ISSN No:-2456-2165

Analysis of Indonesian Capital Market Reaction to Automotive Sub Sector Companies and Components Listed on the Indonesia Stock Exchange during the Covid-19

Miftahul Jannah Alwi[1], Dian Anggraece Sigit Parwansa[2], Erlina Pakki[3]
[1]Master of Management Science Study Program, Hasanuddin University, Makassar

Abstract:-This study aims to analyze the reaction of the capital market due to events announcement of the first case of *covid-19* on March 2, 2020, at sub companies automotive and components sector, to prove the capital market reaction by looking at indicators *of abnormal return, trading volume activity* and frequency stock trades. This research is an *event study*, and the data collected collected in this study will be tested by statistical test *one sample test andpaired sample test for* normally distributed, while *one sample wilcoxon sing rank test* and *paired wilcoxon test* for distributed data not normal. The results showed *abnormal returns* before and after 0.311 > 0.05 or there is no significant difference in *abnormal returns* before and after the event. *Trading volume activity* before and after 0.049 < 0.05 means there is a significant difference *in trading volume activity* before and after incident. And the trading frequency before and after 0.010 < 0.05 means there is a significant difference in the frequency of stock trading before and after the event. Indicator *Abnormal return* shows no market reaction to the announcement of events, while *trading volume activity* and frequency stock trading indicates a market reaction to the announcement incident.

Keywords:- *Abnormal Return, Trading Volume Activity,* and Frequency Stocktrades.

I. INTRODUCTION

Currently, investment is growing into one of the needs of modern society, whether individuals or groups who have excess resources will carry out investment activities. According to (Hardiwinoto, 2018) Investment can be interpreted as investing money in a particular company or project for the purpose of making a profit or buying an asset that is expected to be resold in the future with a higher value. However, investment is also very closely related to risk, to get a big profit, investors will also get a big risk or commonly known as high-*risk high return*. Investments can be made in various financial institutions, including the capital market.

The capital market is now very important for the economy of every country because the capital market can carry out two functions at once, namely as a provider of funds and as a place to invest. According to (Ramadani, 2020) the capital market is all activities that bring together supply and demand or are activities of trading securities. The capital market as a place to invest does not only provide opportunities for investors and the public to earn profits. However, it also plays an active role in improving domestic economic conditions.

The greater the role of the capital market in the economy, the more sensitive the market reaction to surrounding events. This is because the economic condition of a country will affect the stability of stock prices and trading transactions in the capital market. And one of the key factors for investors to maximize profits in the capital market is information. Therefore, stock trading activities in the capital market, which are part of economic activity, cannot be separated from the influence of events and information. There are many events that occur around the capital market, both in the economic and non-economic environment, which basically also contain information that cannot be separated from the capital market. Non-economic events that can affect capital market conditions are political events and pandemic events, including the COVID-19 that has been around us for more than a year.

COVID-19 is an epidemic that is haunting the world today. At the end of 2019, the world was shocked by the emergence of the *coronavirus* that first hit the city of Wuhan, China. *Coronavirus* is a virus that can infect the respiratory system and can be transmitted from human to human. Virus *Corona* is reported to occur in more than half of the countries in the world (Investopedia, 2020).In COVID-19 was announced by Mr. Joko Widodo as president of the Republic of Indonesia in his speech at the Presidential Palace in Jakarta on March 2, 2020. Jokowi said that there were two people who were positive for COVID-19 from a Japanese citizen who came to Indonesia.

Goodell (2020) presents a comprehensive literature survey on the economic impacts caused by natural disasters, such as war, climate change or local disasters, and highlights that the COVID-19Indonesia, the is causing an economic slowdown and can result in unprecedented global economic damage. happened before. According to research (Hindayani, 2020) there is a significant difference between *abnormal returns* before and *abnormal returns* after the announcement COVID-19 first in Indonesia. This means that the COVID-19 affects almost all industrial sectors and makes investors feel pessimistic, thereby reducing investor confidence in future profits.

The reaction of the capital market to other events such as political events, according to research (Sakinah & Halim, 2018). examining differences in *abnormal returns*, trading volume activity, and trading frequency before and after the

ISSN No:-2456-2165

announcement of the election of Donald Trump as President of the United States of America on November 9, 2016, the results of his research show that there is no difference in *abnormal returns* before and after the announcement of events. There is a difference between trading volume activity and trading frequency.

II. METHODS

A. *Location and Research Design*

Based on the research objectives to be achieved, the time used for conducting the research is approximately two months (November-December). And this research was conducted on the Indonesia Stock Exchange (IDX), to be precise,the automotive and component sub-sector companies, which can be accessed through the internet sites www.idx.co.idandwww.yahoofinance.com.

B. *Population and Sample*

The population used in this study are all companies in the automotive and component sub-sector listed on the Indonesia Stock Exchange (IDX) with a total of 12 companies. The sampling technique used is the census method or saturated sample, ie the number of samples taken is the same as the number of population members. the researchers used all members of the population as research samples, namely 12 automotive and component sub-sector companies listed on the IDX.

C. *Data Collection Method*

The data collection method used in this research is documentation. Researchers collect data obtained from various sources including data listed on the Indonesia Stock Exchange, from literature, journals and other sources related to research problems.

D. *Data Analysis*

This research is an *event* study research, data analysis techniques used are normality test and hypothesis testing with *one sample t-test* and paired *sample test* for normally distributed data, while the *one sample wilcoxon sing rank test* and *paired wilcoxon test* for abnormally distributed data.

III. RESULTS

A. *Normality Test*

		AR Before	AR After	TVA Before	TVA After	FP Before	FP After
N		12	12	12	12	12	12
Normal Parameters[a,b]	Mean	.0014	.0171	.0004	.0002	763.41	429.13
	Std.	.0155	.075	.171	.0003	1968.91	1148.4
	Deviation	-.123	.120	. 287	.302	.401	. 410
Most Extreme		.818	-.120	.287	.302	.401	.410
	Absolute	.171	.120	-.232	-.251	-.349	-.354
Differences		-.0067	.987	.287	.302	.401	.410
	Positive	.000	.171	.229	.183	.030	.024
	Negative	.000	.0003	.000	.000	.000	000
Test Statistic							
Asymp. Sig. (2-tailed)							
Point Probability							

Table 1: One-Sample Kolmogorov Smirnov Test

Source: SPSS Output, 2021

Based on the results of the normality test from table 1, it can be seen that the significant value of *abnormal return* before is 0.818, *abnormal return* after is 0.987, TVA before is 0.229, TVA after of 0.183, where these values are greater than sig 0.05 (> 0.05), meaning that the *abnormal return* and TVAbefore and after the announcement of the first COVID-19normally distributed. While the significance value of trading frequency before and after is 0.030 and 0.024 or smaller than the sig value of 0.05 (<0.05), meaning that the trading frequency data before and after the announcement of the first case of COVID-19is not normally distributed.

B. *Hypothesis Testing*

	Test Value=0					
	Tdf	Sig	. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
ARsblm	.319	11	.756	.00143405	-.0084718	.0113399
ARssdh	-1.374	11	.197	-.00679259	-.0176758	.0040906
TVAsblm	2.538	11	.028	.00036116	.0000480	.0006743
TVAssdh	2.322	11	.040	.00023513	.0000122	.0004580

Table 2: Test One Sample T-Test

Source: SPSS Output, 2021

Based on the results of the *one sample t-test*, this test is performed for data that is normally distributed. Where in table 2 by looking at the value of *sig. (2-tailed)* it can be seen that the *abnormal return* before and after has a significant value of 0.756 and 0.197 is greater than 0.05 (> 0.05), this indicates that there *abnormal return* before and after the announcement of the first case of COVID-19in Indonesia or H1 is rejected. While the significant value of *trading volume activity* before and after 0.028 and 0.040 is smaller than 0.05 (<0.05), meaning that there *trading volume activity* before and after the announcement of the first case of COVID-19in Indonesia or H2 was received. These results state that the market reacted to the announcement of the first case of COVID-19in Indonesia on March 2, 2020.

	Sig. (2 tailed)
FP Before	.003
FP After	.008

Table 3: One Sample Wilcoxon Sign Rank Test

Source: SPSS Output, 2021

The *one sample Wilcoxon sign rank test* was carried out for data that was not normally distributed, in the table above it can be seen that the significant value of stock trading frequency before and after 0.003 and 0.008 is smaller than 0.05 (<0.05), these results indicate that there is a significant frequency of stock trading before and after the announcement of the first case of *COVID-19* in Indonesia or H3 was received. These results state that the market reacted to the announcement of the first COVID-19 in Indonesia on March 2, 2020.

IV. DISCUSSION

A. *Significant Abnormal Returns Before and After the Event*

The results of the *one sample t-test test* showed that their *abnormal return* before and after the announcement of the case. First,COVID-19in Indonesia, it can be interpreted that some market players do not really respond to an event that occurs. Where is the attitude of some market players who are more restrained because the news conditions of COVID-19in Indonesia have not reached an emergency condition before and after the date of the event, namely March 2, 2020, which ultimately has an impact on the insignificant *abnormal return* before and after the announcement of the first case of COVID-19in Indonesia, especially in the automotive and component sub-sector companies. This is because the market has been quite vigilant about the pandemic that hit at the end of 2019, so that at the time of the announcement of the COVID-19in Indonesia, the market had not reacted much to this information.

Opportunities to obtain *abnormal returns* for market participants do not occur, because the results obtained are not significant and the consequences that arise are the profits obtained are below normal. This result is consistent with *signaling theory* (signal theory) which states that non-economic events in this case pandemic events that have bad economic value are characterized by abnormal *return* insignificantBased on this study, the stock market conditions before and after the event showed a semi-strong form of efficient market could not be proven, because this event did not cause *abnormal returns*.This is in line with research conducted by (Arfani, 2021), which showed *abnormal returns* insignificant COVID-19 *pandemic.*

B. *Significant Trading Volume Activity Before andAfter the Event*

The results of the *one sample t-test* showed that there *trading volume activity* before and after the announcement of the first case of COVID-*19* in Indonesia, especially in the automotive and component sub-sector companies. This means that this event is considered to have meaningful information content by some investors, so it can be said that the market accepts the announcement of this event as informative, that the announcement of the first case of COVID-19is an event that is considered a source of information for some investors to increase profits by utilizing this moment by buying more securities at lower price conditions, and for issuers to make higher offers with the aim of reducing existing risks and obtaining certain profits, which in turn has a significant impact on *trading volume activity* or the market reacts to announcement eventsthe first case of COVID-19in Indonesia.

Associated with the existing theory, namely the *signaling theory,* states that there are events that can provide a signal to the reaction to information in the market. This is in line with research from (Suandi, 2021) which shows that there is significant trading volume activity before and after the announcement of the event.

C. *Significant Stock Trading Frequency Before and After the Event*

The results of the *one sample Wilcoxon sign rank test* show that there is a significant trading frequency at before and after the announcement of the first case of COVID-19in Indonesia, especially in the automotive and component sub-sector companies. It can be interpreted that the announcement of events reacts to the capital market, by looking at the frequency of trading which shows very active stock transactions, this shows that this information is in demand by some investors. This is because the announcement of the COVID-19Indonesia is considered to have meaningful information content by some investors where some investors change their investment by buying or selling their shares, so there is a significant frequency of stock trading or there is a market reaction that affects selling transactions. buy stock.

The development of stock trading frequency activities in the capital market is an important indication for studying market behavior as a reference for the capital market in determining transactions in the capital market. Usually, investors will base their decisions on various information in the capital market or the environment outside of the capital market, and the frequency reflects the flow of information received by investors.

This study supports previous research, namely research (Kango et al., 2020) where the test results prove that there is a significant trading frequency before and after the inauguration of the advanced Indonesian cabinet.

D. *Differences in Abnormal Returns Before and After Events*

The results of the *paired sample test* using the *event study* in this study indicate that *abnormal returns* before and after the announcement of the first case of COVID-19in Indonesia, there is no difference before and after the event or there is no significant market reaction. significant. The absence of a significant market reaction is suspected because the information content in this event is of little value or meaning by some investors so that no reaction occurs and does not affect their decision making, where the attitude of some investors is more restrained due to the news conditions of COVID-19in Indonesia. had not reached an emergency condition before and after the event date, March 2, 2020, which in the end resulted in no significant difference in *abnormal returns* before and after the announcement of the first case of COVID-19in Indonesia, especially in the automotive and component sub-sector companies.

The results of this study indicate that there has been market efficiency in the form of semi-strong information in accordance with the efficient market theory because the information on the announcement of the first case of COVID-19in Indonesia caused a change in stock prices, a new price balance in accordance with supply and demand. However, this does not change the view of investors so that the decision to buy or sell shares is not made by investors. Referring to the *signaling* events before and after the announcement of the first case of COVID-19in Indonesia were concluded as*bad news*that gavenegative signals to investors in making investment decisions in the capital market.

This is in line with the results of previous research from (Sambuari et al., 2020), which showed that there was no significant difference in *abnormal returns* before and after the announcement of the first case of *the corona virus* (COVID-19)in Indonesia, meaning that this event did not have information content and there is no market reaction so that it does not have a major influence for market participants on activities in the capital market.

E. Differences in Trading Volume Activity Before and After the Event

Based on the *paired sample test,* it shows that there is a significant difference in *trading volume activity* before and after the event or there is a significant market reaction. There is a difference *in trading volume activity* before and after the announcement of the first case ofCOVID-19in Indonesia, especially in the automotive and component sub-sector companies, allegedly because this event is considered to have meaningful information content by some investors, so it can be said that the market accepts the announcement of this event as a informative, meaning that the announcement of the first case of COVID-19is an event that is considered a source of information for some investors to increase profits by taking advantage of the moment by buying more securities at lower price conditions, and for issuers to make higher offers. with the aim of reducing existing risks and obtaining certain profits, which in turn has a significant impact on *trading volume activity*. This indicates that investors in buying shares also pay attention to the amount of trading volume that occurs. In addition, this indicates that an increase in the number of trading volumes always affects the stock price. Thus, the announcement of the first case of COVID-19 on March 2, 2020, could influence investors' decisions in conducting transactions in the capital market, thus causing differences in *Trading Volume Activity*. Based on the Market Efficiency Theory from an information point of view, the Indonesian Capital Market is included in a semi-strong market, where the value or fluctuation of stock prices is still affected by economic and non-economic situations (in this case COVID-19). Based on the theory of market efficiency, the Indonesian Capital Market is included in the criteria of an efficient market, where changes in stock prices are based on available information and appear in the market and are related, will react to new price shifts. Investors react by using information fully and quickly, so that the price of securities changes accordingly. This condition can be called an efficient market condition.

This research is in line with previous research conducted by (Arfani, 2021) with the results of *trading volume activity* before and during the pandemic having a significant influence so that it can be said that there is a difference between before and during the COVID-19 *pandemic.*

F. Differences in Stock Trading Frequency Before and After the Event

Based on the *paired Wilcoxon sign rank test,* the results show that there is a significant difference in stock trading frequency before and after the event or there is a significant market reaction. This is presumably because the event was considered to have meaningful information content by some investors, so that some investors changed their investment by buying and selling their shares, which in turn had a significant impact on the frequency of stock trading before and after the announcement of the *COVID-19* inIndonesia, especially in the automotive and component sub-sector companies. Where the development of stock trading frequency activities in the capital market is an important indication for studying market behavior as a reference for the capital market in determining transactions in the capital market. Usually, investors will base their decisions on various information in the capital market or the environment outside of the capital market, and the frequency reflects the flow of information received by investors. This is in line with the statement (Pratiwi & Suryono, 2020) that the frequency of stock trading activities is one of the elements that is one of the ingredients to see the market reaction to information that enters the capital market. However, in this research, this activity does not have a significant impact on *abnormal returns*.

The results of this study support the results of previous research by (Sakinah & Halim, 2018) showing the results that there are differences in the frequency of stock trading before and after the election of Donald Trump as President of the United States on November 9, 2016.

V. CONCLUSIONS ANDSUGGESTIONS

Based on the results of the research that has been discussed, then conclusions from research on automotive and component sub-sector companies listed on the IDX are (1) there *abnormal return* significant(2) There *trading volume activity* before and after the event; (3) There is a significant frequency of stock trading before and after the event; (4) There is no significant difference in *abnormal returns* before and after the event; (5) There is a significant difference *in trading volume activity* before and after the event; and (6) There is a significant difference in the frequency of stock trading before and after the event.

Based on the conclusions of the research above, the suggestions given from this study are (1) To the management of the automotive and component sub-sector companies, so that they can be better prepared for every situation or event that exists. For this reason, it is expected that every business actor always innovates so that he is always ready for any events that occur, be it economic or non-economic events; (2) To investors, to be more thorough and careful as well as to act as sophisticated investors in analyzing and determining their decisions on investments that are carried out to take profits or avoid losses from an event that can affect the market share price; (3) For further research and development, it is expected to use more objects, not only limited to sub-sectors. Also develop indicators that are used to measure the reaction of the capital market.

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