

## Analysis of Abnormal Return, Trading Volume, And Bid-Ask Spread At the Period of Stock Split Announcement

Dianingsih Putri Utami<sup>1</sup>, Nadia Asandimitra<sup>2</sup>

<sup>1</sup>(Alumni, Department of Management, Universitas Negeri Surabaya, Indonesia)

<sup>2</sup>(Lecturer, Department of Management, Universitas Negeri Surabaya, Indonesia)

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**Abstract:** This study aims to determine the market reaction to the announcement of stock split at the company's listing on the Indonesia Stock Exchange period 2015. The market reaction is indicated by the presence or absence of difference of abnormal return, trading volume, and the bid-ask spread before, during, and after the announcement of a stock split. Type of this research is an event study. The research sample as many as 8 companies based on purposive sampling. Tests conducted by a period of 7 days before and 7 days after the announcement of a stock split. This research data analysis techniques using paired sample t-test and Wilcoxon signed ranks test. The result show that there are differences of abnormal return in the period before-at the moment and at the moment-after stock split. There is no difference of abnormal return in the period before-after stock split. There is no difference of trading volume in the period before-at the moment and before-after stock split. There are differences of trading volume in the period at the moment-after stock split. There is no difference of bid-ask spread in the priode before-at the time, at the time-after, and before-after stock split.

**Keywords:** abnormal return, bid ask spread, stock split, trading volume

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### I. Introduction

Investment is the commitment of a number of funds or other resources is done at this time, with the goal of obtaining a number of advantages in the future (Tandelilin, 2010)[1]. An investor buy a stock at this time with the hope of gain from rising stock prices or the amount of dividends in the future, as a reward for the time and risk associated with these investments.

Tandelilin (2010) [1] argues that the capital market is a meeting between the parties that have excess funds to those who need funds by way of trade in securities. The capital market can also be interpreted as a market to trade in securities generally has a lifespan of more than one year, such as stocks and bonds. Capital markets can encourage the creation of an efficient allocation of funds, due to the capital markets then the excess funds (investor) can choose the alternative investments that provide the most optimal return.

Jogiyanto (2003) [2] argues that the key to an efficient market measure is the relationship between the prices of securities information. The question is where that information can be used to assess efficient market, whether the old information, the information being published or all of the information, including private information. Fama (1970) classifies the form of efficient markets in the Efficient Market Hypothesis (EMH), which is efficient in the form of weak, in the form of semi-strong efficient and efficient in the form of strong. The efficiency of the market in Indonesia is included in the form of semi strong. It is based on research that has been done by Mar'ati (2012)[3] which states that the Indonesian capital market efficiency theory for semi-strong form has been efficient, since the announcement of the increase and decrease in income affect the stock price changes in Indonesian capital market.

Any company that issued the shares very attentive to the market price of its shares. The share price is too low often means that the company's performance is not good. However, if the stock price is too high also cause unfavorable impact. The stock price is too high will reduce the ability of investors to buy, causing the stock price is difficult to increase again. To overcome this problem, many companies do a stock split. Which is the reason companies do stock splits is that the share price is not too high, so that the stock price is not too high will increase the trading liquidity.

The announcement of a stock split is one type of information published by the issuer company. The stock split announcement is one announcement which can be used to see a market reaction. If the stock split has information content, then the market will react to the announcement can be seen by doing event study.

Event study is the study of market reaction to an event that information is published as an announcement (Jogiyanto, 2003)[2]. Event study can be used to test the information content of an announcement and can also be used to test the efficiency of a semi-strong market. If an announcement information content, it is

expected that the market will react when the announcement was received by the market by the change in the price of the securities concerned.

This reaction can be measured using the return as a value change in price or using abnormal return. If using abnormal return, it can be said that an announcement that has information content abnormal return will provide to the market. Otherwise, do not contain information that would not give abnormal return to the market.

Stock split which makes the stock price becomes less expected to be able to maintain the level of trading in the range of optimal and make the stock more liquid. Cheap stock price will be a consideration for investors to buy the shares that will increase the volume of stock trading. The volume of stock trading is one indicator that can be used to see whether or not the market's reaction to an event that occurred.

As for other indicators that can be used to see the reaction of the capital markets in the event of stock split announcement of the bid-ask spread. Bid-ask spread is used to view the capital market reaction to the information through parameter differences or the difference between the highest price requested to buy at the lowest price offered to sell.

Islamiyahya and Herawati (2013)[4] states that there are no significant changes in abnormal return before and after stock split activity. This means the absence of investors who enjoyed a return that is not normal in the long term. There are significant differences in the stock trading volume activity before and after the stock split. This suggests that the activity of the company stock split effect on the price of shares outstanding and the number of shareholders.

This suggests that the activity of the stock split contain enough information that could affect investors in investing. There are significant differences bid-ask spread stock at the time before and after the stock split activity. This indicates that the stock split activity significantly influence the bid-ask spread. These conditions allow the market participants do not need to hold stocks for too long resulting in lower cost of ownership, which means narrowing bid-ask spreads and can affect the liquidity of the stock.

Kusumaningtyas and Yunita (2014)[5] states that the market reacted to the announcement of stock split even if the reaction is negative, marked by differences in abnormal return, cumulative abnormal return, trading volume activity before and after the announcement of stock split, but there was no difference between the bid-ask spread before and after the announcement of a stock split. Janiantari and Badera (2014)[6] states that there are differences in abnormal return and bid-ask spread before and after the announcement of a stock split.

The information entered into the capital market, sooner or later will affect the market as reflected by the change in the price, to see the effect of the price change, this study uses a period of 7 days before and 7 days after the announcement of the stock split and the stock split to find out how far given by the company influence the decisions of investors to buy shares of the events surrounding the stock split.

Based on the background described above, it can be some formulation of the problem is whether there is a difference of abnormal return before until now, when until after, and before until after the announcement of stock split in 2015; whether there are differences in the volume of trade prior to the time, when until after, and before until after the announcement of stock split in 2015; whether there are differences in the bid-ask spread before until now, when until after, and before until after the announcement of stock split in 2015.

## **II. Literature And Development Hypothesis**

### **2.1. Signaling Theory**

According to Fahmi (2012)[7], signaling theory is a theory that saw the signs on the condition that describes a company. That the stock split described the condition of a healthy company, especially in terms of financial companies. Because logically we could not even consider a company conducts a stock split if he is in unhealthy condition or full stock (shares fall) companies that conduct stock split is a company that has a good performance.

Signaling theory states that any corporate action or event associated with a company has the potential charge information as a signal. If the announcement is a good signal for investors it will briefly unsettled the market changes in the volume of stock trading (Wistawan and Widanaputra, 2013)[8]

### **2.2. Trading Range Theory**

Trading range theory explains that the stock split was done to keep the share price range that is not too high and is expected to increase the liquidity of the stock transactions (Wistawan and Widanaputra, 2013)[8]. Trading range theory states that the stock split will increase the liquidity of stock trading. The stock market price reflects the value of a company. The higher the stock price, the higher the value of the company otherwise. However, if the stock price is overvalued would affect the ability of investors to buy shares, so that the effect as if the stock price is difficult to increased again. According to the Trading range Theory stock price is considered too high will lead to reduced activity of shares to be traded (Isnurhadi, 2010)[9]

## **2.3. Relationship between Variables**

### **2.3.1. Abnormal Return**

Abnormal return is the difference between actual returns (actual return) and expected return (expected return). The difference of the two returns can be the difference between positive and negative difference. If abnormal return is positive, the actual return or the actual return greater than the return expected by investors, and vice versa if the abnormal return is negative.

The actions taken by the company in the form of a stock split can be interpreted as a signal given by the company about the existence of good prospects coming future. According to Fama, Fisher, Jensen and Roll (1969) states that the stock price becomes cheaper caused many transactions to be conducted so that stock prices change frequently and may provide opportunities to earn abnormal returns for investors.

This relates to signaling theory Fahmi (2012)[7], that the theory see signs of conditions that describe a company. That the stock split described the condition of a healthy company, especially in terms of financial companies.

Before the stock split carried the stock price is overvalued by investors and create investor interest will be reduced in the transaction so that stock trading will result in abnormal stock return obtained by the small investor. After the stock split carried out share prices become cheaper, so investors interested in buying shares and re-actively traded shares, thus increasing the number of transactions stock trading higher stock prices are formed and the investor may obtain Abnormal Return of shares optimal (Azhar et al, 2013)[10]

Pamenang (2012)[11] concluded that the abnormal return experienced a significant difference in the time period before the moment, when-after and before-after. This means that the market responded negatively on the stock split announcement, so investors assume that such information is bad news.

### **2.3.2. Trading Volume**

The volume of stock trading is one indicator of market reaction to an announcement. Trading volume activity (TVA) is an instrument that can be used to see the reaction of the capital markets to the information through parameter stock trading volume (Marwan et al, 1998)[12]. The size of the average TVA change between before and after the stock split is a measure of the size of the consequences caused by the stock split of the stock trading volume (Azhar et al, 2013)[10].

Before the stock split carried out by the company, the stock price is overvalued which makes it less active stock trading done by the investors and stock trading volume is small. The size of the effect of the stock split on stock trading volume seen on the size of the number of shares traded (Weston and Copeland, 1997)[13]. After solving Shares do stock prices become cheaper so that investors re-interested in trading transactions that a company's stock trading volume will increase.

This relates to the trading range theory that explains that the stock split was done to keep the stock price range is not too high and is expected to increase the liquidity of the stock transactions (Wistawan and Widanaputra, 2013)[8].

Research conducted by Pamenang (2012)[11] concluded that the trading volume decreased in the period of observation before-time, time-after, and before-after so that there is a difference. This happens because many investors wait and see, and not trading during the period of observation.

### **2.3.2. Bid-Ask Spread**

Bid-ask spread as the difference between the lowest ask price) and the highest bid price, reflecting transaction costs incurred by market participants. At the time of high stock market price before the stock split which causes less actively traded stock, order processing costs and inventory holding cost as a component of the bid-ask spread becomes greater. Instead after the split in which the stock price becomes cheaper and attract more investors, the component costs reduced bid-ask spread. If the bid-ask spread is reduced (less transaction costs), this means the lowest selling price was decreasing and / or the highest purchase price is being increased so that the possibility of a larger transaction that will ultimately improve the liquidity of the stock (Islamiyahya and Herawati, 2013)[4].

At the time of the stock split to decrease bid-ask spread, where the decrease was mainly due to the stock split information on the capital market has been spread evenly. Already the prevalence of information about stock split, investors have started interested to invest so that the stock has started a passionate and ownership costs borne by smaller traders. This relates to the trading range theory that explains that the share price reflects the value of a company (Isnurhadi, 2010)[9].

After the stock split when compared to the stock split occurs when an increase in the spread, this increase is more due to information about stock split of outstanding events are not evenly distributed so that dealers will only enter into transactions with investors who already have information about the stock split, this has resulted in increased ownership costs borne by the trader. But after the stock split when compared with

before the stock split decline against the spread, the decline occurred due to the spread of information about stock split is spread evenly in the stock market so that investors have started passionate in the transaction.

Rokhman (2009)[14] concluded that in the period before the moment and when the announcement after the stock split there is a difference, while in the period prior to the announcement after the stock split there is no difference. This indicates that in the period before until after no increase in the bid-ask spread the ownership costs borne by smaller traders.

Based on the theoretical basis, and previous research framework, the hypotheses proposed in this study are as follows:

- H1a: There is a difference of abnormal return before until moment stock split announcement.
- H1b: There is a difference of abnormal return moment until after stock split announcement.
- H1c: There is a difference of abnormal return before until after stock split announcement.
- H2a: There is a difference of trading volume before until moment stock split announcement.
- H2b: There is a difference of trading volume moment until after stock split announcement.
- H2c: There is a difference of trading volume before until after stock split announcement.
- H3a: There is a difference of bid-ask spread before until moment stock split announcement.
- H3b: There is a difference of bid-ask spread moment until after stock split announcement.
- H3c: There is a difference of bid-ask spread before until after stock split announcement.

### III. Research Methods

This research is a research study of events (event study). Window period used in this study was 14 days, 7 days prior to the announcement of stock split and 7 days after the announcement of a stock split. In this study the sources of data used are secondary data from PT. Indonesian Central Securities Depository, the Indonesia Stock Exchange and Yahoo Finance.

Data used in this study is quantitative data in the form of a list of stock prices, the Jakarta Composite Index (JCI), stock trading volume, number of shares outstanding, the price of buying interest shares and the selling price of shares in the company's interest is being investigated. The population in this study is a company listed on the Indonesia Stock Exchange that the stock-split in 2015 which amounted to 14 companies.

The samples in this study using purposive sampling method took samples which have been determined based on the intent of the study. The five criteria for a sample is the one that the company does not undertake stock split more than once during the observation period.

The variables used in this study, include: Abnormal Return, Trading Volume and Bid-Ask Spread..

#### a. Abnormal Return

Abnormal return is the difference between actual returns and expected return. The difference of the two returns can be the difference between positive and negative difference (Wistawan and Widanaputra, 2013)[8]. Thus the abnormal return is the difference between actual returns that occur with return expectations, as follows:

$$AR_{i,t} = R_{i,t} - E(R_{i,t}) \tag{1}$$

Explanation:

- AR<sub>i,t</sub> = abnormal return of securities in the event period
- R<sub>i,t</sub> = return realization happens to all securities in the event period
- E(R<sub>i,t</sub>) = return expectation of securities in the event period

$$R_{i,t} = \frac{P_t - P_{t-1}}{P_{t-1}} \tag{2}$$

Explanation:

- R<sub>i,t</sub> = return of stock i on day t
- P<sub>i,t</sub> = the closing price of stock i on day t
- P<sub>i,t-1</sub> = the closing price of stock i on day t-1

Return expectations (E(R<sub>i,t</sub>)) is calculated using market-adjusted model equations. By using this model, it is not necessary to use the estimation period, because the return of securities to be estimated is the same as the market index return. This model can be calculated with the following formula:

$$R_{i,j} = RM_j \tag{3}$$

Explanation

- R<sub>i,j</sub> = return realization of securities i in the estimation period j
- RM<sub>j</sub> = return on the market index estimation period j

Return on the market index estimation period j (RM<sub>j</sub>) can be calculated using the formula:

$$R_{Mj} = \frac{IHSg_j - IHSg_{j-1}}{IHSg_{j-1}} \quad (4)$$

Explanation:

IHSg is the composite stock price index.

#### **b. Trading Volume**

The volume of stock trading is one indicator of market reaction to an announcement. Trading volume activity (TVA) is an instrument that can be used to see the reaction of the capital markets to the information through parameter stock trading volume (Suryawijaya et.al, 1998)[12]. TVA can be measured with a formulation as follows:

$$TVA = \frac{\text{Number of shares } i \text{ traded time } t}{\text{Number of shares } i \text{ outstanding at time } t} \quad (5)$$

#### **c. Bid-Ask Spread**

According to Rubin (2007) [15] bid-ask spread is calculated daily for changes in the liquidity of shares tend to dramatically throughout the year, so it is used the annual average daily bid-ask spread. The formula for calculating the bid-ask spread is as follows:

$$Bid \text{ ask spread} = \frac{ask_{i,t} - bid_{i,t}}{(ask_{i,t} + bid_{i,t})/2} \quad (6)$$

Explanation:

Bid-ask spread = the value of the difference in price and the selling interest rates stock

Bidit = price of buying interest stock i closing period t

Askit = price of selling interest stock i closing period t

### **IV. Data Analysis**

This research data will be analyzed in the following order:

#### 1. Analysis I

Analysis I in this study to determine whether there are differences in abnormal returns around each announcement of stock split. Steps in data analysis are as follows:

- a. Calculated daily stock returns of each stock during the period of observation. According to Jogiyanto (2007)[16] the stock return is formulated equation (2)
- b. Calculating portfolio returns usual daily market represented by IHSg according Jogiyanto (2007) [16] equation (4)
- c. Calculate the expected return of each stock using market-adjusted model equations during the observation period. This method was chosen because it was considered easier for follow market prices and does not require a determination of the estimated period. While other methods have more difficulties in forecasting returns and the length of the estimation period. Market-adjusted model can be calculated using equation (3)
- d. Calculate abnormal return of each stock during the period of observation. According to Jogiyanto (2007: ) [16] by using equation (1)

#### 2. Analysis II

Analysis II in this study to determine whether there are differences in trading volume around each announcement of stock split. The first step in analyzing the data is to calculate the volume of trade as measured by trading volume activity (TVA) equation (5):

#### 3. Analysis III

Analysis III in this study to determine whether there are differences in the bid-ask spread around each announcement of stock split. The first step in analyzing the data is to calculate the bid-ask spread equation (6)

#### 4. Analysis IV

Before testing the hypothesis will be tested first data normality. The test is performed to determine whether the data were normally distributed or not. To detect the normality of the data can use SPSS namely the Kolmogorov-Smirnov Goodness of Fit Test. Statistical tests have been due more sensitive for detecting normality compared with tests using graphs.

Normality test is also used to determine the type of subsequent analysis tool used in analyzing the different test (parametric and non-parametric) if the data is known to normal then the next test to make use of different parametric paired sample t-test. However, if the data is not normal, then the next test using a different non-parametric Wilcoxon signed rank test. If the study shows a significant level of > 5% then the

normal distribution of data. However, if a significant level of  $< 5\%$ , then the data are not normally distributed.

5. Analysis V

Analysis V in this study to test the hypothesis by performing two ways, namely:

a. Significance Test

Tests of significance using One Sample t-Test, which tests the value of an observation based on one sample. The test is to see whether there is a difference of abnormal return, trading volume and bid-ask spreads during the third period of observation that is before-at the moment, at the moment-after, and before-after. The steps in the test One Sample t-Test as follows:

- 1) Formulate hypotheses.
- 2) Determine the level of significance ( $\alpha$ ) = 5%.
- 3) Perform testing with test equipment OnevSample t-Test.
- 4) Criteria for testing:

Based on comparison of Tcount with Ttable:

$H_0$  accepted if  $|T \text{ count}| \leq |T \text{ table}|$ .

$H_1$  accepted if  $|T \text{ count}| > |T \text{ table}|$ .

Based on the value of probability:

$H_0$  accepted if the probability value ( $p$ )  $> 0,05$ .

$H_1$  accepted if the probability value ( $p$ )  $\leq 0,05$ .

b. Hypothesis testing.

From the results of data normality test, then test the hypothesis stage is taken if the data were normally distributed, then the technique two different test paired samples used are Paired Sample t-Test. Steps in the Paired Sample t-Test as follows:

- 1) Formulate hypotheses.
- 2) Determine the level of significance ( $\alpha$ ) = 5%.
- 3) Perform testing with test equipment Paired Sample t-Test.
- 4) Criteria for testing:

Based on comparison of Tcount with Ttable:

$H_0$  accepted if  $|T \text{ count}| \leq |T \text{ table}|$ .

$H_1$  accepted if  $|T \text{ count}| > |T \text{ table}|$ .

Based on the value of probability:

$H_0$  accepted if the probability value ( $p$ )  $> 0,05$ .

$H_1$  accepted if the probability value ( $p$ )  $\leq 0,05$ .

If the data are not normally distributed, then the technique two different test paired samples used were Wilcoxon Signed Rank Test which is a non-parametric statistical tests. The steps in the Wilcoxon Signed Rank Test as follows:

- 1) Formulate hypotheses.
- 2) Determine the level of significance ( $\alpha$ ) = 5%.
- 3) Perform testing with test equipment Paired Sample t-Test.
- 4) Criteria for testing:

Based on comparison of Tcount with Ttable:

$H_0$  accepted if  $|T \text{ count}| \leq |T \text{ table}|$ .

$H_1$  accepted if  $|T \text{ count}| > |T \text{ table}|$ .

Based on the value of probability:

$H_0$  accepted if the probability value ( $p$ )  $> 0,05$ .

$H_1$  accepted if the probability value ( $p$ )  $\leq 0,05$ .

## V. Results And Discussion

### 5.1. Result

#### 1. Analysis of Abnormal Return at the Period of Stock Split Announcement

Before the significance test and next hypothesis testing, the first to test the normality of the data. Following the results of the test for normality of the abnormal return using SPSS computer program is presented in Table 1 below:

**Table 1** Normality Test Results of Abnormal Return One-Sample Kolmogrov-Smirnov Test

	Before	Moment	After
N	56	56	56
Kolmogrov-SmirnovZ	1,099	1,598	1,006
Asymp.Sig.. (2-tailed)	0,179	0,012	0,263

Based normality test results can be concluded that the abnormal return for the periods before and after the stock split normal distribution. While the period moment the stock split is not normal.

a. Significance Test

Following the results of tests of significance of the abnormal returns by using SPSS computer program is presented in Table 2 below:

**Table 2** Results Significance Tests One Sample t-Test of Abnormal Return

Period	t-Count	Probability	Explanation
H-7	0,388	0,709	Not significant
H-6	-0,964	0,367	Not significant
H-5	-0,677	0,520	Not significant
H-4	1,332	0,225	Not significant
H-3	2,558	0,038	Not significant
H-2	1,714	0,130	Not significant
H-1	1,963	0,090	Not significant
0	-11,465	0,000	Significant
H+1	0,496	0,090	Not significant
H+2	-0,751	0,130	Not significant
H+3	0,223	0,038	Not significant
H+4	-3,201	0,225	Not significant
H+5	-0,926	0,520	Not significant
H+6	1,286	0,367	Not significant
H+7	0,228	0,709	Not significant

b. Hypothesis Test

Data abnormal return in the current period indicates that the data are not normally distributed, then the next hypothesis test used was Wilcoxon Signed Rank Test. Testing the difference of abnormal return using the Wilcoxon Signed Rank Test can be seen in the table below:

**Table 3** Wilcoxon Test Result of Abnormal Return Before-Moment and Moment-After Stock Split

Before-Moment	Sig. (2-tailed)	Moment-After	Sig. (2-tailed)
t <sub>-1</sub> dan t <sub>0</sub>	0,012	t <sub>0</sub> dan t <sub>+1</sub>	0,012
t <sub>-2</sub> dan t <sub>0</sub>	0,012	t <sub>0</sub> dan t <sub>+2</sub>	0,012
t <sub>-3</sub> dan t <sub>0</sub>	0,012	t <sub>0</sub> dan t <sub>+3</sub>	0,012
t <sub>-4</sub> dan t <sub>0</sub>	0,012	t <sub>0</sub> dan t <sub>+4</sub>	0,012
t <sub>-5</sub> dan t <sub>0</sub>	0,012	t <sub>0</sub> dan t <sub>+5</sub>	0,012
t <sub>-6</sub> dan t <sub>0</sub>	0,012	t <sub>0</sub> dan t <sub>+6</sub>	0,012
t <sub>-7</sub> dan t <sub>0</sub>	0,012	t <sub>0</sub> dan t <sub>+7</sub>	0,012

Table 3 shows that on the day before from t<sub>-1</sub> to t<sub>-7</sub> and moment (t<sub>0</sub>) stock split announcement have the same level of significance is 0,012 < 0,05 or below the 5% significance level. At the moment (t<sub>0</sub>) and the day after from t<sub>+1</sub> sampai t<sub>+7</sub> announcement of stock split has the same level of significance is 0,012 < 0,05 or below the 5% significance level.

Whereas data is abnormal return in the period before and after shows that the normal distribution of data, then the next test hypothesis is Paired Sample t-Test. Testing the difference of abnormal return using Paired Sample t-Test can be seen in the table below:

**Table 4** Test Result Paired Sample t-Test Toward Abnormal Return Before-After Stock Split

Days to- Before Until After Stock Split	Sig. (2-tailed)
t <sub>-7</sub> dan t <sub>+7</sub>	0,960
t <sub>-6</sub> dan t <sub>+6</sub>	0,184
t <sub>-5</sub> dan t <sub>+5</sub>	0,416
t <sub>-4</sub> dan t <sub>+4</sub>	0,030
t <sub>-3</sub> dan t <sub>+3</sub>	0,166
t <sub>-2</sub> dan t <sub>+2</sub>	0,252
t <sub>-1</sub> dan t <sub>+1</sub>	0,721

Table 4 shows that on the day t<sub>-7</sub> and t<sub>+7</sub>; t<sub>-6</sub> and t<sub>+6</sub>; t<sub>-5</sub> and t<sub>+5</sub>; t<sub>-3</sub> and t<sub>+3</sub>; t<sub>-2</sub> and t<sub>+2</sub>; t<sub>-1</sub> and t<sub>+1</sub> result significant level that is above the 5% significance level. Whereas on day t<sub>-4</sub> dan t<sub>+4</sub> result significant levels of under 5% significance level.

**2. Analysis of Trading Volume at the Period of Stock Split Announcement**

Before the next hypothesis testing, the first to test the normality of the data. Following the results of the test for normality of the trading volume by using SPSS computer program is presented in Table 5 below:

**Table 5** Normality Test Results of Trading Volume One-Sample Kolmogrov-Smirnov Test

	Before	Moment	After
N	56	56	56
Kolmogrov-SmirnovZ	2,266	2,394	2,058
Asymp.Sig.. (2-tailed)	0,000	0,000	0,000

Based on the above normality test results can be seen that the value of the trading volume in the period before, during, and after had a p-value less than 0.05 so it can be concluded that the value of trade volume for the periods before, during, and after the stock split is not normal.

a. Significance Test

Following the results of tests of significance of the trading volume by using SPSS computer program is presented in Table 6 below:

**Table 6** Results Significance Tests One Sample t-Test of Trading Volume

Period	t-Count	Probability	Explanation
H-7	1,804	0,114	Not significant
H-6	1,900	0,099	Not significant
H-5	1,837	0,109	Not significant
H-4	1,855	0,106	Not significant
H-3	1,246	0,253	Not significant
H-2	2,196	0,064	Not significant
H-1	1,680	0,137	Not significant
0	1,686	0,136	Not significant
H+1	1,972	0,089	Not significant
H+2	1,658	0,141	Not significant
H+3	2,034	0,081	Not significant
H+4	1,791	0,116	Not significant
H+5	1,479	0,183	Not significant
H+6	1,385	0,209	Not significant
H+7	1,700	0,133	Not significant

b. Hypothesis Test

Data volume of trading in the period before, during and after the show that the data are not normally distributed, then the next hypothesis test used was Wilcoxon Signed Rank Test. Testing differences in trading volume by using the Wilcoxon Signed Rank Test can be seen in the table below:

**Table 7** Wilcoxon Test Result of Trading Volume Before-Moment, Moment-After, and Before-After *Stock Split*

Before-Moment	Sig. (2-tailed)	Moment-After	Sig. (2-tailed)	Before- After	Sig. (2-tailed)
t <sub>1</sub> dan t <sub>0</sub>	0,161	t <sub>0</sub> dan t <sub>+1</sub>	0,025	t <sub>-1</sub> dan t <sub>+1</sub>	0,069
t <sub>2</sub> dan t <sub>0</sub>	0,161	t <sub>0</sub> dan t <sub>+2</sub>	0,025	t <sub>-2</sub> dan t <sub>+2</sub>	0,069
t <sub>3</sub> dan t <sub>0</sub>	0,779	t <sub>0</sub> dan t <sub>+3</sub>	0,036	t <sub>-3</sub> dan t <sub>+3</sub>	0,674
t <sub>4</sub> dan t <sub>0</sub>	0,208	t <sub>0</sub> dan t <sub>+4</sub>	0,017	t <sub>-4</sub> dan t <sub>+4</sub>	0,050
t <sub>5</sub> dan t <sub>0</sub>	0,123	t <sub>0</sub> dan t <sub>+5</sub>	0,161	t <sub>-5</sub> dan t <sub>+5</sub>	0,208
t <sub>6</sub> dan t <sub>0</sub>	0,484	t <sub>0</sub> dan t <sub>+6</sub>	0,069	t <sub>-6</sub> dan t <sub>+6</sub>	0,674
t <sub>7</sub> dan t <sub>0</sub>	0,484	t <sub>0</sub> dan t <sub>+7</sub>	0,263	t <sub>-7</sub> dan t <sub>+7</sub>	0,484

Table 7 shows that before period until the moment stock split on the day t<sub>1</sub> and t<sub>0</sub>; t<sub>2</sub> and t<sub>0</sub>; t<sub>3</sub> and t<sub>0</sub>; t<sub>4</sub> and t<sub>0</sub>; t<sub>5</sub> and t<sub>0</sub>; t<sub>6</sub> and t<sub>0</sub>; t<sub>7</sub> and t<sub>0</sub> result significant levels that were above the 5% significance level. Moment period until after stock split on the day t<sub>0</sub> dan t<sub>+1</sub>; t<sub>0</sub> dan t<sub>+2</sub>; t<sub>0</sub> dan t<sub>+3</sub>; t<sub>0</sub> dan t<sub>+4</sub> result significant levels of under 5% significance level. Whereas on the day t<sub>0</sub> and t<sub>+5</sub>; t<sub>0</sub> and t<sub>+6</sub>; t<sub>0</sub> and t<sub>+7</sub> result significant levels that were above the 5% significance level.

Moment period until after on the day t<sub>1</sub> and t<sub>+1</sub>; t<sub>2</sub> and t<sub>+2</sub>; t<sub>3</sub> and t<sub>+3</sub>; t<sub>5</sub> and t<sub>+5</sub>; t<sub>6</sub> and t<sub>+6</sub>; t<sub>7</sub> and t<sub>+7</sub> result significant levels that were above the 5% significance level. Whereas on the day t<sub>4</sub> dan t<sub>+4</sub> result significant levels of under 5% significance level.

**3. Analisis Bid-Ask Spread Diseputar Pengumuman Stock Split**

Before the next hypothesis testing, the first to test the normality of the data. Following the results of the test for normality of the bid-ask spread by using SPSS computer program is presented in Table 8 below:



**Table 8** Normality Test Results of Bid-Ask Spread One-Sample Kolmogrov-Smirnov Test

	Before	Moment	After
N	56	56	56
Kolmogrov-SmirnovZ	2,905	1,783	2,162
Asymp.Sig.. (2-tailed)	0,000	0,003	0,000

Based on the above normality test results can be seen that the value of the bid-ask spread in the period before, during, and after had a p-value less than 0.05 so it can be concluded that the value of bid-ask spread for the periods before, during, and after the stock split is not normal.

a. Significance Test

Following the results of tests of significance of the bid-ask spread by using SPSS computer program is presented in Table 9 below:

**Table 9** Results Significance Tests One Sample t-Test of Bid-Ask Spread

Periode	t-Hitung	Probabilitas	Keterangan
H-7	1,557	0,163	Not significant
H-6	1,716	0,130	Not significant
H-5	2,365	0,050	Significant
H-4	2,395	0,048	Significant
H-3	1,698	0,133	Not significant
H-2	3,047	0,019	Significant
H-1	2,648	0,033	Significant
0	3,845	0,006	Significant
H+1	2,492	0,041	Significant
H+2	2,151	0,068	Not significant
H+3	1,809	0,113	Not significant
H+4	2,650	0,033	Significant
H+5	1,993	0,087	Not significant
H+6	2,715	0,030	Significant
H+7	4,253	0,004	Significant

b. Hypothesis Test

Data bid-ask spread in the period before, during and after the show that the data are not normally distributed, then the next hypothesis test used was Wilcoxon Signed Rank Test. Testing differences in bid-ask spread by using the Wilcoxon Signed Rank Test can be seen in the table below:

**Table 10** Wilcoxon Test Result of Bid-Ask Spread Before-Moment, Moment-After, and Before-After *Stock Split*

Before-Moment	Sig. (2-tailed)	Moment-After	Sig. (2-tailed)	Before-After	Sig. (2-tailed)
t <sub>1</sub> dan t <sub>0</sub>	0,674	t <sub>0</sub> dan t <sub>+1</sub>	0,263	t <sub>1</sub> dan t <sub>+1</sub>	0,050
t <sub>2</sub> dan t <sub>0</sub>	0,036	t <sub>0</sub> dan t <sub>+2</sub>	0,069	t <sub>2</sub> dan t <sub>+2</sub>	0,069
t <sub>3</sub> dan t <sub>0</sub>	0,123	t <sub>0</sub> dan t <sub>+3</sub>	0,327	t <sub>3</sub> dan t <sub>+3</sub>	0,889
t <sub>4</sub> dan t <sub>0</sub>	0,123	t <sub>0</sub> dan t <sub>+4</sub>	0,161	t <sub>4</sub> dan t <sub>+4</sub>	0,327
t <sub>5</sub> dan t <sub>0</sub>	0,036	t <sub>0</sub> dan t <sub>+5</sub>	0,123	t <sub>5</sub> dan t <sub>+5</sub>	0,575
t <sub>6</sub> dan t <sub>0</sub>	0,401	t <sub>0</sub> dan t <sub>+6</sub>	0,036	t <sub>6</sub> dan t <sub>+6</sub>	0,575
t <sub>7</sub> dan t <sub>0</sub>	0,123	t <sub>0</sub> dan t <sub>+7</sub>	0,612	t <sub>7</sub> dan t <sub>+7</sub>	0,484

Table 10 shows that before period until the moment stock split on the day t<sub>1</sub> and t<sub>0</sub>; t<sub>3</sub> and t<sub>0</sub>; t<sub>4</sub> and t<sub>0</sub>; t<sub>6</sub> and t<sub>0</sub>; t<sub>7</sub> and t<sub>0</sub> result significant levels that were above the 5% significance level. Whereas on the day t<sub>2</sub> and t<sub>0</sub>; t<sub>5</sub> and t<sub>0</sub> result significant levels of under 5% significance level.

Moment period until after stock split on the day t<sub>0</sub> and t<sub>+1</sub>; t<sub>0</sub> and t<sub>+2</sub>; t<sub>0</sub> and t<sub>+3</sub>; t<sub>0</sub> and t<sub>+4</sub>; t<sub>0</sub> and t<sub>+5</sub>; t<sub>0</sub> and t<sub>+7</sub> result significant levels that were above the 5% significance level. Whereas on the day t<sub>0</sub> and t<sub>+6</sub> result significant levels of under 5% significance level.

Before period until after stock split on the day t<sub>2</sub> and t<sub>+2</sub>; t<sub>3</sub> and t<sub>+3</sub>; t<sub>4</sub> and t<sub>+4</sub>; t<sub>5</sub> and t<sub>+5</sub>; t<sub>6</sub> and t<sub>+6</sub>; t<sub>7</sub> and t<sub>+7</sub> result significant levels that were above the 5% significance level. Whereas on the day t<sub>1</sub> and t<sub>+1</sub> result significant levels of under 5% significance level.

5.2. Discussion

a. The Difference of Abnormal Return before Until At The Moment Stock Split Announcement

The test results of abnormal return variable before period until the moment of stock split announcement indicates that there is a difference. These results are consistent with the theory that the stock split signaling informing investors about the prospects for an increase in returns in the future (Ginting and Rahyuda, 2014)[17]. The results support the research Rokhman (2009)[14], and Utami (2009)[18] which states that the difference in abnormal return before period until the moment of stock split announcement.

**b. The Difference of Abnormal Return at The Moment Until After Stock Split Announcement**

The test results of the variable moment period abnormal return until after the announcement of stock split indicates that there is a difference. These results are consistent with the signaling theory which states that any corporate action or event associated with a company that has the potential charge information as a signal. The results support the research Rokhman (2009)[14], and Utami (2009)[18] which states that there are differences in moment period abnormal return until after the announcement of a stock split.

**c. The Difference of Abnormal Return before Until After Stock Split Announcement**

The test results of abnormal return after the period prior to the announcement of stock split on demonstrating that there is no difference. These results are not in accordance with the signaling theory which states that a stock split to provide information to investors about the prospects for a substantial increase in return (Putra, 2013) [19]. The results of this study do not support the research of Al Azhar, et al (2013)[10] which states that there are significant differences in the abnormal return between the period before until after the stock split.

**d. The Difference of Trading Volume Before Until At The Moment Stock Split Announcement**

The test results of the period before the trading volume to date stock split announcement indicates that there is no difference. These results are consistent with the trading range theory that says that the company conduct a stock split because the stock price is too high so the effect on liquidity of the shares (Putra, 2013)[19]. The results of this study do not support research Pamenang (2013)[11] which states that there are differences in trading volume activity period prior to the time of the events of the stock split.

**e. The Difference of Trading Volume At The Moment Until After Stock Split Announcement**

The test results of moment period trading volume until after the announcement of stock split indicates that there is a difference. These results are consistent with the trading range theory that explains that the share price is too high causing the stock is not liquid, it relates to the ability of the individual investor is different, therefore the company split the stock in an effort to cheapen the price of the stock at a specified interval not too expensive (Putra, 2013)[20]. The results support the research Pamenang (2013)[11] which states that there are differences in trading volume activity after a period of moment until the occurrence of a stock split.

**f. The Difference of Trading Volume Before Until After Stock Split Announcement**

The test results of trading volume after the period prior to the announcement of stock split indicates that there is no difference. These results are not in accordance with the trading range theory that explains that the share price is too high causing the stock is not liquid, it relates to the ability of the individual investor is different, therefore the company split the stock in an effort to cheapen the price of the stock at a certain interval that is not too expensive (Putra, 2013)[19]. The results of this study do not support research Islamiyahya and Herawati (2013)[4] which concluded that there are significant differences stock trading volume activity before and after the stock split.

**g. The Difference of Bid Ask Spread Before Until At The Moment Stock Split Announcement**

The test results of the bid-ask spread moment period prior to the announcement of stock split indicates that there is no difference. These results are not in accordance with the trading range theory that explains that the share price is considered too high will lead to reduced activity of shares to be traded (Isnurhadi, 2010)[9]. The results of this study do not support the results Rokhman (2009)[14] which states that there is a change or a significant difference to the time period prior to the stock split.

**h. The Difference of Bid Ask Spread At The Moment Until After Stock Split Announcement**

The test results of the bid-ask spread current period until after the announcement of stock split indicates that there is no difference. These results are not in accordance with the trading range theory which states that the stock split will increase the liquidity of stock trading. The results of this study do not support the results Rokhman (2009)[14] which states that there are significant changes or differences in moment period until after the stock split.

**i. The Difference of Bid Ask Spread Before Until After Stock Split Announcement**

The test results of the bid-ask spread after the period prior to the announcement of stock split indicates that there is no difference. These results are not in line with the theoretical trading range theory which states that the stock split will increase the liquidity of stock trading. If the stock price is overvalued would affect the ability of investors to buy the shares, otherwise if low stock price will attract investors to trade shares (Isnurhadi, 2010)[9].

The results support the research Kusumaningtyas and Yunita (2014)[5] which states that there is no difference in the bid-ask spread is significant at the time before and after the announcement of a stock split.

## VI. Conclusions And Suggestion

Based on the test results of data processing and analysis, data research can be concluded as follows:

There is a difference of abnormal return periods prior to date and moment until after the announcement of a stock split. While the period prior to the announcement after the stock split there is no difference of abnormal return. There is no difference in the period before the trading volume to date and prior to the announcement after the stock split. Whereas the current period until after the announcement of the stock split, there are differences in trading volume. There is no difference in the bid-ask spread before the moment period, moment the after and before the announcement after the stock split.

Suggestion for investor, from the analysis of this research note that the stock split has less content of information to be considered in investing in the stock market. This can be taken into consideration for investors in addressing certain information published in particular a stock split. For issuers, from the results of this research note that the stock split on the observation period cannot increase the liquidity of shares. Parties listed companies should not focus too much on the events of the stock split, but how to keep the company's performance can be increased after the stock split so that investors can trust issuers that will provide good prospect in the future. For further Research interested in reviewing this study should add years of observation, it is expected to provide better research results. In addition, researchers can examine the back of other variables that influenced the stock split.

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