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Effect Stock Volatility and Trading Volume on Stock Returns in Transportation and Logistics Sector Companies Listed on the Indonesia Stock Exchange for the Period 2021-2023

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ABSTRACT: This research aims to test the data and explain the influence of stock volatility and trading volume on stock returns in transportation and logistics sector companies for the period 2021-2023. The type of this research is quantitative research. The research sample consists of several companies in the transportation and logistics sector selected through purposive sampling based on specific criteria. Based on the purposive sampling method, 25 samples were obtained from 37 companies in the transportation and logistics sector listed on the Indonesia Stock Exchange for the period 2021-2023. The analysis method used is panel data linear regression analysis, hypothesis testing, and the coefficient of determination (R^2). The results indicate that stock volatility and trading volume can increase stock returns in the transportation and logistics sector.

KEYWORDS: Volatility, Trading Volume, Stock Return

INTRODUCTION

The geopolitical escalation in the Middle East has had a significant impact on the transportation and logistics industry, which in turn has disrupted the supply chain of the global economy. Changes in energy prices due to disruptions in this area are likely to affect the transportation and logistics sector, which relies heavily on oil, and could lead to an increase in global oil reserves. The International Monetary Fund (IMF) forecasts a 3.1% change in the global economy for 2023. Energy commodity prices and global distribution through the Red Sea are reportedly likely to be affected by continued geopolitical tensions in the Middle East, according to the World Bank and OECD. If the previously mentioned trends continue, it will be clear that geopolitical tensions in the Middle East are a major obstacle to economic development and, thus, stock market performance. Due to how easily sensitive information is traded in the stock market, investors will be more receptive to signals to buy stocks. Investors' uncertainty over buying, selling, or purchasing their shares can lead to fluctuations in stock prices

The daily trading activity of individual investors affects stock returns. Stock prices are affected by the amount of trading activity in the capital market. Stock market performance is also affected by stock returns, or the return on their investment in stocks. An attractive return indicates that the company is doing well, increasing the likelihood that investors will put their money into the business. A return that is too low indicates that the company is not doing well, which discourages investors from putting their money into the company. Investors make stock returns as a measure to indicate capacity or not.

Stock price volatility is the effect of time on the fluctuations (ups and downs) of stock prices in the stock market. High volatility may indicate that the market is unstable, so investors should not trade. On the other hand, low volatility may indicate that the market is stable, making it easier for investors to trade. Market volatility is still heavily influenced by external variables such as geopolitical events, although investors may still use intermediaries to speed up trading. The stock market is known to be quite volatile during times of significant political instability.

Investors should pay attention to the trading volume of a stock as this shows the impact of the product being sold in the market. An important factor for investors to consider before making a financial investment is the degree of certainty of the potential returns. Trading volume refers to the total shares sold on the main market at the price set by the company selling and buying shares. This relates to investors' interest in making a profit when selling shares. Relatively low trading volume indicates a lack of investor interest in investing in stocks, while relatively high trading volume reflects significant interest from many investors to buy and sell stocks.

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Previous research findings that look at the variables that affect stock returns with varying degrees of success are the basis for this study. Research(Kalovwe et al., 2021) , stock volatility can show a positive relationship with stock returns. This is contrary to research that found that volatility has no effect on returns(Zada, 2021) , which suggests that the market experiences large price fluctuations when volatility is relatively low. According to research by(Tanimu, 2024) , good and bad news will also increase stock volatility and returns in many scenarios involving microeconomics, which is necessary for stock price growth. Research by(Iqbal & Riaz, 2015) states that there is no negative correlation between stock returns and trading volume in influencing the stock market. Contrary to research(Zada, 2021) which shows a significant relationship between trading volume and stock returns.

METHODS

This study uses a type of verification research with a quantitative approach to study populations or samples, using research instruments to collect and analyze data, and test hypotheses(Sugiyono, 2019). The subjects used are transportation and logistics sector companies listed on the Indonesia Stock Exchange. Sampling was carried out using a non-probability method using purposive sampling technique, there were 25 companies that met the criteria of 37 transportation and logistics sector companies for the 2021-2023 period

In this study using IBM SPSS Statistic 26 software to process data. Data analysis in the form of panel data linear regression aims to test the hypothesis using partial test (t-test) and the coefficient of determination (R^2).

RESULTS AND DISCUSSION

Descriptive Statistical Analysis

Descriptive statistical analysis is a data analysis technique to explain data in general or generalization, by calculating the minimum value, maximum value, average value (mean), and standard deviation (Sugiyono, 2019).

Table 2: Descriptive Statistical Analysis Results

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
X1	75	12.410	403.139	66.07857	76.977223
X2	75	.003	102.139	9.19568	13.925049
Y	75	-.920	8.928	.47120	1.727218
Valid N (listwise)	75				

Source: SPSS 26 Output

Based on table 2, the value of Stock Volatility has a minimum value of 12,410 and a maximum of 403,139, with an average (mean) of 66.07857 and a standard deviation of 76.977223. For Trading Volume, the minimum value is 0.003, the maximum is 102,139, with an average of 9.19568 and a standard deviation of 13.925049. Stock Return shows a minimum value of -.920 and a maximum of 8.928, with an average of 0.47120 and a standard deviation of 1.727218.

Classical Assumption Test

Linear regression analysis on panel data is performed using Ordinary Least Squares (OLS). To ensure that the resulting regression model is correct, unbiased, and consistent.

Normality Test

The normality test aims to test whether the regression model, the dependent variable and the independent variable both have a normal distribution or not. The normality test in this study was carried out using the One-Sample Kolmogorov-Smirnov test. The test criteria are if the significance value is> 0.05, then the data is considered normally distributed.

Table 3: Normality Test Results

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		75
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	1.61083704
Most Extreme Differences	Absolute	.222

	Positive	.222
	Negative	-.131
Test Statistic		.222
Asymp. Sig. (2-tailed)		.080[c]

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.
Source: SPSS 26 Output

Based on table 3 of the normality test results above, the Asymp Sig value. (2-tailed) value obtained is 0.080 (> 0.05), it can be concluded that the regression method in this study has met the classical assumptions.

Multicolonierity Test

Problems that may arise in the use of panel data regression equations are multicollinearity, which is a condition where the independent variable is correlated with other independent variables or an independent variable is a linear function of other independent variables.

The existence of multicollinearity can be seen from the tolerance value or the variance inflation factor (VIF) value. If the Variance Inflation Factor (VIF) value is not more than 10 and the tolerance value is below 1, the model is free from multicollinearity.

Table 4: Multicolonierity Test Results

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	-.209	.282		-.739	.462		
	X1	.006	.002	.250	2.276	.026	.998	1.002
	X2	.034	.014	.271	2.460	.016	.998	1.002

a. Dependent Variable: Y
Source: SPSS 26 Output

Based on table 4 of the multicolonierity test results above, the Stock Volatility variable has a tolerance value of 0.998 (> 0.10) and a VIF value of 1.002 (< 10), Trading Volume has a tolerance value of 0.998 (> 0.10) and a VIF value of 1.002 (< 10). So it can be concluded that in the two variables in this study, namely Stock Volatility and Trading Volume, there is no multicollinearity between the two variables.

Heteroscedasticity Test

The heteroscedasticity test is carried out to determine whether in the regression model there is an inequality of variance from the residuals of one observation to another. Heteroscedasticity testing can be detected by looking at the plot graph between the predicted value of the dependent variable (ZPRED) and its residuals (SRESID). If the points on the scatter plot form a certain regular pattern, it can be indicated that heteroscedasticity has occurred.

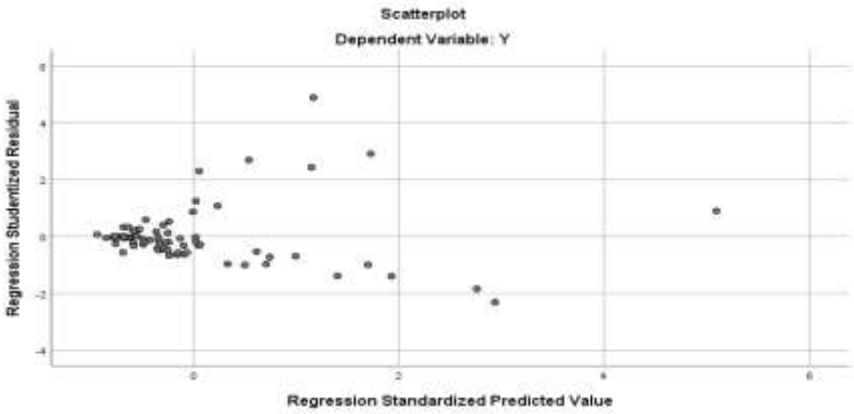

Figure 1: Heteroscedasticity Test Results
Source: SPSS 26 Output

Based on Figure 1 of the heteroscedasticity test results above using the scatter plot, it can be seen that the points spread randomly and are scattered above or below or above the number 0 on the Y axis. So in general it can be concluded that in this regression model there is no heteroscedasticity.

Autocorrelation Test

The autocorrelation test is one type of regression analysis that is used to identify the correlation between two variables before testing. To test for autocorrelation using the Durbin-Watson test (DW Test)

Table 6: Autocorrelation Test Results

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.361[a]	.130	.106	1.633057	2.251

a. Predictors: (Constant), X1,X2

b. Dependent Variable: Y

Source: SPSS 26 Output

Based on the results of the data above, it is known that the DW value is 2.251, this Durbin Watson value is located between 1.68 - 2.32, this indicates that in this research model there is no autocorrelation. So it can be concluded that there is no autocorrelation in this model because the calculated D-W value is between 1.68 and 2.32, which is 2.251.

Panel Data Linear Regression Analysis

The results of the panel data regression equation can be done by interpreting the numbers in the unstandardized coefficient beta. Based on the results of data processing using SPSS, an analysis can be carried out which will be explained as follows:

Table 8: Data Linear Regression Analysis Results

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Correlations			Collinearity Statistics	
		B	Std. Error	Beta	T	Sig.	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	-.209	.282		-.739	.462					
	X1	.006	.002	.250	2.276	.026	.239	.259	.250	.998	1.002
	X2	.034	.014	.271	2.460	.016	.260	.278	.270	.998	1.002

a. Dependent Variable: Y

Source: SPSS 26 Output

Based on table 8 of the panel data linear regression analysis results, the following equation is obtained:

$$\mathbf{Y = - 0.209 + 0.006X_1 + 0.034X_2 + €}$$

Based on the panel data regression equation above, several things can be interpreted, among others:

1) If the two independent variables, namely Stock Volatility and Trading Volume are zero or do not change, then the amount of Stock Return is -0.209.
2) If Stock Volatility increases by 1 unit and other independent variables are constant, then Stock Return increases by 0.006.
3) If the Trading Volume increases by 1 unit and the other independent variables are constant, then the Stock Return increases by 0.034.

Hypothesis Test

Hypothesis testing aims to analyze the influence between independent and dependent variables, and serves as a basis for determining acceptance or rejection in the hypothesis.

Partial Test (t Test)

The t test is conducted to determine the effect of each independent variable consisting of Stock Volatility and Trading Volume on Stock Returns. The following shows the results of data processing using SPSS:

Table 9: Partial Regression Coefficient Test Results (t test)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.209	.282		-.739	.462		
	X1	.006	.002	.250	2.276	.026	.998	1.002
	X2	.034	.014	.271	2.460	.016	.998	1.002

a. Dependent Variable: Y

Source: SPSS 26 Output

Based on the data processed by SPSS data above, the following explanation is obtained:

1. The Stock Volatility variable has a significance value of 0.000 less than 0.026. So it can be said to be significant, the t value with a positive direction of 2.276 so it can be concluded that there is a significant positive effect of Stock Volatility on Stock Returns in transportation and logistics sector companies.
2. The Trading Volume variable has a significance value of 0.016 less than 0.05. So it can be said to be significant, the t value with a positive direction of 2.460 so it can be concluded that there is a significant positive effect of Trading Volume on Stock Returns in transportation and logistics sector companies.

Coefficient of Determination (R^2)

The coefficient of determination is used to determine the closeness of the relationship between the independent variable and the dependent variable. The value of R^2 lies between 0 and 1 ($0 \leq R2 \leq 1$).The purpose of calculating the coefficient of determination is to determine the effect of the independent variable on the dependent variable. From the data analysis, the following results were obtained:

Table 10: Test Results of the Coefficient of Determination (R^2)

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.361[a]	.130	.106	1.633057	2.251

a. Predictors: (Constant), X2, X1

b. Dependent Variable: Y

Source: SPSS 26 Output

Based on the test results above, it is known that the R square value is 0.130. This means that 13.0% of Stock Returns in transportation and logistics sector companies. influenced by the two independent variables used, namely Stock Volatility and Trading Volume, while the rest is influenced by other factors outside the research model.

DISCUSSION

The Effect of Stock Volatility on Stock Returns

The results showed that stock volatility was able to increase stock returns in transportation and logistics sector companies listed on the IDX for the period 2021-2023. This shows that the higher the stock volatility, the higher the stock return and vice versa, the lower the stock volatility, the lower the stock return.

According to research(Kalovwe et al., 2021) , there is a positive relationship between stock volatility and stock returns. This is contrary to research that found that volatility has no relationship with stock returns(Zada, 2021) , which suggests that the market sees large price fluctuations when volatility is relatively low. The existence of demand and supply determines stock prices. If investor demand for a stock increases, its price will rise; conversely, if demand falls, its price will fall.

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High volatility often attracts speculative investors who seek profit opportunities from large stock price movements. The transportation and logistics sector often faces dynamics such as fuel price changes, government regulations, and demand fluctuations that can raise market expectations, resulting in higher returns.

The Effect of Trading Volume on Stock Returns

The results showed that an increase in trading volume has good potential for Stock Returns in transportation and logistics sector companies listed on the IDX for the 2021-2023 period. This shows that the higher the Trading Volume, the higher the Stock Return and vice versa, the lower the Trading Volume, the lower the Stock Return.

Research(Zada, 2021) research which states that stock trading volume greatly affects stock returns. Stock trading volume is the total number of shares of a particular equity sold in the market each day at a price set by sellers and buyers. Increased trading volume is often taken as a sign that important information is being processed by market participants. If volume rises along with price changes, it may reinforce investors' confidence in the direction in which the stock is moving.

CONCLUSION

The results of this study can be summarized as follows:

1. Stock Volatility is able to increase Stock Returns in transportation and logistics sector companies for the period 2021-2023 . High volatility often attracts speculative investors who seek profit opportunities from large stock price movements. This can drive up stock prices, especially in the short term.
2. An increase in trading volume has good potential for Stock Returns in transportation and logistics sector companies for the period 2021-2023. The higher the trading volume, the higher the stock return and vice versa, the lower the trading volume, the lower the stock return. If the volume rises along with price changes, this can strengthen investor confidence in the direction of stock movement.

Based on the discussion and conclusions above, the researcher can convey several suggestions:

1. Investors are advised to make stock volatility and trading volume an important consideration in making investment decisions. In addition to technical indicators, investors should also pay attention to company fundamentals and macroeconomic conditions that can affect stock performance.
2. For companies, it is expected to maintain transparency of information and financial performance in order to attract investors and reduce uncertainty in the market, as well as adopt flexible operational strategies to minimize the impact of market volatility on the company's share price.
3. For further research, it is hoped that it can examine independent variables such as interest rates, inflation, financial ratios, market sentiment and use more innovative analysis methods so that research will make it clearer what affects changes in stock prices and profits in investin

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