and stock prices. When dividend policies are implemented, investors tend to pay more attention to the stability of the company's earnings, so financial ratios that show positive performance can strengthen the influence on the stock price. Dividend policies can moderate the impact of ROE on stock prices, while others show contradictory results that dividend policies do not moderate the relationship between profitability and stock prices.

This study aims to analyze the influence of profitability, liquidity, and solvency on stock prices with dividend policy as a moderating variable in healthcare sector companies listed on the Indonesia Stock Exchange for the 2020-2023 period, considering the unique dynamics of this sector and the importance of a comprehensive understanding of the factors that affect stock performance in the context of long-term investment.

2. Literature Review

2.1 Signal Theory (*Signaling Theory*) The signal theory introduced by Michael Spence describes the mechanism of information transfer between two entities, namely the sender and receiver of the signal (4). The fundamental concept of this theory emphasizes that parties with superior access to information can convey the actual condition of the company to external stakeholders, especially investors, through

- certain signals. The main purpose of this signal transmission is to minimize information asymmetry and facilitate a more optimal investment decision-making process (4).
- **2.2 Efficient Market Theory** (*Efficient Market Hypothesis*) Eugene Fama formulated the efficient market hypothesis that classifies market efficiency into three forms: strong, semi-strong, and weak. This theory postulates that in efficient market conditions, the price of a security always reflects all available information.
 - The implication of this theory is the impossibility of investment strategies to consistently outperform the market through technical and fundamental analysis, since all relevant information has been integrated in the valuation of assets (13).
- **2.3 Stock Price** Fahmi defines shares as investment instruments that represent ownership participation in a corporate entity, with formal documentation that includes the company's identification and shareholder rights and obligations. Stock valuations are influenced by a variety of complex factors, including macro and microeconomic conditions, strategic expansion decisions, leadership changes, involvement in legal disputes, and ongoing declines in operational performance (14). The Price to Book Value (PBV) ratio can be calculated through the formula: market value divided by book value, while Price Earning Ratio (PER) measures the ratio of stock price to net earnings per share (15).
- 2.4 Profitability Profitability indicates a company's ability to generate profits, where a consistent increase in profits demonstrates good company performance and can stimulate investment interest (17). According to Brigham and Houston, profitability is the main measure of a company's success in creating added value for shareholders (16). Profitability analysis includes various ratios such as Net Profit Margin (NPM) which measures net profit per sale, Gross Profit Margin (GPM) which evaluates gross profit to net sales, Return On Investment (ROI) which relates operating profit to investment, Return On Equity (ROE) which measures the ability to generate profits for shareholders, Return On Assets (ROA) which assesses the efficiency of asset use, and Earning Per Share (EPS) which indicates net profit per outstanding share (9).
- **2.5 Liquidity** Liquidity represents a company's ability to meet short-term financial bonds. Liquidity is a measure of a company's ability to pay off maturing debt, where inability to meet short-term obligations can result in bankruptcy. Liquidity measurement includes the Current Ratio which compares current assets with current liabilities, the Cash Ratio which evaluates the ability to repay short-term debt using cash and cash equivalents, and the Quick Ratio which measures liquidity through the comparison of assets that are easily converted into cash with short-term liabilities (18).
- 2.6 Solvency Solvency reflects the company's ability to fulfill all financial obligations, both short-term and long-term. Researchers define solvency as the ability of a company to pay principal and interest debts at a predetermined time. Solvency ratios include the Debt Ratio which measures the proportion of assets financed by debt, the Long-Term Debt to Equity Ratio which compares long-term debt to its own capital, the Times Interest Earned Ratio which evaluates the ability to pay interest expenses, and the Debt to Assets Ratio which assesses the proportion of assets funded through total debt (19).
- **2.7 Dividend Policy** Dividend policy is a company's decision to distribute profits to shareholders Dividends can be a market trust and show the stability of the company's profits. The Dividend Policy which measures the amount of profit distributed is seen from the Dividend Payout Ratio which shows the percentage of the company's net profit distributed to shareholders evaluated by Dividend Per Share and Net Profit per Share. Dividend Yield is a ratio that shows the rate of return that evaluates the DPS with the stock price.
- **3. Hypothesis** Based on the literature review and theoretical framework that has been presented, this study develops six hypotheses to test the influence of profitability, liquidity, and solvency on stock prices with dividend policy as a moderator variable. The conceptual framework in this study is as follows:

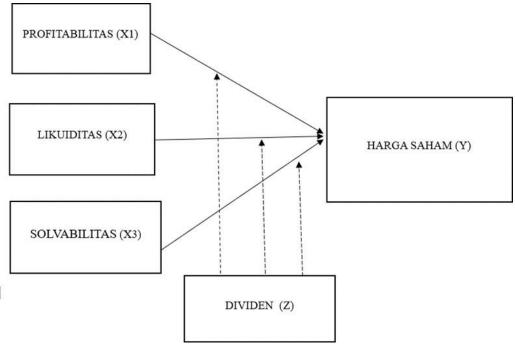


Figure 1. Conceptual Framework

The hypotheses in this study are as follows:

H1: Profitability (X1) has a positive effect on the Stock Price (Y) H2: Liquidity (X2) has a positive effect on the Stock Price (Y)

H3: Solvency (X3) has a positive effect on the Stock Price (Y)

H4: Dividend Policy (Z) is able to moderate the influence of Profitability (X1) on Stock Price (Y) H5:

Dividend Policy (Z) is able to moderate the effect of Liquidity (X2) on Stock Price (Y)

4. Research Methods

This study uses a quantitative approach with a comparative causal design to analyze the influence of profitability, liquidity, and solvency on stock prices with dividend policy as a mediator variable. The research population includes all healthcare sector companies listed on the Indonesia Stock Exchange (IDX), totaling 34 companies. The sampling technique uses the purposive sampling method with the following criteria: (1) healthcare companies listed on the IDX for the 2020-2023 period, (2) consistently issuing complete financial statements, and (3) distributing dividends consecutively during the research period (20). Based on these criteria, 9 sample companies were obtained with a total of 36 observations (9 x 4 years). Secondary data is obtained from the annual financial statements through the official website of www.idx.co.id, including information on closing share price, net profit, total assets, cash and cash equivalents, securities, current debt, total equity, and dividends per share. Profitability variable is measured using Return on Assets (ROA) = (Net Profit/Total Assets) x 100% (9). Liquidity is proxied by Cash Ratio = (Cash + Cash Equivalent + Securities/Current Receivables) x 100% (21). Solvency is measured by Equity to Asset Ratio = (Total Equity/Total Assets) x 100%. Dividend policy using Dividend Payout Ratio = (Dividend per Share/Net Profit per Share) (22). Data analysis uses Moderated Regression Analysis (MRA) with the following models:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 Z + \beta_5 X_1 Z + \beta_6 X_2 Z + \beta_7 X_3 * Z + e.$$

Prior to the analysis, classical assumption tests were carried out including normality (probability > 0.05), multicollinearity (VIF < 10), heteroscedasticity using the Glejser test (significance > 0.05), and autocorrelation with the Durbin-Watson test (23). Hypothesis testing used the F test (simultaneous) and the t-test (partial) with a significance level of 5%. The coefficient of determination (\mathbb{R}^2) is used to measure the model's ability to explain variations in dependent variables (24).

5. Result Statisitk Description

Descriptive Statistics are used to provide an overview of the characteristics in the study. The descriptive statistical table presents the minimum, maximum, mean, and standard deviation values of the variables Profitability, Liquidity, Solvency, Dividend Policy, Stock Price.

Normality Test

Normality tests are carried out to find out whether residual data is distributed normally. Based on the results of the normality test that has gone through the outlier and transformation process, it shows that the Shapiro Wilk value is 0.14 with N=25 which is the beginning of the sample is N=36. So it can be concluded that 0.14>0.05 so that the above data has been distributed normally and passed the normality test.

Multicollinearity Test

The multicollinearity test aims to find out if there is a strong relationship between independent variables by looking at the value of *Tolerance* and *Variance Inflation Factor (VIF)* <10. This study shows that there is no multicollinearity between variables.

Heteroscedasticity Test

This test is used to detect the presence or absence of symptoms of heteroscedasticity in the model. Heteroscedasticity occurs when the residual variance is not constant at all predictor levels, which can lead to inefficient parameter estimation and invalid statistical tests. Based on the Glejser test in this study, all variables had a significance value of >0.05 which means that heteroscedasticity did not occur.

Autocorrelation Test

The autocorrelation test aims to detect whether there is a relationship between correlations between residual values. The presence of autocorrelation can indicate that a regression model used does not fully meet classical assumptions, and is becoming less accurate. In this study, the Durbin Watson method was used which produced a DW value in the range that showed the absence of autocorrelation.

Moderate Regression Analysis (MRA)

MRA tests are used to see if moderation variables affect the relationship between independent and dependent variables. If the interaction of the two shows a significance of <0.05, then moderation is considered significant. A positive coefficient indicates a strengthening effect, while a negative coefficient indicates a weakening.

Table 1.

MRA Test Results (after Outlier and Transform Test)

Coefficients

Pattern		Non-Standa rd Coefficients		Standard Coefficients	t	Sig.
		В	Std. Error	Beta		_
	(Constant)	-23269,86	1685,151		-13,809	0
	X1_Profitabilitas	-4236,647	1735,647	-0,672	-2,441	0,026
	X2_Likuiditas	148,636	78,425	0,254	1,895	0,075
	X3_Solvabilitas	154,146	61,7	0,666	2,498	0,023
	Z_Dividen	7893,606	543,334	1,004	14,528	,000
	X1Z	100823,66	43570,985	0,783	2,314	0,033
	X2Z	-3338,249	2035,543	-0,251	-1,64	0,119
	X3Z	-4748,684	1785,544	-1,011	-2,66	0,017

a. Dependent Variable: Y_HargasSaham

Source: Data processed

Table 4.15 shows that the resulting equation is as follows:

 $Y = \alpha + \beta 1X1 + \beta 2X2 + \beta 3X3 + \beta 4Z + \beta 5X1*Z + \beta 6X2*Z + \beta 7X3*Z + \epsilon$

Y=-23269,86-4326,647+148,636+154,146+100823,66-3338,249-4748,684+E

Based on the table, it is known that the constant of -23269.86 indicates the value of the stock price when all independent and moderation variables are zero. The profitability regression coefficient (X1) of -4,236.647 shows a negative relationship with the stock price, while liquidity (X2) is 148.636 which means any increase or decrease in liquidity is 148.636, and solvency has a coefficient value of 154.146 and a positive coefficient,

which means it has a positive effect on the stock price. The interaction of profitability and dividends (X1Z) has a positive effect of 100823.66 on the stock price, while the interaction of liquidity and dividends (X2Z) has a value that shows any increase or decrease in moderation 2 of -3338.249 and solvency has a coefficient value of -4,748.684, which means that the dividend policy weakens the influence of solvency on the stock price. Assuming the other variable is constant.

Partial Test (t-test)

The results of the t-test showed that profitability had a negative effect on the stock price with a coefficient value of -4,236,647 and a significance value of 0.026. Liquidity shows that 0.075>0.05 then liquidity has no effect on the stock price. Solvency has a positive coefficient value and 0.023<0.05, then solvency has a positive impact on the stock price. The dividend policy moderates profitability and the stock price is 0.033<0.05, which means that the dividend policy can strengthen profitability against the stock price.

Moderation 2 has a sig of 0.119>0.05 which means that the dividend policy does not strengthen/weaken liquidity to the stock price. Furthermore, moderation 3 has a value of 0.017<0.05 with a positive coefficient, which means that the dividend policy weakens the solvency of the stock price.

Partial Test (F Test)

Based on the results of the F test, the results of the significance value of 0.001<0.05 were obtained. It shows that the regression model in this study is valid and can be used to predict stock prices.

Determination Coefficient Analysis (R2)

The results of the determination coefficient (R) test as seen from the Adjusted R Square are 0.750 which shows a very strong relationship between the variables Profitability, Liquidity, Solvency, and Dividend Policy to the Stock Price. On the other hand, the value of the R2 determination coefficient of 0.750 indicates that 75% of the variation in stock prices can be explained by independent variables, while 25% is influenced by factors other than the variables of this study.

6. Discussion

The Effect of Profitability on Stock Prices

The main findings show that profitability has a significant negative impact on stock prices, this indicates that an increase in a company's profits is not always viewed positively, especially if it is not accompanied by a clear profit distribution policy, profitability should be a strong performance indicator, but in this sector the signal seems to lack a positive response (4). The mismatch between profit trends and stock movements such as PRDA, PEHA, DVLA indicates that investors consider other factors such as sustainability, rather than just profit achievement.

The Effect of Liquidity on Stock Prices

The results of the study show that liquidity does not have a significant effect on the stock price of companies in the healthcare sector, although in theory high liquidity should reflect financial stability and give positive signals to investors, the reality is that it is still not strong enough to influence investment decisions. Investors seem to be more focused on usage efficiency and long-term growth prospects rather than just the size of cash reserves. Thus, high liquidity is not necessarily the main attraction in determining the value of a company's shares.

The Effect of Solvency on Stock Prices

The solvency aspect actually has a positive effect on the stock price of companies in the healthcare sector, so the third hypothesis is accepted. These findings indicate that the higher the company's ability to finance its assets with equity compared to debt, the lower the financial risk incurred, and this is well appreciated by the market as a positive signal (4), companies with less dependence on debt tend to be perceived as more stable, resistant to external pressures, and have high resilience in uncertain economic conditions.

The Effect of Profitability on Stock Prices with Dividend Policy as a Moderation Variable

The most significant aspect of this study lies in the role of dividend policy as a moderator variable that shows diverse patterns. Dividend policies have been shown to strengthen the relationship between profitability and stock prices, confirming the hypothesis that dividend distribution serves as a credible signal regarding the sustainability of earnings and the stability of a company's cash flow (25). The combination of high profitability and a consistent dividend policy creates a dual signal that strengthens Investor confidence in the company's ability to generate long-term returns.

The Effect of Liquidity on Stock Prices with Dividend Policy as a Moderation Variable

The results of the study show that liquidity has no effect on stock prices. This indicates that the company's ability to meet its short-term obligations is not strong enough to influence investors' perception of the value of the stock. The results of the moderation test show that the dividend policy is not able to strengthen or weaken the relationship between liquidity and stock prices. This means that even if the company distributes dividends, it does not change investors' perception of the value of the shares of a liquid company. These findings indicate that investors view liquidity and dividends as two financial elements that stand alone and do not reinforce each other in influencing their investment decisions(26).

The Effect of Solvency on Stock Prices with Dividend Policy as a Moderation Variable

The latter finding is that the role of dividend policy in weakening the solvency-share price relationship indicates that dividend distribution in companies with conservative capital structures creates negative signals. This condition can be interpreted as that investors expect companies with their own capital dominance to be more aggressive in reinvestment and business expansion than cash distribution to shareholders. The managerial implication of these findings is that dividend policy must be aligned with the company's financial characteristics and industry growth expectations in order to optimize its impact on stock valuations (27).

7. Conclusion

This research was conducted on 25 healthcare sector companies listed on the Indonesia Stock Exchange during the 2020-2023 period, after filtering data from 36 initial companies. The results of the study show that profitability (ROA) has a negative effect on stock prices, which indicates that the amount of return on assets has not been the main factor that investors in the healthcare sector pay attention to. Liquidity also has no effect on stock prices. This indicates that return on assets and cash availability have not been the main indicators in investor research. Solvency (EAR) has been proven to have a positive effect on stock prices. A high proportion of equity indicates a healthier financial structure and low risk, thus being a positive signal for investors and increasing the attractiveness of the company's shares.

In addition, this study also found that dividend policy plays a role as a moderation variable that strengthens the influence of profitability on stock prices. This means that the profit distributed in the form of dividends signals the company's trust and commitment to shareholders. However, the dividend policy has not sufficiently influenced investor perception. Meanwhile, the dividend policy actually weakens the relationship between solvency and stock prices, because dividend distribution can reduce retained earnings as a component of equity, thereby lowering the solvency ratio. These findings confirm the importance of a balance between profit sharing and strengthening the company's capital structure.

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