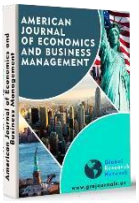

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Article

The Abnormal Stock Return Before And After Stock Split

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Abstract: The purpose of this study was to analyze whether there is a significant abnormal return before and after the stock split event and whether there is a difference in abnormal return before and after the stock split event. The analysis method used in this research is the paired sample t-test method. The population in this study were all companies listed on the Indonesia Stock Exchange during the 2017-2022 period. The samples used in this study were 32 companies. The results of the paired sample t-test test obtained a significant value of 0.958 which means above 0.05. So the results of the paired sample t-test test of the difference in abnormal stock returns before and after the stock split event found that there was no difference in abnormal stock returns before and after the stock split event even though in that period there was a period of covid-19 crisis did not affect the abnormal stock returns of companies that had done a stock split.

Keywords: Abnormal stock return, Stock split, Covid-19

1. Introduction

Sustainable Development Goals (SDGs) is a sustainable development plan to achieve global development by implementing 17 goals and 169 targets. The SDGs were agreed upon by national leaders including Indonesia in 2015 under the auspices of the United Nations (UN).[1]. The main goal of global development is to create and improve social welfare with equitable economic growth[2]. One of the goals of equitable economic development is contained in SDGs no. 8 with the statement of achieving progressive and sustainable economic growth, through diversification that provides higher value. This research refers to target no. 8.2 which states increasing economic productivity with improvements and innovation to add value to each sector so that human labor takes priority over machines.[3]. In accordance with the launch of Making Indonesia 4.0 in 2018 as Indonesia's road map for entering the ongoing era of digitalization with the aim of encouraging sustainable economic growth. Indonesia is starting the process of adapting to industry 4.0 by developing the quality of human resources through a link and match program between education and industry[4].

National industry must experience many changes before entering the era of the fourth industrial revolution. Mastery of technology is the most important thing as the key to competitiveness. There are five main technologies in encouraging the development of industrial systems 4.0, including the internet of things, artificial intelligence, human-machine interface, robotic and sensor technology, and 3D printing technology. In order for companies in Indonesia to be able to compete, they must master these five components[4]. Companies must strive to master these five components for the continuation of the company's life. Because economic growth cannot be separated from the capital market and the development of the capital market has a big influence on

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Indonesia's economic growth. Indonesia's economic growth in 2018 was 5.17%, which was an increase compared to 2017 which was only 5.07%, in 2019 economic growth decreased by 5.02%. In 2020 economic growth will decline sharply to -2.07%[5]. However, in 2022 it will be 5.31% compared to 2021 which is only 3.70%[6].

The sharp decline in economic growth in 2020 was caused by the Covid-19 outbreak, not only in Indonesia but the outbreak also resulted in most regions throughout the world facing similar conditions. Covid-19 is also called a black swan event because an unexpected step occurred which had a big influence and impact[7]. During the Covid-19 pandemic, the Indonesian government restricted the mobility of its citizens with Large-Scale Social Restrictions (PSBB). When Covid-19 cases experienced a decline, the government continued by implementing Community Activity Restrictions (PPKM).[8]. The Covid-19 pandemic threatens the health and economic growth of a country. The consequences of Covid-19 cannot be predicted, but signs of an economic slowdown are starting to appear, such as in the fields of trade, tourism, transportation and investment. In the stock market sector, the increase in Covid-19 cases has had a broad impact[9]

In January 2020, Covid-19 did not show a real reaction to the financial markets, but Covid-19, which was spreading rapidly, caused stock returns to have a negative impact.[10]. Activities in the capital market experience less stable demand and supply so that share prices in the capital market have high volatility. Investors must experience losses of up to trillions of rupiah because this pandemic has been corrected by 19.37% during the current year with a total of 1,418 trillion rupiah.[11]. Because of this, investors are worried about whether the company can survive the pandemic, but on the other hand, new investors are exploiting it to invest in shares in the capital market in the hope of making short profits. Because each industry responds to the Covid-19 pandemic in different ways, such as the consumption industry experiencing the most negative impact, while the health industry experiences a positive impact. The Indonesian Stock Exchange (BEI) stated that Single Investor Identification (SID) rose 56% during the pandemic[12]. As time goes by, Covid-19 begins to subside and economic growth has increased and stabilized. This can also be seen from the increasing number of investors. Based on data from KSEI, the number of investors as of January 2023 was 10,481,044 investors, this number has increased by 169,892 investors from the previous year in the capital market.[13]. Because economic growth is also greatly influenced by investment in the capital market which continues to increase. So that economic growth in Indonesia cannot be separated from the capital market.

The capital market is a place where several interested parties, especially corporations, stock sellers, and including bonds. The purpose of this sale is to obtain more funds or increase the company's capital[14]. Based on law no. 8 of 1995 in article 1 paragraph 13 explains that the capital market is a market that carries out public offers and trades in securities, public companies, institutions and work related to the stock exchange.[15].The capital market also functions as an intermediary which shows the important role of the capital market as supporting the economy. The assumption is that the highest quality sectors in the current market are sectors that can provide large returns to investors. Investors as parties making investments and capital market investment institutions certainly have a close relationship. Investors in making investment decisions will need information regarding which companies have good job prospects and which will provide maximum profits. High share prices are less attractive to investors, therefore to maintain optimal trading is to implement a stock split.

A stock split is dividing the previous share into n shares. The new share price per share when a stock split is carried out is 1/n of the share price before the split[16]. In theory, a stock split only increases the number of shares in circulation, has no effect on the company's cash flow, does not improve the welfare of share owners and does not bring any level of financial value to the company. However, in reality the stock split shows that the market reacted to the announcement of the stock split[17]. Stock splits are carried out to increase the number of shares in circulation, stock splits are usually carried out when the share price is higher (overrated), which causes investors to be limited when buying shares. The purpose of a stock split is to increase the liquidity of shares on the stock

exchange, allowing investors who have little capital to buy shares[18]. Apart from that, it is to reduce high share prices, reduce the level of risk that will occur, and increase the number of shares in circulation[19]. The impact of the stock split is based on two theories, signaling theory and trading range theory. Signal theory (s*ignoring theory*) is a theory that reveals the condition of a company through signals given to interested parties. Meanwhile, trading range theory is a theory that reveals the level of stock weakness which motivates companies to carry out stock splits to prevent the company's shares from weakening[20].

Basically, stock splits are believed to show a positive signal that the company has good prospects in the futurewhich can be shown by an unusual increase in returns after a stock split. Investors will be interested in shares that have known information as evidenced by positive abnormal returns around the time the stock split is announced. Abnormal returns, if they have a positive value, are believed to provide accurate information about the company's high profit scale or vice versa[21]. One of the aims is to determine the response of potential capital market investors, testing the substance of the information will be carried out, calculated using abnormal returns as the value of price changes.

*Abnormal returns*is a tool for measuring the difference between the current real return (actual return) and the desired return in the future (expected return), this difference can have a positive or negative value. Abnormal returns can be used to examine market responses when managing good or bad responses to an event[22]. The stock returns desired by the company can provide increased profits from the returns that occur (actual returns) and increase capital gains for the company. Abnormal returns are used as a medium to determine the actual return is greater than the expected return or vice versa.[23]. Abnormal returns occur when a stock split has an impact on the investment return rate or the difference between the selling price of the investment and the share price being divided. Abnormal stock returns can be implemented in testing market efficiency and assessing the performance of securities.

Many previous researchers have conducted research on stock splits and have provided varying results. The first study shows that there is no difference in abnormal stock returns before and after the stock split. The results of the Wilcoxon Ranked Test on the difference in abnormal returns before and after the stock split carried out on companies listed on the Indonesia Stock Exchange in the 2018-2020 period with 17 companies resulted in that there was no difference in abnormal returns before and after the stock split with a result of 0.16>0 .05[24]. These results are in line with the second study which explains that there is no concrete difference in abnormal returns before and after the stock split, but the capital market shows a negative reaction.[25].

However, third research shows that there are differences in abnormal stock returns before and after the stock split. This can be seen through a decrease in the value of abnormal stock returns before and after the stock split[19].

Based on the results of several studies, they are still different[24][25][19]so researchers are interested in conducting further research with several differences. The reason the researchers researched further regarding stock splits was because they used a new object, namely the stock index listed on the IDX during the 2017-2022 period and raised the phenomenon during the Covid-19 crisis in 2020. Because previous research used stock objects listed on the IDX relatively recently. short, so researchers take the object over a relatively longer period of time. The aim of this research is to determine the abnormal reaction to stock returns before and after a stock split is carried out in companies on the stock index listed on the IDX for the 2017-2022 period.

2. Materials and Methods

There are two theories about stock splits, namely signaling theory and trading range theory. Signaling theory can be the basis for supporting stock split analysis through stock split announcement signals given to interested parties. The announcement of stock split information will provide a reaction to the market. Market reactions are shown through price changes using abnormal returns as a measuring tool. If after the announcement of

the stock split the abnormal return is positive, it will give profits to investors above average, and vice versa, if after the announcement of the stock split the abnormal return is negative, the profit received by investors is below average.[26]. Signaling theory states that the market absorbs information about a stock split before the announcement, so that the market will anticipate beforehand and change the demand for shares[27]. So it can be concluded that informative announcements will provide large abnormal returns to the market or vice versa[28].

Previous researchers have obtained different results, there is previous research which indicates that there is no difference in abnormal stock returns before and after the stock split[24][25], there are also previous researchers who indicate that there are differences before and after the stock split[19]. So the hypothesis in this research is as follows:

Ho: There is no difference in abnormal stock returns before and after the stock split

Ha: There is a difference in abnormal stock returns before and after the stock split

conceptual framework

The conceptual framework of this research can be described as follows:

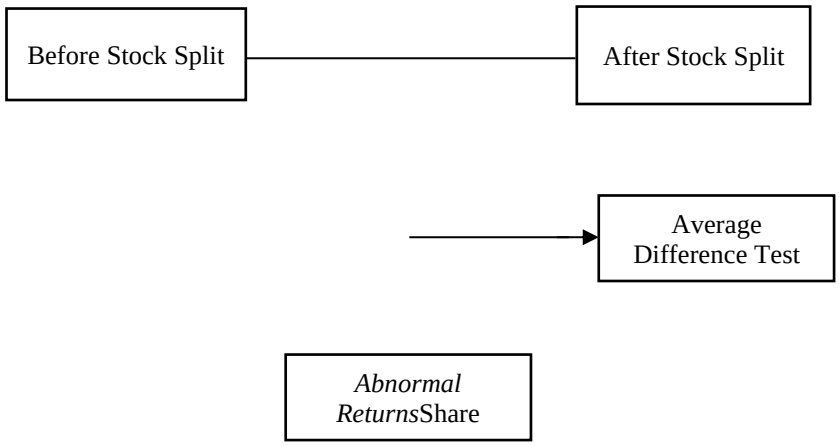

Figure 1
(Conceptual framework)

Types of research

This research uses quantitative research methods through an event study approach because this research examines the impact of certain events in certain time periods based on observations of the date the stock split was carried out. A form of quantitative research method is numbers that are calculated using a scoring process, so that they can be processed using statistical techniques[29].

Data Types and Sources

This research uses secondary data sources. Secondary data is data obtained through intermediaries or data that is not obtained directly[30]. The data in this research was obtained from the IDX which contains historical shares of companies that have carried out stock splits for the 2017-2022 period. The data taken will be processed using the Statistical Product Service Solutions (SPSS) version 23 software application program.

Population and Sample

The population is a collection of objects from a research unit with certain conditions determined by the researcher, while the sample is a portion of the population taken for research which is considered to represent the entire population.[29]. In this study, the population is all companies that have been registered on the IDX and have carried out stock splits in the 2017-2022 period, namely 32 companies.[31]. This data collection was taken fromwww.idx.ci.idAndwww.finance.yahoo.com. This research uses non-probability sampling because it does not provide a chance for each population to be selected as a sample. The type of sampling technique uses purposive sampling because

sample determination is based on determining criteria that have been set by the researcher[29].

Table 1. Research Sample Criteria

No	Sample Criteria
1	The company is listed on the Indonesian Stock Exchange (BEI) and has carried out a stock split
2	Company stock split for the 2017-2022 period
3	If the company carries out more than 1x stock split during the 2017-2022 period, 1 will be taken

Variable Indicator Table

The research variable indicators are explained in the following table:

Table 2. Variable Indicator Table

Variable	Definition	Indicator	Reference
*Abnormal returns*share	The measuring scale is the difference between current actual results (actual return) and the desired level of results (expected return) in the future.	**Abnormal return calculation formula** $AR_{it} = R_{it} - E[R_{it}]$ Information : AR_{it}: Abnormal return of security I in time t R_{it}: The actual return of security I in period t $E[R_{it}]$: The expected return of the security in period t **Actual return calculation formula**[32] $R_{it} = \frac{P_t - P_{t-1}}{P_{t-1}}$ Information : Rit :The actual return of stock i in time t Pit :The current rate of the i-th stock in the t-th period Pit-1 :Stock rate on the previous day i in the t period **Expected return calculation formula**[32]**:** $Rmt_{\square} = \frac{IHSGt - IHSGt - 1}{IHSGt - 1}$ Information : Rmt :Market indicators in period i IHSGt : Daily IHSGat time t INSGt-1 : Daily IHSGat time t	[22][25] [32]

Data analysis technique

In this research, the technique used to collect data was using event study techniques with an observation period of 2017-2022.Event studies aim to find out how the market reacts to published events, these events include both non-economic and economic to determine whether investors get abnormal profits.[33].

Descriptive statistical analysis

Descriptive statistical analysis is the process of collecting, reviewing and summarizing data specifications in the form of a description of the average value, standard deviation, maximum and minimum values[34].

Data normality test

The purpose of testing data normality is to determine whether the residual values or differences in the research have a normal distribution or not. This research uses the one-sample Kolmogorov-Smirnov test with SPSS v.23 tools[29].

Hypothesis testing

Hypothesis testing is used to test the truth of a hypothesis that has been taken from a population with a sample from that population. The test for differences in abnormal stock returns before and after the stock split depends on the results of the data normality test, the test can be carried out using a different test Paired Sample T-Test[34].

This research uses a Market Model, which can be calculated using a formula[24]:

$$Ri.j = \alpha_i + \beta_i \cdot R_{Mj}$$

Information :

Rij :Realization of the return of the ith security in the jth assessment period

α_i :*Intercept*for the ith security

β_i : Coefficient*slope*Beta of security i

Rmj :Returns on market indicators for the jth assessment period with calculations: Rmj = (IHSG – IHSG-1) / IHSGj-1 with IHSGas a composite stock price index.

1. Paired sample t-test

The paired sample t-test is one of the different test methods. This test was carried out to also test the analysis of differences in each sample value before and after a certain event. If the statistical test results get a significant value (Sig.) <0.05 then Ha is accepted, so it can be concluded that there are differences between the samples, or vice versa.[25]. This test is used to test different analyzes of the differences in abnormal stock returns before and after the stock split, to find out whether the data is assumed to be normal or not using a non-parametric test.[34].

2. Kolmogorov Smirnov test

The Kolmogorov Smirnov test is a non-parametic test for comparing samples with the profitability distribution (one sample ks test), or a test comparing two samples (two sample ks test). A single sample test is carried out to determine whether a sample comes from a particular distribution. Researchers use this technique to find out whether a sample comes from a normally distributed population[35].

$$D_{hitung} = maks|FO\ (x) - Sn\ (x)|$$

Information :

F0(x) = k frequency distributiontheoretical cumulative

Sn(x) = districtspark plug cumulative frequency observation value

3. Results

Table 3. Descriptive Statistical Test Results

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
AARSBLM	32	-527761002	440569971	-132587521.44	216403987.484
AARSSDH	32	-537474239	436510047	-133442732.53	213131573.666
Valid N (listwise)	32				

Data source: secondary data, data processed by SPSS 23

The results of the descriptive statistics of abnormal stock returns in table 3 show that the minimum value of the average abnormal return before the stock split event is -527761002 and the maximum value of the average abnormal return before the stock split event is 440569971. The average value of the abnormal return before the stock split event in this study is -132587521.44 with a standard deviation of 216403987.484.

The descriptive statistical results of abnormal returns after the stock split event show a minimum value of -537474239 and the maximum value of the average abnormal return after the stock split event is 436510047. The average value of the average abnormal return after the stock split event in this study is -133442732.53 with a standard deviation of 213131573.666.

Table 4. Data Normality Test Results

Tests of Normality

	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistics	df	Sig.	Statistics	df	Sig.
AARSBLM	,120	32	,200*	,955	32	,196
AARSSDH	.133	32	,158	,952	32	,168

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

a. Lilliefors Significance Correction

Data source: secondary data, data processed by SPSS 23

From the table above, the results of the statistical normality test of the data used Kolmogorov-Smirnov because the samples used were more than 30. The results of the normality test of the data above obtained a significant value of 0.200 for the average abnormal return before the stock split event and 0.158 for the average abnormal return after the stock split event. split. If the data significance value is above 0.05 then the data is normally distributed.

The two data normality test results above obtained a Sig value. > 0.05 then Ho is accepted. If Ho is accepted then the data is normally distributed. So it can be concluded that the two data from the normality test above are normally distributed.

Table 5. Value Rank Test Results

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	AARSBLM	-132587521.44	32	216403987.484	38255181.756
	AARSSDH	-133442732.53	32	213131573.666	37676695.256

Data source: secondary data, data processed by SPSS 23

Based on the table above, the distribution of data obtained by researchers can be described as:

1. *Average Abnormal Return*before the stock split event, from this data it can be described that the average value is -132587521.44, and the standard deviation of the AAR data before the stock split is 216403987.484
2. *Average Abnormal Return*after the stock split, from this data it can be described that the average value is -133442732.53, and the standard deviation of the AAR data after is 213131573.666

Table 6. Correlation Test Results

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	AARSBLM & AARSSDH	32	,909	,000

Data source: secondary data, data processed by SPSS 23

In the table above it can be described that the correlation results between the two Average Abnormal Return data before the stock split event and the Average Abnormal Return after the stock split event obtained a correlation value of 0.909 and obtained a significant value of 0.000.

Table 7. Statistical Test Results Paired Sample t-test

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	AARSBLM - AARSSDH	85521 1.094	91669 313.96 5	16204 998.38 3	- 3219510 1.007	3390552 3.194	,053	31	,958

Data source: secondary data, data obtained by SPSS 23

Based on the table above, the statistical test results with paired sample t-test show a sig value. (2-tailed) of 0.958. If the Sig (2-tailed) value is more than 0.05 then Ho is accepted, which means there is no difference in abnormal stock returns before and after the stock split event. If the test results above have a significant value of > 0.05, then Ho is accepted. So in this case it can be concluded that there is no difference in abnormal stock returns before and after the stock split event. So it can be concluded from the excel data tabulation that has been calculated by the researcher and the results of the SPSS data processing paired sample t-test that both obtained results that there was no significant difference in abnormal stock returns before and after the stock split event.

4. Discussion

In the data normality test used is Kolmogorov-Smirnov because the number of samples is more than 30. Based on the results of the data normality test which has been tested using the SPSS 23 application, abnormal stock returns in the two periods before and after the stock split event can be concluded that the data is normally distributed. Because both data are normally distributed, the hypothesis test uses the compare means paired sample t-test. Based on the results of the paired sample t-test regarding abnormal returns before and after the stock split event, it can be concluded that there is no difference before and after the stock split event on the day around the stock split announcement in the companies that have been tested during the 2017-2022 research period. This shows that the announcement regarding the stock split did not result in significant abnormal returns on the market before and after the stock split event. It is hoped that the stock split will attract new investors to buy shares at a lower price after the stock split is carried out. However, this is not in line with the results of this research.

The result that there is no significant difference in abnormal returns before and after the stock split event can occur because the stock split information has spread and been absorbed evenly so that the market will tend to make adjustments to market developments for which information has been received by anticipating the event, namely by making safety net, where investors before the announcement of the stock split event do not make too many transactions. Market players also have less trust in the company regarding the condition of the company's performance after the stock split. However, when the information has spread well and evenly, it can be concluded that nothing will influence the market. This can be seen from the movement of stock prices which causes the average abnormal return received by investors to be no different from the average

abnormal return before the stock split event or even after the stock split event. So it can be said that this activity does not affect abnormal stock returns.

The stock split event is considered to influence investors in making decisions to buy shares. However, research using event studies on stock split events shows that these stock split events do not have much information content, making market players not react too much to stock split announcements, especially to abnormal stock returns.[27].This statement is also in line with the results of this research which show that there are no significant differences before and after the stock split event. This research shows that the information content of stock splits is not too much even though information absorption is maximum before and after the stock split event.

The results of this research are in line with previous research which found that there was no significant difference in average abnormal stock returns before and after the stock split event[24]. The results of this research are also supported by previous research which states that there is no significant difference in the average abnormal return before and after the stock split event[25]. However, the results of this study are contrary to the results of research conducted by Santoso, et al[19]which states that there is a significant difference in abnormal returns around the stock split announcement.

The government's efforts to develop sustainable economic growth by launching making industry 4.0 means that companies must follow the roadmap that has been launched by the government to face competitiveness. Companies must be able to develop and master technological aspects for increasingly sustainable competitiveness. The five important components in making industry 4.0 must be mastered and pursued so that companies can compete and have a stable economic cycle. When the company cannot keep up with ongoing developments, the company can be left behind and unable to compete.

When the Covid-19 virus outbreak occurred which caused the country's economy to experience a very drastic decline, the government required efforts to prevent the spread of the Covid-19 virus. Efforts made by the government are by limiting community activities. Because of these restrictions, companies had to limit their operational activities, causing the company to experience a significant decline. This causes the company to try and strive to maintain its business so that it remains standing and does not go bankrupt. Even though at that time there were companies that experienced negative impacts and positive impacts.

In the stock market, investors also experienced quite large losses. There are several companies that can prevent their business from going bankrupt by carrying out an economic turnaround, stock splits can be used as a way to increase the company's investors, with a lower share price investors can be interested in investing their capital. And in fact, when the Covid-19 virus outbreak occurred, there were still companies that continued to carry out stock splits, this can be seen as one of the things that shows that the company is able to maintain company stability amidst the widespread outbreak of the Covid-19 virus. When the economy begins to stabilize because activity restrictions have been relaxed, company performance can return to stability. The stock market also shows stability which can be seen from the number of investors which has started to increase from the previous year when the Covid-19 virus outbreak occurred. In this research, after conducting tests on companies that had carried out stock splits before and after the event, the results were that there were no differences before and after the stock split event.

5. Conclusion

The test results regarding the comparison of abnormal stock returns before and after the stock split event in companies listed on the Indonesia Stock Exchange during the period 2017 to 2022 showed that there was no significant difference in abnormal stock returns before and after the stock split event. Before the Covid-19 virus outbreak occurred, during the Covid-19 virus outbreak, and after the virus outbreak occurred, there were still no significant abnormal stock returns before and after the stock split event. It can be seen that the stock split event does not influence investors' decisions in carrying out share

investment transactions in the capital market which can be seen from the results of the average abnormal stock returns before and after the stock split event. There is no significant difference in abnormal returns in the companies that have been tested during the period. 2017 to 2022.

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