ANALYSIS OF TRADING VOLUME AND STOCK RETURNS BEFORE AND AFTER STOCK SPLIT IN MANUFACTURING COMPANIES LISTED ON THE INDONESIA STOCK EXCHANGE FOR THE 2019–2023 PERIOD

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Abstract

This study aims to examine the differences in trading volume and stock returns before and after stock splits in manufacturing companies listed on the Indonesia Stock Exchange (IDX) during the period 2019–2023. The population of this study includes all manufacturing companies listed on the IDX during the specified period. The sample was selected using a purposive sampling method, resulting in 11 companies that met the criteria. The analytical method used is the difference test with an observation period of 10 days before (t-10) and 10 days after (t+10) the stock split. Hypothesis testing was conducted using the Paired Sample t-Test for normally distributed data and the Wilcoxon Signed Rank Test for non-normally distributed data. The results show a significant difference in trading volume before and after the stock split, while no significant difference was found in stock returns before and after the stock split.

Keywords : Trading Volume, Stock Return, Stock Split

INTRODUCTION

The capital market plays a crucial role in the economy as it serves as a bridge between those who need funds and those who have a surplus of funds that can be invested to generate profits. The main objective of investing in the stock market is to earn greater returns on the invested capital. Although capital market investments tend to offer higher returns compared to real asset and money market investments, they also carry a higher level of uncertainty (Romadhon & Septiyanti, 2024).

Corporate actions refer to any activity that results in a material change within an organization or company and has an impact on stakeholders, including both common shareholders and bondholders (Kusuma Negara et al., 2024). One of the corporate actions taken by a company is a stock split. In simple terms, a stock split refers to dividing existing shares into a larger number of shares with a lower nominal value per share, as an effort to adjust the stock price to a level considered appropriate (Komang et al., 2020).

Between 2019 and 2023, only 11 out of 171 manufacturing companies listed on the Indonesia Stock Exchange (IDX) carried out a corporate action in the form of a stock split. This disparity indicates that stock splits are still relatively uncommon. This phenomenon can be linked to the characteristics of such corporate actions, which are typically undertaken by companies with positive performance prospects, causing their stock prices to rise and become less affordable for some investors. The stock split is the sole corporate action that serves as the focus in this context, particularly within the manufacturing sector, where it is relatively rare due to the fact that not all companies have stock prices high enough to justify a split.

The number of manufacturing companies conducting stock splits fluctuated between 2019 and 2023. In 2019, there were 2 companies that executed a stock split, which increased to 3 companies in 2020. In 2021, the number declined to 2 companies, but rose again to 3 companies in 2022. However, in 2023, the number dropped significantly, with only 1 company recorded as having carried out a stock split. These changes reflect the dynamic nature of corporate policies in responding to market conditions and each company's internal strategies.

The variables analyzed in this study include trading volume and stock returns, which are measured based on the ten-day period before and the ten-day period after the stock split implementation. This observation period was selected to eliminate potential biases caused by external factors such as dividend announcements, financial reporting, and changes in economic policy, which may influence trading volume and stock returns over a broader time frame.

Based on the research conducted by Kusuma Negara et al. (2024) and (Romadhon & Septiyanti (2024), there is a significant difference in trading volume before and after the stock split event. In contrast, the study by (Ni Made Indah Mentari et al., 2022), shows different results, indicating no significant difference in trading volume before and after the stock split. Meanwhile, the research conducted by (Nababan et al., 2023), indicates a significant difference in stock returns before and after the stock split. However, (Irvangi & Fitria Rahmani, 2022) revealed that there was no difference in stock returns before and after the stock split.

LITERATURE REVIEW

Stock Split

A stock split is a process carried out to increase the number of outstanding shares by dividing existing shares into several portions with a lower par value. This process leads to a proportional decrease in the price per share while simultaneously enhancing stock liquidity.

According to Dewi Restanti & Safitri Anjani (2023), stock splits are conducted for various purposes, including increasing the number of outstanding shares through a split-up (upward split) or, conversely, reducing the number of shares in the market through a split-down (reverse split), in order to manage stock prices and liquidity in line with the company's strategic objectives.

Trading Volume

According to (Dwi Putri & Kharisma, 2020), stock trading volume indicates the total number of stock transactions that occur in a single day on the market, based on price agreements between buyers and sellers. The higher the volume of supply and demand for a particular stock, the greater its impact on stock price fluctuations on the stock exchange. An increase in trading volume reflects growing public interest in the stock, which can subsequently influence an increase in the stock price or return (Iswanti et al., 2021).

State that stock trading volume can be measured using Trading Volume Activity (TVA), which reflects the liquidity level of a stock Irvangi & Fitria Rahmani (2022). The formula used is as follows:

$$TVA = \frac{Jumlah\ saham\ yang\ diperdagangkan}{Jumlah\ saham\ beredar}$$

Furthermore, the average TVA during the observation period can be calculated using the following formula:

$$\Sigma TVAt = \frac{\Sigma TVA}{n}$$

Return Saham

Stock return is the difference between the selling price or current price and the purchase price or initial period price (Mangantar et al., 2020). The higher the stock return, the more likely the firm's value increases; conversely, if the return declines, the firm's value also tends to decrease (Parawansa et al., 2021).

According to (Adriani & Nurjihan, 2020), there are two main components of stock return: yield and capital gain (or loss). Yield refers to the periodic income received by investors, generally in the form of dividends distributed by the company. Meanwhile, capital gain and capital loss represent changes in stock price, reflecting the profit or loss resulting from the difference between the selling and purchase prices of the stock. The formula used to calculate stock return is as follows:

$$R_{it} = \frac{P_{it} - P_{t-1}}{P_{t-1}}$$

Furthermore, the average stock return during the observation period can be calculated using the following formula:

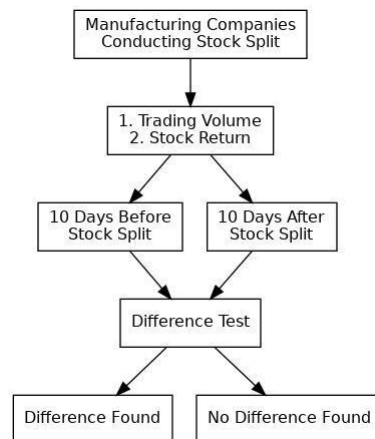$$\overline{R} = \frac{\Sigma R_t}{n}$$

Theoretical Framework

Figure 1
Conceptual Framework Paradigm

H_{01}	:	There is no significant difference in trading volume before and after the stock split.
H_{a1}	:	There is a significant difference in trading volume before and after the stock split.
H_{02}	:	There is no significant difference in stock returns before and after the stock split.
H_{a2}	:	There is a significant difference in stock returns before and after the stock split.

RESEARCH METHODOLOGY
Research Design
This study adopts a quantitative research design, utilizing both descriptive and inferential statistical methods to examine whether there is a statistically significant difference in stock returns and trading volume before and after stock split events. The analysis covers a 20-day event window, comprising 10 trading days before and 10 trading days after the stock split implementation.

Population and Sample
The population of this study includes all manufacturing companies listed on the Indonesia Stock Exchange (IDX). During the observation period from 2019 to 2023, a total of 11 manufacturing firms were identified as having conducted a stock split.

The sample was determined using a purposive sampling technique, based on the following criteria:
1. The company is classified under the manufacturing sector and listed on the IDX.
2. The company executed a stock split between 2019 and 2023.
3. No other corporate events (e.g., stock dividends, rights issues) occurred during the event window that could potentially affect stock price or trading volume.
4. The company's shares were actively traded during the 10 days before and 10 days after the stock split. This short-term window is employed to capture the immediate effect of the stock split and to minimize potential bias.
5. The company provides complete and accessible data required for the analysis.

Based on these criteria, the following companies were selected as the research sample:

Table 1. Research Sample

No.	Code	Company Name	Stock Split Date	Rasio
1	MARK	Mark Dynamics Indonesia Tbk	11-02-2019	1:5
2	PTSN	Sat Nusapersada Tbk	04-07-2019	1:3
3	UNVR	Unilever Indonesia Tbk	02-01-2020	1:5
4	BELL	Trisula Textile Industries Tbk	03-08-2020	1:5
5	SIDO	Industri Jamu dan Farmasi Sido Muncul Tbk	14-09-2020	1:2
6	HOKI	Buyung Poetra Sembada Tbk	18-02-2021	1:4
7	GOOD	Garudafood Putra Putri Jaya Tbk	09-07-2021	1:5
8	MLIA	Mulia Industrindo Tbk	15-07-2022	1:5
9	EKAD	Ekadharma Internasional Tbk	22-08-2022	1:5
10	TPIA	Chandra Asri Pacific Tbk	23-08-2022	1:4
11	TCID	Mandom Indonesia Tbk	06-06-2023	1:2

Source: www.idx.com

Data Collection Techniques
This study utilizes secondary data of a historical nature. The data were obtained from the official website of the Indonesia Stock Exchange (https://www.idx.co.id/en), which provides information regarding listed companies that conducted stock split activities. In addition, Yahoo Finance (https://finance.yahoo.com) was used to collect historical data on stock prices and trading volume before and after the stock split events.

Data Analysis Techniques
Data analysis refers to the process of systematically processing and organizing data obtained from various sources, including documents and official records, in order to make the information understandable and communicable to others (Rizky Fadila & Ayu Wulandari, 2023).

Descriptive Statistics
According to (Sholikhah, 2016), descriptive statistics are used to present data in its actual form without drawing general conclusions about the overall population. In this study, descriptive statistics are applied to calculate measures such as the mean, minimum and maximum values, and standard deviation.

Normality Test

The normality test is used to assess the distribution characteristics of the data for the observed variables. In this study, the Shapiro–Wilk test is employed, as the number of observations (n = 11 companies) is less than 50, making it suitable for small sample sizes.

Hypothesis Testing

Hypothesis testing is conducted to determine whether a given assumption about the dataset is supported by the sample evidence. The choice of hypothesis testing method in this study is based on the results of the normality test: If the data follow a normal distribution, the Paired Sample t-Test is used. If the data do not meet the assumption of normality, the Wilcoxon Signed-Rank Test is applied as a non-parametric alternative.

RESULTS AND DISCUSSION

Descriptive Statistics

Descriptive statistics refer to statistical methods used to describe or summarize the characteristics of collected data, whether derived from a population or a sample, without drawing further conclusions or generalizations. In this study, descriptive statistics include the calculation of mean, maximum, minimum, and standard deviation for each research variable.

Table 2. Descriptive Statistics Results

	N	Minimum	Maximum	Mean	Std.Deviation
Trading Volume (Before)	11	0.000112	0.286337	0.03119	0.08515
Trading Volume (After)	11	0.000020	0.026465	0.003325	0.00774
Stock Return (Before)	11	-0.00624	0.03138	0.00775	0.01092
Stock Return (After)	11	-0.027736	0.01726	-0.002163	0.01261

Source: Processed data, 2025

Table 2 shows that the average trading volume before the stock split (0.03119) was higher than after the stock split (0.003325). In addition, the standard deviation of trading volume decreased from 0.08515 to 0.00774, indicating that trading activity became more stable.

Meanwhile, the average stock return before the stock split was 0.00775, which declined to -0.002163 after the stock split. The standard deviation increased from 0.01092 to 0.01261, suggesting a slight increase in return volatility.

Normality Test

Normality Test of Trading Volume

Table 3. Shapiro-Wilk Normality Test for Trading Volume

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Trading Volume Before	.431	11	.000	.411	11	.000
Trading Volume After	.417	11	.000	.456	11	.000

a. Lilliefors Significance Correction

Source: Processed using SPSS version 27, 2025

In Table 3, it can be observed that the significance value for trading volume before the stock split is 0.00, which falls below the 0.05 significance threshold. A similar result is also found for the post-split period. These findings indicate that the trading volume data do not follow a normal distribution. Therefore, the hypothesis testing is conducted using a non-parametric approach, specifically the Wilcoxon Signed Rank Test.

Table 4. Shapiro-Wilk Normality Test for Stock Return

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Stock Return Before	.269	11	.025	.859	11	.056
Stock Return After	.120	11	.200*	.977	11	.950

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Source: Processed using SPSS version 27, 2025

Based on Table 4, the significance value of stock return before the stock split is 0.056, which exceeds the 0.05 threshold. A similar result is observed for the post-split return, also with a significance value of 0.056 > 0.05. These normality test results indicate that the stock return data are normally distributed. Therefore, hypothesis testing for the stock return variable is conducted using the parametric Paired Sample t-Test.

Hypothesis Testing

Difference Test of Trading Volume

Table 5. Wilcoxon Signed Rank Test for Trading Volume

Ranks

		N	Mean Rank	Sum of Ranks
Trading Volume Before - Trading Volume After	Negative Ranks	11[a]	6.00	66.00
	Positive Ranks	0[b]	.00	.00
	Ties	0[c]		
	Total	11		

a. Volume Perdagangan Sesudah < Volume Perdagangan Sebelum

b. Volume Perdagangan Sesudah > Volume Perdagangan Sebelum

c. Volume Perdagangan Sesudah = Volume Perdagangan Sebelum

Source: Processed using SPSS version 27, 2025

Table 5 presents the hypothesis testing conducted using the Wilcoxon Signed Rank Test. The results show that, across all 11 samples, trading volume decreased after the stock split compared to the period before the split. This is reflected in the number of Negative Ranks (n = 11), with a mean rank of 6.00 and a sum of ranks of 66.00. There were no samples showing an increase in trading volume (Positive Ranks = 0) or no change (Ties = 0). These findings indicate that all companies in the sample experienced a consistent decline in trading volume following the stock split.

Table 6. Results of the Wilcoxon Signed Rank Test

Test Statisticsᵃ

	Trading Volume Before – Trading Volume After
Z	-2.934[b]
Asymp. Sig. (2-tailed)	.003

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

Source: Processed using SPSS version 27, 2025

Based on the results presented in Table 4.7, the Asymp. Sig. (2-tailed) value is 0.003, which is below the 0.05 significance level. This indicates that there is a significant difference in trading volume between the periods before and after the stock split. Therefore, the null hypothesis is rejected, and the alternative hypothesis is accepted.

Difference Test of Stock Return

Table 7. Results of the Paired Sample t-Test

Paired Samples Test

		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	Stock Return Before - Stock Return After	.0099 1	.02079	.00627	-.00405	.02388	1.5 82	10	.145

Source: Processed using SPSS version 27, 2025

Based on the results shown in Table 7, the significance value (2-tailed) is 0.145, which is greater than the 0.05 significance threshold. Therefore, the null hypothesis (H₀) is accepted, and the alternative hypothesis (Hₐ) is rejected. This indicates that there is no significant difference in stock returns before and after the stock split.

DISCUSSION
Analysis of the Difference in Trading Volume
According to the Trading Range Theory, stock splits are conducted with the aim of lowering stock prices to bring them within a more affordable range for investors particularly retail investors enhancing market liquidity, and encouraging an increase in trading activity, which is reflected in the Trading Volume Activity (TVA) indicator.

The results of the Wilcoxon Signed Rank Test, presented in Table 4.7, show an Asymp. Sig. (2-tailed) value of 0.03, which is below the significance level of 0.05 (0.03 < 0.05). Therefore, the null hypothesis (H_0) is rejected, and the alternative hypothesis (H_1) is accepted. This indicates a significant difference in trading volume (TVA) before and after the stock split among manufacturing companies listed on the Indonesia Stock Exchange (IDX) during the 2019-2023 period.

Although the difference is statistically significant, the direction of change in TVA indicates a decline after the stock split. This finding does not support the Trading Range Theory, which suggests that stock splits, by reducing stock prices, would increase investor interest and thereby boost trading activity. In contrast, the results show a relative decline in share-level trading activity. This implies that investor interest following the stock split was not strong enough to drive a proportional increase in liquidity relative to the number of shares outstanding in the market.

These results are consistent with previous studies by Kusuma Negara et al. (2024) and Romadhon & Septiyanti (2024), both of which also found a significant difference in trading volume before and after stock splits.

Analysis of the Difference in Stock Returns
According to return theory, the level of profit obtained from stock investments is a key factor influencing investors' decisions to invest. In this study, stock return is used as an indicator to evaluate the condition before and after the stock split event. Return is calculated by comparing the closing price of the stock on the current trading day with the closing price of the previous trading day.

Based on the results of the Paired Sample t-Test presented in Table 4.8, the significance value (2-tailed) is 0.145. Since this value exceeds the significance threshold of 0.05, it can be concluded that there is no statistically significant difference in stock returns before and after the stock split. In other words, the null hypothesis (H_0) is accepted, and the alternative hypothesis (H_1) is rejected. These findings apply to the sample of manufacturing companies listed on the Indonesia Stock Exchange (IDX) during the period 2019 to 2023.

According to Signaling Theory, a stock split policy may be interpreted as a positive signal from management to investors, reflecting the company's optimism about future performance prospects. However, the findings of this study do not support that view. While such signals are expected to prompt a positive market reaction reflected through an increase in stock return this study found that the market did not respond significantly to the stock split announcements. This may be due to the perception that the corporate action did not convey new information regarding the company's fundamentals.

These results are consistent with previous research by Irvangi & Fitria Rahmani (2022), which also found no significant difference in stock returns before and after the stock split.

CONCLUSION
Based on the results of data analysis and discussion in the previous chapter, the following conclusions can be drawn:
1. Based on the Wilcoxon Signed Rank Test, the significance value obtained is 0.003 < 0.05, indicating a significant difference in trading volume (TVA) before and after the stock split among manufacturing companies listed on the Indonesia Stock Exchange (IDX) during the period 2019–2023. This finding suggests that the stock split policy contributed to increasing stock liquidity in the market. Thus, the alternative hypothesis (H_1) is accepted.
2. Based on the Paired Sample t-Test, the significance value obtained is 0.145 > 0.05, indicating that there is no significant difference in stock returns before and after the stock split for manufacturing companies listed on the IDX during the same period. This suggests that the stock split policy did not have a meaningful impact on the rate of return on investment. Thus, the alternative hypothesis (H_1) is rejected.

SUGGESTIONS
Based on the conclusions drawn from this study, the following suggestions are offered:
1. For companies, it is advisable to consider the short-term impacts of a stock split corporate action on trading volume and stock returns, as changes in stock price structure may influence investor perception when making investment decisions. Taking this into account, a stock split strategy is

expected not only to improve stock liquidity in the market but also to attract investor interest more effectively and create a positive image of the company's performance in the eyes of the public.

2. For investors, it is recommended to pay attention to changes in trading volume and stock returns as indicators of market liquidity and performance following a stock split, before making investment decisions. This aims to minimize risks and maximize potential returns.

3. For future research, it is suggested to expand the variables under study, such as by including abnormal returns and volatility, to provide a more comprehensive overview of the impact of stock splits on trading volume and stock returns.

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