

STOCK SPLIT AND STOCK MARKET REACTION: THE EVIDENCE OF INDONESIAN PUBLIC COMPANY

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Abstract

Purpose of study: Go Public Company can raise funds for its operations through the sale of shares to investors. But if the stock price is too high, it can make the investors are not interested in buying stock. Stock market value can be reduced by the stock-split. This study aims to examine the effect of the stock split on abnormal return, stock price; trading volume and security return variability in the go public company on the Indonesia Stock Exchange.

Methodology: Researchers use data from 41 companies that were taken by purposive sampling from 2013 to 2016. The hypotheses in this study were tested using a Paired sample t-test.

Result: The researcher found that the stock split event causes the difference between the stock price, trading volume and security return variability between before and after the stock split. But the results found that the stock split did not cause any differences between the abnormal return before and after the stock split.

Application: The results of this study can provide an overview of the relationship between stock split events with stock prices and stock trading volumes.

Novelty/Originality of this study: This research using different methods compare with previous, namely multiple discriminant analysis. The multiple discriminant analysis methods are part of the discriminant analysis, which is a multivariate technique that includes the dependence method, namely the presence of variables.

Keywords: *Stock Split, Abnormal Return, Stock Price, Trading Volume, Security Return Variability.*

INTRODUCTION

The Capital Market, which has developed quite rapidly in Indonesia in recent years, has made capital market players aware that the trade can provide a good return while at the same time contributing greatly to their country's economic development. This causes more and more people to participate in the world of capital markets with the increase of companies going public. For investors, the capital market is one place to invest money through the purchase of securities such as stocks and bonds to get the expected return. As a result of the rapid development of the capital market in Indonesia, the role of accounting information is very important for investors because accounting information is one of the sources in conducting stock analysis and predicting prospects for future returns. So that it is expected that investors can make the right decisions and reduce the level of risk or uncertainty that might occur to achieve the desired goals in the investment ([Byun & Rozeff, 2003](#); [Kalay & Kronlund, 2012](#)).

The stock is one of the most popular securities instruments in the capital market and is one of the company's choices to fund the company and is chosen because it is an investment instrument that can provide attractive capital gains, namely the positive difference between the selling price and the purchase price. Shares and cash dividends received from the issuer because the company makes a profit. The investors in the capital market desperately need all information that can affect the rise and fall of stock prices in the capital market. Stock price fluctuations in the capital market can be influenced by the level of demand and supply for the stock price, financial condition or performance of a company and various other issues that can directly affect the profitability of the company in the future ([Kalay & Kronlund, 2012](#); [Payne & Thomas, 2003](#)).

[McNichols & Dravid \(1990\)](#) state that the market is said to be efficient if stock prices can quickly reflect all information available on the market. This means that the information can influence the rise and fall of the price of a stock. Stock market prices reflect the value of a company. Therefore, every company that issues shares is very concerned about the stock market price. Stock prices that are too low often mean that the company's performance is not good. However, if the stock price is too high, it will also cause adverse effects. Stock prices that are too high cause the stock is not liquid. The higher the stock market price, the smaller the stock can be bought by some investors. Therefore they want to have a fairly low market price so that they are within the ability of the majority of potential investors. To reduce the stock market value, the usual way is to do a stock split. Variability in profit level or security return variability (SRV) can be used to measure changes in stock prices. The variability of the profit level is used to see whether the market in aggregate assesses information or not information and events. If an event occurs and there is information that means it will lead to changes in the distribution of stock returns ([Byun & Rozeff, 2003](#); [Wang Sutrisno, Soffy Susilowati, & Francisca Yuniartha, 2000](#)).

A stock split is an activity carried out by a publicly-traded company to increase the number of shares outstanding by dividing the number of shares into more with the aim that the stock price is considered cheap or affordable by investors so that the sale of shares can be increased and can be owned by many investors. This Stock Split announcement is

considered as information about future good prospects given by management to the public. One of the measures of stock liquidity can be done by looking at the Trading Volume Activity (TVA). The stock split which makes stock prices cheaper is expected to be able to maintain stock trading levels in the optimal range and make stocks more liquid. Cheap stock prices will cause investors to buy them so that they will increase the volume of stock trading. The volume of stock trading is one tool that can be used to see whether or not there is a market reaction to a particular event. The effect of stock split on stock trading volume can be measured by Trading Volume Activity (TVA) ([Asquith, Healy, & Palepu, 1989](#)).

Companies that choose to issue shares are obliged to provide returns to investors. An investor who invests in a company will expect the return that will be obtained from the investment. Therefore the purpose of this research are: (a) to determine the effect of abnormal returns around the date stock split announcement, (b) determine the effect of stocks price around the date stock split announcement, (c) to determine the effect of stock split on trading volume activity companies listed on the Indonesia Stock Exchange (IDX).

LITERATURE REVIEW

The signal theory states that every event or event in the form of an announcement, corporate action, or publication about a company whether intentional or not, will have information content as a signal delivered to the market, one example of a stock split carried out by the company. The stock split here is a form of the signal given by the company to the market. Through this stock split, the company wants to provide information about the company's performance. The stock split announcement is considered as a signal given by management to the public that the company has good prospects in the future, namely the prospect of an increase in stock returns and liquidity in the future ([Chern, Tandon, Yu, & Webb, 2008](#)).

Trading range theory states that stock prices that are too high will cause less active shares to be traded in the capital market. Therefore, with the stock split, it is expected that the stock price will not be too high so that more potential investors are able to transact and result in increased liquidity of the shares. Stock split according to [Byun and Rozeff \(2003\)](#) is the breakdown of the number of shares into a larger number of shares by using a proportional nominal value per share in proportion. A stock split is carried out to keep the stock price not too high so that its shares will be traded more. This research is based on event studies. The event studies are studies that study the market's reaction to an event (event) whose information is published as an announcement. Event studies can be used to test the information content of an announcement and can also be used to test market efficiency in a half-strong ([Hart, Jacobson, & Tang, 2013](#)). An efficient capital market is defined as a capital market whose securities have reflected all information that occurs quickly and accurately. Investors always use the information available in making decisions so that their decisions are reflected in the prices they transactions ([Julio & Deng, 2005](#)).

Share prices are the value of evidence of equity participation in limited companies that have been listed on the stock exchange, where the shares have been outstanding (outstanding securities). Share prices can also be defined as prices formed from the interaction between sellers and buyers of shares that are motivated by their expectations of company profits. The closing price is the price requested by the seller or the last trading price for a period. According to [Byun & Rozeff \(2003\)](#) shares are a sign of capital participation in a limited liability company with the benefits obtained in the form of dividends, capital gains, and non-financial benefits, among others in the form of consequences for share ownership in the form of power, pride and especially voting rights in determining the course of the company.

Stock returns are income expressed in percentages of initial investment capital. The investment income includes the benefits of buying and selling shares. If the investment activity generates profit, it is called a capital gain, but if the resulting loss is called a capital loss. Abnormal return as the difference between the level of actual profit and the expected level of profit. Abnormal Return or excess return is the excess of actual return (the actual return) to the normal return. Normal return is an expected return. Thus abnormal return is the difference between actual return (actual return that occurs) and expected return. Stock trading volume is one tool that can be used to see whether or not there is a market reaction to a particular event, to see the effect of stock split on stock trading volume as seen from the relevant stock trading activity as measured by Trading Volume Activity (TVA). Variability in profit level or security return variability (SRV) can be used to measure changes in stock prices. Therefore variability in the level of profit is used to see whether the market in aggregate assesses informative or not information and events ([Payne & Thomas, 2003](#); [Stickel, 1991](#)).

HYPOTHESIS DEVELOPMENT

[Byun & Rozeff \(2003\)](#) who examined the stock split based on signaling theory states that the stock split contains information for investors about the prospect of increasing future returns. The increase in return is a signal regarding the company's short-term and long-term earnings. This stock split announcement is considered as information about future good prospects provided by management to the public. Abnormal return or excess return is the excess of the actual return that occurs to normal return. Normal return is the expected return (the return expected by the investor). Based on the description above, the following hypothesis is formulated:

H₁: There are differences in abnormal returns before and after the company conducts a stock split.

The company needs funds for its operational activities. One of the methods used is by selling shares. If the stock price is too high, the investor will buy smaller shares. Therefore, the company's management adds to the number of shares outstanding by distributing new shares to current shareholders with a lower value, or in other words, the company conducts a stock split (Beltratti, Bortolotti, & Caccavaio, 2012). Based on the above description, the following hypothesis can be formulated:

H₂: There are differences in stock prices before and after the company conducts a stock split.

Stock Split which makes the stock price cheaper is expected to be able to keep the stock trading level in the optimal range and make the stock more liquid. Cheap stock prices will cause investors to buy them so that they will increase the volume of stock trading (Pilotte & Manuel, 1996). Based on the description above, a hypothesis can be formulated:

H₃: There are differences in stock trading volume before and after the company has conducted a stock split.

Variability in the level of profit is used to see whether the market in aggregate assesses informative or not information and events. If an event occurs and there is information that means it will lead to changes in the distribution of stock returns. The stock split event is one of the events that can cause changes in stock prices. Changes in stock prices are expected to increase trading volume which ultimately has an impact on changes in stock returns (Lyroudi, Dasilas, & Varnas, 2006). Based on the description above, a hypothesis can be formulated:

H₄: There are differences in the variability of the profit level before and after the company conducts a stock split.

METHODOLOGY

This research used analysis method of test normality and to analyze differences in abnormal returns, stock prices, stock trading volumes, and variability of profit levels before and after the stock split used a different test (*Paired Sample t-test*) with an error rate of $\alpha = 5\%$ (Testing is done by looking at the significant t). The summary of operational variables displays in Table 1 and the research framework in Figure 1.

Table 1: Operational Variable

Variable	Operational Definition	Measurement
Abnormal return	Abnormal return or excess return is the excess of the actual return that occurs to normal return. Normal return is the expected return (the return expected by the investor). Thus the abnormal return (abnormal return) is the difference between the actual return and the expected return.	$AR_{i,t} = R_{i,t} - E(R_{i,t})$
Stock price	Share prices are the value of evidence of equity participation in limited companies that have been listed on the stock exchange, where the shares have been outstanding (outstanding securities). Share prices can also be defined as prices formed from the interaction between sellers and buyers of shares that are motivated by their expectations of company profits.	The closing price is the price requested by the seller or the last trading price for a period.
Trading Volume	The volume of stock trading is one tool that can be used to see whether or not there is a market reaction to a particular event.	The number of shares traded at time t The number of shares outstanding at time t
Variability in Profit	Variability in the level of profit is used to see whether the market in aggregate assesses informative or not information and events.	$SRV_{it} = \frac{(AR_{it})^2}{V(AR_{it})}$

RESULTS AND FINDINGS

The population of this study is manufacturing companies in Indonesia that have been listed on the Jakarta Stock Exchange and have split their shares. The method of determining the sample in this research will be done by a purposive sampling method, which is the determination of the sample based on the research objectives. The sample is taken non-randomly. The samples selected in this study were the invoicing companies that conducted a stock split in 2013 until the end of 2016. In accordance with the desired criteria in the definition of variables, as a sample of the study, there were 41 companies from the manufacturing industry that did a stock split during the time observation. The window period used in this study was 14 days consisting of 7 days before the stock split and 7 days after the stock split. Normality testing uses the Skewness and Kurtosis ratio. The testing criteria are: (a) Skewness = skewness ratio / standard skewness error, (b) Kurtosis ratio = kurtosis / standard error of kurtosis, (c) Data is normal if the skewness and kurtosis ratio values are in the range of -2 to 2 (d) the t-test is used to answer the first to the fourth hypothesis.

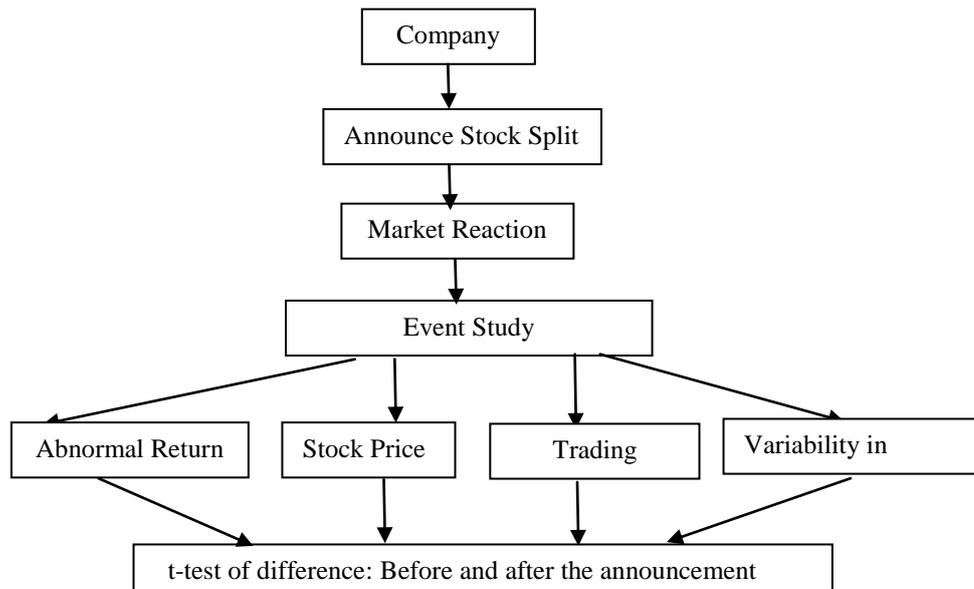


Figure 1: Research Framework

Based on the comparison table of the average test of abnormal stock return above, it can be seen that there are differences in abnormal returns in all periods before the stock split and after the stock split. But these results can be proven through statistical calculations. This is indicated by the probability value (Sig-t) which all values are above the significant level of 0.05. This means that there are significant differences in abnormal returns in all periods before and after the company conducts a stock split. This research was conducted to determine differences in abnormal returns and differences in trading volume activity before and after the date of the stock split announcement. The study was conducted on 41 companies that conducted stock split in the period 2013 - 2016. The analysis carried out was by observing changes in stock prices as measured by abnormal returns in the 7 days before the stock split announcement and the 7 days after the stock split announcement.

Results H_1 to determine the effect of stock split on the abnormal return of shares in the observation period (7 days and 7 days around the stock split). From the results of testing the hypothesis concluded that cumulatively, the average abnormal stock return is not different from zero. This implies the possibility that the stock split cannot create profits above normal. This supports the theory that stock split does not create value, but rather a simple strategy to enliven stock sales. In the observation period, a stock split is not done when the market price of a stock is too high but on the contrary, the stock price is quite low, so it is seen by investors that the stock split does not describe the prospect of bettering the company's condition but merely a strategy. To attract investors to buy their shares so that the shares can still exist in the market. Then it turns out that after the stock split the stock price does not move steadily but tends to decline so that no above-normal profit can be obtained following the announcement (Dennis & Strickland, 2003).

From the results of testing hypotheses using the two-sample for means pair test, it is known that; in the pair before the period with the stock split and when with the after stock split, it can be concluded that there is a significant difference between the average return before the stock split with the stock split and the time after the stock split. These results indicate that it appears that the stock split information has been absorbed before the announcement so that the market has anticipated before and by causing changes in demand for stocks. It was the change in stock demand that caused stock price fluctuations before the announcement of the stock split (Chern et al., 2008). And then the announcement was also reacted by the market after the announcement. This happened because of changes in demand for broken stocks, because of information that was spread unevenly in the market. In testing for a longer period pair that is before until after the stock split produces the conclusion that there is no difference between the average return before and after the stock split. This indicates that in the long observation period, the market is likely to be able to adjust to asymmetric information circulating in the stock price (Byun & Rozeff, 2003).

Hypotheses 2 suspect the possibility of stock price due to the stock split that will be received by the shareholders (within the observation period of 7 and 7 days before and after the stock split). By using the two-sample for means pair hypothesis testing method, the following results are obtained; in the pairing period before compared with the time of the stock split and when with the after the stock split, it can be concluded that there is a significant difference between the stock price before the stock split. These results indicate that the stock split information has been anticipated by the market prior to disclosure because the information is not evenly distributed (there is information asymmetry) so that abnormal stock price obtained by investors differ before the announcement (Devos, Elliott, & Warr, 2015). Then the market reacted after the announcement. Whereas in the pairing of the testing period before compared with after the stock split produces the conclusion that there are differences between stock price returns before compared to after the stock split. The test results indicate that in a long time (before until after the stock split), market expectations of prices equal to

the actual returns obtained so that there is no difference in stock price obtained around the announcement of the stock split. The test results in the period during the announcement with the days surrounding the announcement is the same with the results of the research conducted by [McNichols and Dravid \(1990\)](#), which resulted in the conclusion that there was the difference between stock prices during announcements and the days surrounding the announcement. The existence of differences in the results of the analysis is most likely to occur because of differences in the period of observation, namely when the Indonesian economy is in a stable state when the previous researchers conducted research, while when researchers researched the condition of the economy is experiencing a crisis. While in the pairing of the observation period before with after the stock split (resulting in the conclusion that there is a difference between stock prices before and after the stock split. This is possible because, in the longer term, the market has been able to adjust to the information published. So that it can be said that in a longer period of time, the announcement of a stock split is not enough to have information content that can be anticipated by the market so that it does affect the stock price, these findings are in line with research by [Lin, Singh and Yu \(2009\)](#).

Results of H_3 testing to know the impact of stock split on trading volume activity during the observation period (7 and 7 days before and after the stock split). From the results of testing the hypothesis with the pair two-sample method for the results obtained as follows; in the pairing period before and during the stock split, when with after the stock split and before with after the stock split, it can be concluded that there are differences between the volume of trading activity in each pair of periods. The findings for the two pairs of observation periods support the allegations, that the stock split announcement has a signal or information content that can lead to changes in stock trading volume activity.

These findings are also in line with the results of research by [Kim, Li, and Zhang \(2011\)](#), that the stock split was carried out when the sluggish capital market was able to increase stock liquidity in the stock exchange price. This is most likely because they only observed in a fairly short period of time for sampling so that the results obtained were representative of the population. The announcement of the stock split was able to influence its size Stock liquidity is uncertain capital market conditions due to the current crisis, even many days around the stock split that took place with trading activity. This condition is more due to the attitude of investors who tend to be more careful in making decisions to name their investments in the capital market ([Ikenberry, Rankine, & Stice, 1996](#)).

H_4 suspects the impact of stock split on the variability of profit in the observation period (3 and 7 days before and after the stock split). From the results of hypothesis testing using the pair two samples for means method, it is known that; in the pairing period before and during the stock split it can be concluded that there is no difference between variability profit between before and during the stock split. For the pairing period 7 days after the stock split results in the conclusion that there is a difference between the variability of the stock profit level after the stock split with the stock split. But for the 7 day observation period around the announcement, the reverse results were obtained. While in the pairing period before with the stock split, it was concluded that there was a significant difference between the variability of the profit level before and after the stock split. From the test results on the variability of the profit level strengthens the possibility that the stock split announcement does not have enough information content to influence investor preferences in investing, so there is no difference in the distribution of returns obtained around the stock split announcement. Except for the current period pairs with after the announcement in the 3-day observation period, it is known that there is a significant difference in the distribution of returns between the two ([Martinez & Castro, 2011](#); [Zhu & Xia, 2011](#)). This happens more because of adjustments to new prices that occur due to stock split, so the distribution of returns after the announcement in the short term changes. Of the three test results on variability, the profit level strengthens the possibility that the stock split announcement does not have information content to influence investor preferences in investing so that overall there is a difference in the distribution of returns obtained around the announcement of the stock split. It can be interpreted that the market in an aggregate rate the announcement of the stock split is more informative, which is seen from the differences in the distribution of stocks returns around the announcement.

Theoretically, the existence of the stock split will give an influence on the investor's judgment in making investment decisions, which will result in differences in stock trading activities before and after the announcement. In this study, the results were proven. As in the description above, in this study, there are differences in trading volume activity between before and after the existence of stock split, which means that the stock split turns out to have an effect on the stock trading volume of the companies listed on the Indonesia Stock Exchange.

CONCLUSION

A stock split is a change in the nominal value per share and increases the number of shares outstanding in accordance with the breakdown factor. A stock split is done when the stock price is overvalued, thereby reducing the ability of investors to buy it. The results of this study can prove empirically that the stock split policy affects stock prices. The stock split turns out to make the market react significantly. This shows that market participants have been able to distinguish economic value information that will provide benefits or not. The analysis of the paired-sample t-test for abnormal returns states that there are differences in abnormal returns within 7 days before the announcement of stock split and 7 days after the stock split. This is because the information was responded to by the public as indicated by a significant market reaction. The increase in the number of trading volume activity always increases after the announcement of the stock split. The increase due to the decline in stock prices turned out to attract investors to increase

the number of shares they owned. Changes in stock prices occur because the stock split increases trading volume, when viewed from the average trading volume before and after the announcement of the stock split there is a significant average difference.

Based on the results of the research stated above, some suggestions can be given as follows: (a) the stock split policy affects the abnormal return, but only occurs on certain days affecting stock returns so that investors can consider the stock splits as a policy that provides valid information about the company's prospects. In addition, investors should also consider the economic value of the policy so that they make the right decision. (b) Subsequent research needs to consider each investment opportunity as a moderating variable. (c) Further research needs to be done by analyzing according to industry groups of companies and other groups as a comparison, whether the type of industry also affects the results of the analysis so that the conclusions obtained will be more accurate.

LIMITATION AND STUDY FORWARD

The limitation of this study is that the sample used in this study is only 30 samples and the variables used are only four variables. The observation period used in this study is 7 days before and 7 days after stock split, so that a more precise observation period is needed. Future studies are suggested using more samples with more diverse characteristics from various independent variables such as stock performance, company capital structure and can extend the observation period so that researchers can see the market reaction much better.

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APPENDIX

Comparison Results of the Average T Test of Abnormal Return Before and After the Stock Split

Period	Before	After	Difference	t-calculate	P-value
7	0,01532	0,01075	0,02607	-0,102	0,0824
6	0,00879	0,00326	0,01205	1,821	0,0613
5	0,00102	0,00650	0,00548	1,883	0,0520
4	0,00324	0,00160	0,01484	1,447	0,0224
3	0,00455	0,00126	0,00329	-0,825	0,0141
2	0,00856	0,00781	0,01637	0,199	0,0084
1	0,04541	0,00704	-0,052445	0,290	0,0023

Comparison Results of the Average T Test of Stock Price Before and After the Stock Split

Period	Before	After	Difference	t-calculate	P-value
7	4,687	1,169	3,518	17,203*	0,002
6	4,660	1,185	3,475	16,679	0,002
5	4,677	1,203	3,474	16,457	0,001
4	4,678	1,208	3,470	16,493	0,003
3	4,686	1,217	3,469	16,342	0,001
2	4,728	1,192	3,536	16,257	0,001
1	4,582	1,193	3,389	12,535	0,000

Comparison Results of the Average T Test of Stock Trading Volume Before and After the Stock Split

Period	Before	After	Difference	t-calculate	P-value
7	16.714.337	19.123.647	-2.209.310	0,585	0,564
6	21.915.510	15.156.010	6.759.500	0,028	0,978
5	29.875.853	16.581.017	13.294.836	0,570	0,574
4	23.022.563	15.823.017	7.199.546	2,376	0,425
3	22.350.143	12.274.220	10.075.923	0,846	0,307
2	19.960.210	15.828.410	4.131.899	-0,302	0,165
1	22.954.893	13.667.463	9.287.430	1,659	0,108

Comparison Results of the Average T Test of Variability of Profit Before and After the Stock Split

Period	Before	After	Difference	t-calculate	P-value
7	1,06890	1,09071	-0,09281	-0,13712	0,0501
6	0,69341	0,81908	-0,08931	-0,10208	0,0473
5	0,88114	0,96379	-0,01876	-0,80976	0,0506
4	0,80082	0,98530	-0,00975	-0,03427	0,0223
3	0,60504	0,78999	-0,03451	-0,07423	0,0183
2	0,50984	0,59678	-0,08961	-0,08642	0,0003
1	0,58114	1,67022	-0,04281	-0,68912	0,0002