Trading frequency affects coal mining share returns trading volume and market capitalization

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Abstract

This study analyses the effect of trading frequency, trading volume, and market capitalization on stock returns in the Coal Mining sector listed on the Indonesia Stock Exchange. The sample in this study amounted to 4 companies selected using the purpose sampling method. The analytical tool used is SPSS version 23. Based on the analysis, the results show that trading frequency significantly affects stock returns. Trading volume has a substantial effect on stock returns. Market capitalization is having a significant impact on stock returns. The magnitude of the influence of the independent variable can affect the dependent variable, which is 45.5%, and the remaining 54.5% is influenced by other factors that are not included in the research model.

Keywords: trading frequency, trading volume, market capitalization, stock return

1.   INTRODUCTION

The economic advancement of a nation can be observed through the growth and improvement of its capital market (Putri et al., 2021). In the capital market, financial instruments, such as bonds and shares, are traded for long-term durations exceeding one year. The Composite Stock Price Index (IHSG) is a benchmark for investors to track the progress of the Indonesian capital market. The stock price index is a metric that displays fluctuations in stock prices. The index serves as a gauge of market trends, indicating the state of the market at any particular time, whether it is active or slow (Sri Handini & Erwin Dyah Astawinetu, 2020).

Prior research has established the impact of trading frequency on stock returns. Variable of trading frequency has a beneficial effect on stock returns (Baldauf & Mollner, 2020). The findings of this study are in direct opposition to the findings, which concluded that the variable of trading frequency had no impact, individually or collectively, on stock returns (Blankespoor et al., 2020). Variable of trading volume has a positive coefficient or effect on stock returns (Niawaradila et al., 2021),

Variable of market capitalization has a favorable impact on stock returns (Ilham et al., 2022). Market capitalization variable hurt stock returns, contradicting the current statement (Pedron et al., 2021). The author selected coal industry businesses as research subjects due to Indonesia's abundant natural resources. Coal firms play a crucial role in supplying energy to power plants in the future. Coal is a primary energy source for Indonesia and Asian countries due to its plentiful supply and cost-effectiveness. Given its crucial significance, the Batu Bara company is anticipated to sustain its operations in the foreseeable future. Furthermore, this is due to the substantial market capitalization of Coal Companies. Researchers have determined that this company is ideal for investors seeking to make long-term investments with their wealth.

2.   LITERATURE REVIEW

Signal theory elucidates how a corporation should transmit signals to stakeholders with vested interests (Zhang et al., 2020). This signal conveys information regarding the actions undertaken by the company to fulfill the desires of investors. Signals can manifest as crucial data that indicates a company's superiority over rival companies. In addition, information might be obtained from external sources, such as the government, which can indirectly impact the organization.

According to Law No. 8 of 1995 on Capital Markets, capital markets refer to all activities related to offering and trading securities, public corporations issuing securities, and organizations and professions associated with securities. The capital market is perceived as a method of expediting the gathering of funds for development finance by collecting funds from the public and directing them towards productive sectors.

Stock trading frequency refers to the frequency at which buying and selling transactions of specific shares occur during a given period (Pramudya, 2020). In stock exchange or capital market activities, the trading frequency is crucial to gauge how the market responds to new information being introduced into the capital market. Studying the evolution of stock prices and the frequency of stock trading operations in the capital market is crucial for understanding market behavior and making informed transaction decisions (Hossain & Siddiqua, 2022).

Trading volume refers to the quantity of shares or securities bought and sold on the capital market during a specific timeframe (Abbas et al., 2022). Market capitalization, or market cap, is a financial phrase representing the total value of a company's shares. It is the price at which someone must purchase all of the company's shares to acquire the entire firm (Fridson & Alvarez, 2022). Stock return refers to the anticipated rate of return on investments made in various groupings of shares through a portfolio Siegel. Investors are driven to invest in a chosen financial instrument with the expectation of receiving a suitable return. Investors will naturally be disinclined to invest if they do not perceive any advantages or gains that can be derived from their investment. Regardless of duration, every investment aims to generate a profit known as a return, either directly or indirectly.

The frequency of stock trading significantly impacts the quantity of shares in circulation. Shares with high trading volume are believed to be influenced by vigorous stock transactions, which is a result of significant investor interest. The rising frequency of trading transactions, driven by strong demand, will propel share prices upwards, increasing stock returns (Adhitya & Sembel, 2020).

Trading volume refers to the quantity of shares bought and sold in the market. Trading volume is crucial for investors as it indicates a company's degree of liquidity. Capacity Significant stock activity indicates high investor demand for the stock. Trading volume represents the quantity of shares bought and sold during a specific timeframe (DeFusco et al., 2022). Stock trading volume is crucial in determining the magnitude of share price fluctuations. An increase in share prices will have a beneficial impact on stock returns. Specifically, when share prices rise, stock returns also increase. Investors are typically drawn to shares with a high market capitalization. Investors tend to hold onto their shares longer when the stock has a higher market capitalization. This is because investors believe that larger companies are more financially stable, have lower risk, and have promising long-term prospects, which may result in significant returns (Afifah & Syafruddin, 2021).

3.   METHOD

This study employs quantitative research methodologies. Quantitative methodology involves collecting numerical observational data, which is then evaluated using statistical techniques to test a hypothesis (Sugiyono, 2017). This study was carried out at companies in the Coal Mining Sector that are listed on the Indonesia Stock Exchange. The data is sourced from Market Data, Historical Reports on Daily Stock Movements, and other data gathered and published by the ICMD (Indonesian Capital Market Directory) website, accessible at www.idx.co.id.

4.   RESULT AND DISCUSSION

Multiple Linear Regression Analysis

Table 1. Multiple Linear Regression

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std.Error	Beta		

1	(Constant)	,018	,038		,486	,628
	SQRT_X1	,019	,006	,470	3,025	,003
	SQRT_X2	3,050	1,088	,341	2,803	,006
	SQRT_X3	0,00003504	,000	,481	4,347	,000

From the table above, a regression equation can be formulated to determine the effect of trading frequency, trading volume, and market capitalization on stock returns as follows:

$$Y = 0.018 + 0.019X1 + 3.050X2 + 0.00003504\ X3 + e$$

Where :
Y = Stock Return
b. α = Constant
X1 = Trading Frequency X2 = Trading Volume X3 = Market Capitalization
e = Error
From the regression equation above, it can be explained as follows:
a. α = 0.018, meaning that if the independent variable is considered constant, the average return on shares owned by the sample companies is 0.018.
b. b1x1 = 0.019, meaning that if the trading frequency (x1) increases by 1%, a dip is expected to be followed by an increase in the stock return value of 0.019, assuming X2 X3 is constant.
c. b2x2 = 3,050, meaning if the trading volume (x2) increases by 1%, it is expected to be followed by an increase in the stock return value 3,050, assuming X1 X3 is constant.
d. b3x3 = 0.00003504, meaning if market capitalization (x3) increases by 1%, it will be followed by an increase in the stock return value of 0.00003504, assuming X1 and X2 are constant.

Based on the table of multiple linear regression test results above, the regression coefficient value is 0.019. This shows that the influence of trading frequency on stock returns is unidirectional.

The trading frequency variable (X1) has a calculated t of 3.025, more significant than the t table value of 1.65857 with a probability of 0.003. The significance value is smaller than the expected significant level (0.003<0.05). This shows that the trading frequency variable significantly affects stock returns in the new coal mining sector listed on the IDX for the period 02 January 2020-31 March 2020, so hypothesis H1 is accepted.

Based on the table of multiple linear regression test results above, the regression coefficient value is 3.050. This shows that the influence of trading volume on stock returns is unidirectional. The trading volume variable (X2) has a calculated t of 2.803, more significant than the t table value of 1.65857 with a probability of 0.006. The significance value is smaller than the expected significant level (0.006<0.05). This shows that the trading volume variable significantly affects stock returns in the new coal mining sector listed on the IDX for the period 02 January 2020-31 March 2020, so hypothesis H2 is accepted.

Based on the table of multiple linear regression test results above, the regression coefficient value is 3.504E-8. This shows that the influence of market capitalization on stock returns is unidirectional. The trading volume variable (X1) has a calculated t of 4.347, which is more significant than the t table value of 1.65857 with a probability of 0.000. The significance value is smaller than the expected significant level (0.000<0.005). This shows that the market capitalization variable significantly affects stock returns in the new coal mining sector listed on the IDX for the period 02 January 2020-31 March 2020, so hypothesis H3 is accepted.

Table 2. F Test result

	Model	Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	,726	3	,242		
	Residual	,818	108	,008	31,951	,000[b]
	Total	1,543	111			

From the SPSS output results above, it can be seen that the calculated F value of 31,951 is greater than the F table of 2.698, and the significance value of 0.000 is smaller than 0.05. This shows that trading frequency, trading volume, and market capitalization together (simultaneously) significantly influence stock returns.

Table 3. Determination Test

Model	R	R Square	Adjusted R Square	Std. Error of theEstimate
1	,656[a]	,470	,455	,08700

The SPSS Model Summary output above shows that the Adjusted R square value is 0.455. This means that 45.5% of the variation in stock returns is explained by variations in the three independent

variables: trading frequency, trading volume, and market capitalization. Meanwhile, other factors outside the model explain the remainder (100% -45.5% = 54.5%).

The data from coal mining sector companies listed on the IDX was transformed into square roots (Square roots) for the t-test analysis. From 02 January 2020 to 31 March 2020, it is evident that the variable representing trading frequency (X1) has a considerable and favorable impact on stock returns. The numerical worth substantiates this. The t-test indicates that the trade frequency variable has a significance level of 0.003, lower than the alpha value of 0.05. Conversely, the positive sign of the regression coefficient value of 0.019 suggests a direct relationship between an increase in stock trading frequency and an increase in stock returns.

This phenomenon arises due to the interplay between supply and demand. When the buying activity conducted by investors surpasses the selling activity, the share price will increase (Amin, 2020). Therefore, the rise in the closing price will increase stock returns. The findings of this study are corroborated by the findings of prior research, which concluded that the frequency of trading had a notable impact on stock returns (Baldauf & Mollner, 2020). The findings of this study indicate that augmenting the quantity of stock trading transactions conducted on the stock exchange floor will lead to a rise in stock returns. By increasing the frequency of trading transactions, which leads to a higher demand, share prices will rise, resulting in increased share returns.

The t-test was conducted on the coal mining sector companies listed on the IDX by translating the data into square roots. From January 2, 2020, to March 31, 2020, it is evident that the variable representing trading volume (X2) has a substantial and favorable impact on stock returns. This is supported by the t-test significant value of 0.006 for the trade volume variable, which is lower than the alpha level of 0.05. Conversely, the positive sign of the regression coefficient value of 3.050 indicates a direct relationship between a rise in stock trading volume and an increase in stock returns. The more significant number of shares traded on the stock exchange implies vigorous trading and increases investors' desire to possess these shares. This will stimulate a surge in share demand, leading to a subsequent rise in stock returns.

Variable of stock trading volume had a beneficial impact on stock returns (Niawaradila et al., 2021). The data from coal mining sector companies listed on the IDX was transformed into square roots (Square Root) for the t-test analysis. From January 2, 2020, to March 31, 2020, it is evident that the market capitalization variable has a statistically significant and favorable impact on stock returns. This is supported by the t-test considerable value of 0.000 for the market capitalization variable, which is lower than the alpha level of 0.05. Conversely, the positive sign of the regression coefficient value of 0.00003504 indicates a direct relationship between growth in stock market capitalization and increased stock returns.

This is because a higher market value of a share signifies that these shares are the top performers in the capital market. Investors typically focus on stocks with substantial market capitalization for long-term investment due to the company's significant growth potential, dividend payment, and relatively low-risk exposure. Due to considerable demand, stock prices tend to be elevated, leading to a potential rise in stock returns. Market Capitalization has a favorable and substantial impact on stock returns (Handayani et al., 2022). That a significant market capitalization would increase the company's stock gains.

After translating the data into square roots, the statistical analysis involved applying the F Test to the data from coal mining industry companies listed on the IDX. From January 2, 2020, to March 31, 2020, it is evident that the variables of trading frequency, trading volume, and market capitalization all substantially impact stock returns. This is supported by the F-test significance value of 0.000, less than the alpha value of 0.05.

This phenomenon can be attributed to the rise in the frequency of trading activities, often driven by high demand, resulting in an upward push in share prices and, consequently, higher stock returns. A substantial trading volume indicates high investor interest in these shares (Sukesti et al., 2021). Stock trading volume is crucial in determining the magnitude of stock price fluctuations. An upward movement in stock prices will favorably impact stock returns. In other words, if stock prices grow, there will be a subsequent rise in stock returns. Investors are typically attracted to companies with a high market capitalization. When choosing stocks. Investors tend to keep onto their shares longer when the stock has a higher market capitalization. This is because they believe that larger companies are more financially secure, have lower risk, and have promising long-term prospects, which increases the likelihood of significant profits Badía.

The study finds that trading frequency factors, trading volume, and market capitalization have a simultaneous and considerable influence on stock returns (Krisdayanti & Zakiyah, 2021). Therefore, it can

be inferred that the factors employed in this study are appropriate for serving as a criterion in assessing stock returns for investment purposes. The coefficient of determination test, specifically the Adjusted R square, indicates that trading frequency, trading volume, and market capitalization collectively account for 45.5% of the observed influence. In comparison, the remaining 54.5% is attributed to other variables.

5.   CONCLUSION

From the analysis and discussion presented, it can be concluded that trading frequency, trading volume, and market capitalization influence stock returns in coal mining sector companies listed on the Indonesia Stock Exchange.
  a. The frequency of trading notably impacts the returns of stocks in the coal mining sector listed on the Indonesia Stock Exchange.
  b. The trading volume notably impacts the stock returns in the coal mining sector listed on the Indonesia Stock Exchange.
  c. The market capitalization of coal mining companies listed on the Indonesian Stock Exchange notably impacts their stock performance.
  d. Trading Frequency, Trading Volume, and Market Capitalization collectively substantially impact stock returns, accounting for 45.5% of the variation in stock returns. The remaining 54.5% of the variation is attributable to other factors.

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