

Impact of Covid-19 on Share Prices in Various Sectoral Industry in Indonesia Stock Exchange

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Abstract:- This research was conducted due to the lack of research on the impact of Covid-19 on stock prices and stock trading volume activities in each sector in the sectoral industry of the Indonesian Stock Exchange. The benchmarks used in this study are abnormal returns and trading volume activity. Research related to event study which still has research gaps is also the reason why this research was conducted. The research period was chosen for 161 days which was divided into two periods, namely the estimation period of 140 days and a 21 day window period including 10 days before the event and 10 days after the event, and 1 day was chosen as the event date on March 2, 2020 when the government announced the first case. The results of the statistical tests carried out show that there is no difference in the average abnormal return of the entire sector before and after Covid-19, while the different results are found in the variables of average trading volume activity of the whole sector, average abnormal return and average trading volume activity which are significant in each sector. Shows that the three variables have differences before and after the announcement of Covid-19. The results of the analysis in measuring abnormal returns and trading volume activity using the event study method, that the findings based on each sector are better because they describe the results of each sector in the IDX sectoral index.

Keywords:- Abnormal Return; Event Study; Trading Volume Activity.

I. INTRODUCTION

Corona Virus Disease or Covid-19 was first discovered in Wuhan, Hubei Province, China in December 2019 and has spread rapidly throughout the world, including Indonesia. According to the World Health Organization (WHO) the coronavirus (Covid-19) outbreak has spread to 216 countries, regions or territories and has resulted in more than 8.3 million confirmed cases and 450,000 deaths worldwide as of 19 June 2020. Outbreaks and disease spread The widespread Covid-19 and had a major impact on the world made the World Health Organization (WHO) stipulate that the corona virus that hit the world was a pandemic on March 11, 2020 (Ahmar and Val, 2020).

The Covid-19 pandemic has had a major impact on all aspects of life. Covid-19 cases in Indonesia were first announced on March 2, 2020, until August 27, 2020 there

were 162,884 cases, with 118,575 patients recovered and 7,064 dead. The government takes policies in economic recovery in the midst of the epidemic by increasing fiscal, monetary and banking policies. In order to prevent and suppress the rate of transmission of the corona virus, a number of countries in the world have implemented lockdown policies, regional quarantines, and large-scale social restrictions (PSBB). The reason is, with the implementation of lockdown in almost all countries, the world economy has a big impact in all sectors. The impact of Covid-19 has had a major impact not only on health but also on various aspects of life and has a major impact on world economic traffic.

Several studies present how the stock markets around the world have responded to the COVID-19 pandemic. The Covid-19 has brought extreme uncertainty about how deadly the disease really is, whether and when we can get a vaccine, what are the effects of government policies, how people will respond and the negative reactions of capital market investors which have an impact on stock prices and transaction volumes in the capital market.

In economic and financial theory states that stock prices are mainly influenced by factors based on market and company characteristics. The rise and fall of a stock price will be closely related to the rise and fall of the company's value in the eyes of the market in general, both in macro and micro businesses. The spread of the corona virus (Covid-19) that occurred at the end of December 2019 also suppressed a number of stock exchanges from various countries in the world. The deepest stock market declines occurred in March 2020 in several countries such as the United States, Britain, China, and South Korea. The Indonesian stock market also experienced a considerable emphasis on stock prices in March 2020. The decline in stock prices occurred in all sectors listed on the Indonesia Stock Exchange (IDX).

In this study, the theoretical contribution used is the Efficient Market Hypothesis (EMH) theory which is the basis for the variables to be studied. According to Fama 1990 in the concept of an efficient market, changes in the price of stock securities in the past cannot be used to predict future price changes. The market is said to be efficient if the value of securities at any time reflects all available information, which results in the price of a security being at its equilibrium level. The equilibrium price of a security means that there will be no opportunity for investors to get an abnormal return from the

difference in the price of stock securities. Market conditions like this are called efficient markets.

The relationship between the concept of market efficiency with this research that the research on the impact of the announcement of Covid-19 is the current information available to the public. Abnormal return is an indicator to measure the presence of market reactions, so if there is an abnormal return around the announcement indicating the existence of a rapid market reaction to an announced information. In addition to abnormal returns, trading volume activity (TVA) can also be used as an indicator to measure the presence of market reactions.

II. LITERATURE REVIEW

A. Efficient Market Hypothesis

Efficient market theory is a theory that discusses the effect of market information on market conditions. This theory assumes that all market participants (investors) make rational investment decisions, this is because investors have the same information and receive the same information at the same time. In other words, no investor will benefit more from the information he receives. This theory was popularized by Fama in 1970, by carrying out the Efficient Market Hypothesis (EMH). The relationship between these three forms of efficient market is a cumulative level, namely the weak form is part of the half-strong form and the half-strong form is part of the strong form. The purpose of Fama (1970) to distinguish into three types of efficient market forms is to classify empirical research on market efficiency. These three forms of efficient market are related to each other.

B. Stock Price

The stock price is essentially an acceptance of the amount of sacrifice that must be made by every investor for participation in the company. The price of shares owned by the company is one indicator in achieving the company's success. Information about stock prices is very valuable information and is needed for investors as a basis for making investment decisions. It is important for investors to see the movement of activities carried out by the company on the cash flows recorded in the company in the long term. The rise and fall of a stock price will be closely related to the rise and fall of the company's value in the eyes of the market in general, both in macro and micro businesses. Stock prices will be affected immediately by changes in these macroeconomic factors because investors react more quickly.

C. Event Study

Event study is a study that studies the market reaction to an event whose information is published as an announcement. Event studies can be used to test the information content of an announcement and can also be used to test the efficiency of the semi-strong form of the market (Hartono, 2017). The information content test and the semi-strong form market efficiency test are two different tests. Information content testing is intended to see the reaction of an announcement. If the announcement contains information (information content), it is expected that the market will react when the

announcement is received by the market. The market reaction is indicated by a change in the price of the security concerned.

According to Peterson (1989) event study is one method that can be used to observe and analyze the impact of an event on the volume and price of shares in the capital market. The share price of a company in the vicinity of the incident becomes the object of observation. The relationship between the rate of return (return) with an event can be measured using the event study method. Meanwhile, according to MacKinlay (1997) financial market data can be used as a measure to analyze the impact of a specific event in the event study method, usually reflected in volume and stock prices.

D. Abnormal Return

Abnormal return is useful to see how much influence an event has on the price of a stock. Abnormal returns can be positive or negative. If there is no event, the actual return tends to be no different from the expected return, but on the contrary if there is an event that is likely to cause changes in cash flows in the future, the market will react to the announcement so that the actual return will be different from the expected return (Hartono, 2017). According to Tandililin (2017) Abnormal Return can also be used to test market efficiency because an inefficient market is that existing stocks will produce returns that are greater than normal or called abnormal returns.

E. Trading Volume Activity

Trading volume is one form that can be used to assess market reactions to information other than trading stock prices, stocks can be measured by trading volume activity. These changes can be seen from the strength of the demand and supply of shares made by investors in the capital market. Stock trading volume is the sum of every transaction that occurs on the stock exchange at a certain time for certain shares. The higher the activity, the better the stock's performance because a large trading volume indicates that the stock is being favored by investors. Trading volume can experience a sharp increase when unexpected events occur regardless of whether they are good or bad news. The existence of information gaps can also result in TVA changes in unexpected events but this does not apply to scheduled events.

When a virus outbreak occurs, no one can accurately predict when the outbreak will end. As a long term effect, the virus will have a negative impact on health and the stock market. Some literature evidence suggests that Covid-19 has had a significant impact on financial markets around the world. Indicators of the impact of Covid-19 on financial markets can be seen in various world financial markets, for example, the level of trading in the Dow and the S&P index dropped significantly in response to the Covid-19 pandemic (Sansa, 2020).

He et al. (2020) discusses in detail the impact of the Covid-19 pandemic on the Chinese stock market. Another study conducted by Chowdhury et al. (2020) measured the impact of Covid-19 on the US stock market. The US stock market reacted significantly negatively to the rise in confirmed cases and deaths from Covid-19. The uncertainty

of Covid-19 and the economy has made the stock market very volatile and impulsive.

Stock transaction volume is the number of company shares traded on the stock market in a certain period. Investor interest can be reflected in large or small volume of stock transactions. Investors' worries and fears that investors will suffer more losses as a result of Covid-19 prompted them to sell shares. However, there is another reason that can explain this event, namely that many investors take advantage of the opportunity to buy stocks whose prices have become cheaper. Based on the explanation above, the authors develop the following hypotheses:

H1: There is a difference in the Average Abnormal Return of the entire sector between before and after the announcement of Covid-19

H2: There is a difference in Average Trading Volume Activity for all sectors between before and after the announcement of Covid-19

H3: There are significant differences in Average Abnormal Returns in sectors in the sectoral industry before and after the announcement of Covid-19

H4: There is a significant difference in Average Trading Volume Activity in sectors in the sectoral industry between before and after the announcement of Covid-19

III. RESEARCH METHODS AND MATERIALS

The population in this study were 639 companies consisting of 9 sectors (Agriculture, Mining, Basic-Industry, Misc-Industry, Consumer Goods, Property, Infrastructure, Finance, and Trade) in the industrial sector listed on the Indonesia Stock Exchange. The sample in this study was taken using a purposive sampling method, namely the selection technique or sampling with certain considerations and criteria. The total sample obtained is 508.

The method used in this research is event study. The observation period in this study was 161 days which was divided into two periods, namely the estimation period and the event period. The estimation period used in this study is 140 days. The window period used in this study is 21 days including 10 days before the event, 1 day on the event date, namely on March 2, 2020 when Covid-19 was first announced by the President and 10 days after the event. Variables are concepts that have variations in value, therefore variables must be clearly defined so that they can be measured. The variables used in this study are abnormal returns and trading volume activity.

The AR variable is used to test market efficiency in the event study research method. The steps needed to find abnormal returns are:

Calculate Actual Return

$$R_{i,t} = \frac{P_t - P_{t-1}}{P_{t-1}} \quad (1)$$

Information:

$R_{i,t}$: actual return for stock i on day t

P_t : closing price on day t

P_{t-1} : closing price on the previous day

Calculate Expected Return

$$R_{i,j} = \alpha_i + \beta_i \cdot RM_j + \epsilon_{ij} \quad (2)$$

Information:

$R_{i,j}$: realized return of the i-th security in the j estimation period

α_i : intercept for the i-th security

β_i : the slope coefficient which is the Beta of the i-th security

RM_j : market index return in the j estimation period

Calculate Abnormal Returns

$$R_{i,t} = (\alpha_i + \beta_i R_{i,t})$$

(3)

Information:

$R_{i,t}$: rate of return of stock i on trading day t

R_i, M_i, t : the market rate of return from the trading market

i, β_i : regression coefficient of daily rate of return of stock i and market return rate

Calculate Average Abnormal Return

$$RRTN_{i,t} = \frac{\sum_{t=1}^k RTN_{i,t}}{k} \quad (4)$$

Information:

$RRTN_{i,t}$: average abnormal return on day t

$RTN_{i,t}$: abnormal return for the i-th stock on the t day

k : number of shares affected by the announcement of the event

Trading volume activity is one of the instruments used to see the capital market's reaction to information through trading volume activity parameters. The steps to calculate trading volume activity are:

Calculate Trading Volume Activity

$$TVA = \frac{\text{Number of shares of company i traded at time t}}{\text{Number of shares of company i outstanding at time t}}$$

Calculate Average Trading Volume Activity

$$ATVA_i = \frac{\sum_{t=1}^n TVA_{i,t}}{n}$$

Information:

$TVA_{i,t}$: trading volume activity of the i-th security on day t

n : number of securities

Research with parametric statistics is required to perform a normality test to find out whether the data is normally distributed or not. The normality test uses the Kolmogorov-Smirnov test, that is, if the asymptotic sig > α (5%) then the data is normally distributed, whereas if the

asymptotic sig < α (5%) value, the data is not normally distributed.

Different test is used to test research data with different treatments. The difference test is carried out with two alternative tests, namely the Paired Sample T-Test is a parametric statistical method that can be performed if the data meets the assumption of normality and the Wilcoxon Signed Rank Test is a non-parametric statistical method that is carried out if the data does not meet the assumption of normality. Both tests can be analyzed with a significance level of 5%. If the probability is greater than (p) then it can be concluded that there is no difference before and after the event. Meanwhile, if the probability is smaller than (p) then it can be said that there is a difference before and after the event.

IV. RESULT AND DISCUSSION

The normality test was conducted to determine whether the research data used were normally distributed or not. The results of the normality test for the average abnormal return and average trading volume activity variables before and after the Covid-19 announcement are described as follows:

	Kolmogorov-Smirnov ^a		
	Statistic	df	Sig.
Pre_AAR	,169	508	,000
Post_AAR	,301	508	,000

Table 1:- Normality Test Results AAR of All Sectors

Tests of Normality

	Kolmogorov-Smirnov ^a		
	Statistic	df	Sig.
Pre_ATVA	,401	508	,000
Post_ATVA	,405	508	,000

a. Lilliefors Significance Correction

Table 2:- Normality Test Results of ATVA of All Sectors

Tests of Normality

	Kolmogorov-Smirnov ^a		
	Statistic	df	Sig.
Pre_Agriculture	,103	17	,200*
Post_Agriculture	,145	17	,200*
Pre_Mining	,168	17	,200*
Post_Mining	,154	17	,200*
Pre_Basic Industry	,109	17	,200*
Post_Basic Industry	,182	17	,139
Pre_Misc Industry	,140	17	,200*
Post_Misc Industry	,132	17	,200*
Pre_Consumer Good	,145	17	,200*
Post_Consumer Goo	,505	17	,000
Pre_Prperty	,188	17	,113
Post_Property	,176	17	,167
Pre_Infrastructure	,151	17	,200*
Post_Infrastructure	,127	17	,200*

Pre_Finance	,289	17	,001
Post_Finance	,221	17	,027
Pre_Trade	,125	17	,200*
Post_trade	,152	17	,200*

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

a. Lilliefors Significance Correction

Table 3:- Normality Test Results of AAR Sectoral Industries

Tests of Normality			
	Kolmogorov-Smirnov ^a		
	Statistic	df	Sig.
Pre_Agriculture	,296	17	,000
Post_Agriculture	,311	17	,000
Pre_Mining	,380	17	,000
Post_Mining	,389	17	,000
Pre_Basic Industry	,296	17	,000
Post_Basic Industry	,398	17	,000
Pre_Misc Industry	,266	17	,002
Post_Misc Industry	,327	17	,000
Pre_Consumer Good	,361	17	,000
Post_Consumer Goo	,388	17	,000
Pre_Prperty	,402	17	,000
Post_Property	,400	17	,000
Pre_Infrastructure	,376	17	,000
Post_Infrastructure	,350	17	,000
Pre_Finance	,290	17	,001
Post_Finance	,317	17	,000
Pre_Trade	,392	17	,000
Post_Trade	,429	17	,000

a. Lilliefors Significance Correction

Table 4:- Normality Test Results of ATVA of Sectoral Industries

Normality testing uses the Kolmogorov-Smirnov Test in tables 1 to 4, where if the asymptotic sig value is greater than 0.05 or 5% then the data is normally distributed, if the asymptotic sig value is less than 0.05 or 5% then the data is not normally distributed.

Hypothesis 1 is the difference in the average abnormal return of the entire sector before and after the Covid-19 announcement.

Ranks

	N	Mean Rank	Sum of Ranks
Negative Ranks	238 ^a	257,82	61360,00
Post_AAR Positive Ranks	270 ^b	251,58	67926,00
Pre_AAR Ties	0 ^c		
Total	508		

a. Post_AAR < Pre_AAR

b. Post_AAR > Pre_AAR

c. Post_AAR = Pre_AAR

Table 5:- Results of the Wilcoxon Signed Rank AAR of the Overall Sector

Test Statistics^a

	Post_AAR - Pre_AAR
Z	-,992 ^b
Asymp. Sig. (2-tailed)	,321

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

Table 6:- Results of Test Statistics AAR of All Sectors

Hypothesis 2 is the difference in the average trading volume activity of all sectors before and after the announcement of Covid-19.

Ranks

	N	Mean Rank	Sum of Ranks
Negative Ranks	247 ^a	203,49	50261,50
ATVA_Ses Positive Ranks	247 ^b	291,51	72003,50
-			
ATVA_Seb Ties	14 ^c		
Total	508		

a. ATVA_Ses < ATVA_Seb

b. ATVA_Ses > ATVA_Seb

c. ATVA_Ses = ATVA_Seb

Table 7:- Wilcoxon Signed Rank ATVA Overall Sector

Test Statistics^a

	ATVA_Ses - ATVA_Seb
Z	-3,425 ^b
Asymp. Sig. (2-tailed)	,001

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

Table 8:- Test Statistics ATVA Overall Sector Results

Hypothesis 3 significant differences in average abnormal returns in sectors in industrial sectors before and after the announcement of Covid-19.

		Paired Differences			
		Mean	t	df	Sig. (2-tailed)
Pair 1	Pre_Agriculture - Post_Agriculture	-,24537438	-1,399	16	,181
Pair 2	Pre_Mining - Post_Mining	-,05677887	-,531	33	,599
Pair 3	Pre_Basic Industry - Post_Basic Industry	-,22870165	-2,782	60	,007
Pair 4	Pre_Misc Industry - Post_Misc Industry	,08492007	,771	37	,446
Pair 5	Pre_Property - Post_Property	,08281459	,907	54	,368

Pair 6	Pre_Infrastructure - Post_Infrastructure	-,00819463	-,098	60	,923
Pair 7	Pre_Trade - Post_trade	,15185153	2,318	119	,022

Table 9:- Results of Paired Sample t-Test AAR of Agriculture, Mining, Basic Industry, Misc Industry, Property, Infrastructure, and Trade Sector

Ranks

	N	Mean Rank	Sum of Ranks
Post_Consumer Negative Ranks	16 ^a	20,19	323,00
Goo - Positive Ranks	31 ^b	25,97	805,00
Pre_Consumer Ties	0 ^c		
Good Total	47		
Negative Ranks	33 ^d	39,94	1318,00
Post_Finance - Positive Ranks	42 ^e	36,48	1532,00
Pre_Finance Ties	0 ^f		
Total	75		

Table 10:- Results of the Wilcoxon Signed Rank AAR of the Consumers Good Sector and the Finance Sector

Test Statistics^a

	Post_Consumer G - Pre_Consumer	Post_Finance - Pre_Finance
Z	-2,550 ^b	-,565 ^b
Asymp. Sig. (2-tailed)	,011	,572

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

Table 11:- Results of Test Statistics AAR of the Consumer Good Sector and the Finance Sector

Hypothesis 4 there is a significant difference in average trading volume activity in sectors in the industrial sector before and after the announcement of Covid-19.

		Ranks		
		N	Mean Rank	Sum of Ranks
AGRI_SES - AGRI_SEB	Negative Ranks	6 ^a	6,25	37,50
	Positive Ranks	11 ^b	10,50	115,50
	Ties	0 ^c		
	Total	17		
MIN_SES - MIN_SEB	Negative Ranks	11 ^d	12,32	135,50
	Positive Ranks	22 ^e	19,34	425,50
	Ties	1 ^f		
	Total	34		
BAS_SES - BAS_SEB	Negative Ranks	40 ^g	27,03	1081,00

	Positive Ranks	20 ^h	37,45	749,00
	Ties	1 ⁱ		
	Total	61		
MIS_SES - MIS_SEB	Negative Ranks	27 ^j	16,26	439,00
	Positive Ranks	9 ^k	25,22	227,00
	Ties	2 ^l		
	Total	38		
CON_SES - CON_SEB	Negative Ranks	20 ^m	19,10	382,00
	Positive Ranks	27 ⁿ	27,63	746,00
	Ties	0 ^o		
	Total	47		
PRO_SES - PRO_SEB	Negative Ranks	18 ^p	22,97	413,50
	Positive Ranks	35 ^q	29,07	1017,50
	Ties	2 ^r		
	Total	55		
INF_SES - INF_SEB	Negative Ranks	31 ^s	24,85	770,50
	Positive Ranks	30 ^t	37,35	1120,50
	Ties	0 ^u		
	Total	61		
FIN_SES - FIN_SEB	Negative Ranks	29 ^v	27,22	789,50
	Positive Ranks	42 ^w	42,06	1766,50
	Ties	4 ^x		
	Total	75		
TRA_SES - TRA_SEB	Negative Ranks	65 ^y	51,52	3349,00
	Positive Ranks	51 ^z	67,39	3437,00
	Ties	4 ^{aa}		
	Total	120		

Table 12:- Wilcoxon Signed Rank ATVA Sectoral Industry

	Z	Asymp. Sig. (2-tailed)
Agri_Post - Agri_Pre	-1,846 ^b	,065
Mining_Post - Mining_Pre	-2,591 ^b	,010
Basic_Post - Basic_Pre	-1,222 ^c	,222
Misc_Post - Misc_Pre	-1,665 ^c	,096
Cons_Post - Cons_Pre	-1,926 ^b	,054
Prop_Post - Prop_Pre	-2,674 ^b	,008
Inf_Post - Inf_Pre	-1,257 ^b	,209
Fin_Post - Fin_Pre	-2,799 ^b	,005
Tra_Post - Tra_Pre	-,121 ^b	,904

Table 13:- Test Statistics Average Trading Volume Activity Sectoral Industry Results

The results of testing hypothesis 1 in this study indicate that there is no difference in the overall average abnormal return of the sector before and after the Covid-19 announcement. This shows that the Covid-19 announcement does not contain information, which means the market has not reacted to the negative announcement because the Covid-19 announcement in Indonesia has not yet reached an emergency status around the date of the event. The market is said to be inefficient when all available information can be used to obtain abnormal returns in the market. It is said to be a perfect efficient market if there is no information that can be used to obtain abnormal returns in the market. So that it does not affect investors' investment decisions that can affect changes in stock prices. In this event, an efficient market in the semi-strong form has not yet been formed, because the security price has not yet reached the new equilibrium price in response to information entering the market.

The results of testing hypothesis 2 in this study indicate that there are differences in the average trading volume activity of the entire sector before and after the announcement of Covid-19. The increase in Trading Volume Activity (TVA) resulted in the stock being more liquid during trading in the capital market after the Covid-19 announcement. The power of investors to buy shares has the potential to increase share prices, with the condition that the demand for shares is greater than the supply. If the stock price increases, the trading volume of the stock also increases because these two things are interrelated. The existence of differences in trading volume indicates that the market is efficient in the form of semi-strong information. This can be seen from the announcement information received by investors, making investors see this opportunity as a good signal about the company's prospects in the future.

The results of testing hypothesis 3 in this study indicate that there are significant differences in average abnormal returns in sectors in the industrial sector before and after the announcement of Covid-19. There are significant differences in abnormal returns in the basic industry, consumer goods, and trade sectors. The basic industry sector includes the business of converting basic materials into semi-finished goods. The process of changing the basic material is needed before and during Covid-19. The consumer good sector, especially the food and beverage sub-sector and the pharmaceutical sub-sector, are two things that are much needed during the pandemic. This is evidenced by the occurrence of panic buying by the public at the beginning of the Covid-19 outbreak in Indonesia which resulted in food, drinks and medicines in minimarkets and supermarkets running out of stock. The trade sector, especially the hospitality and tourism sub-sector, at the beginning of the Covid-19 announcement had not been affected because the announcement did not affect tourists who wanted to take a vacation. This shows that the Covid-19 announcement contains information on the basic industry, consumer goods, and trade sectors, which means the market reacts to the Covid-19 announcement. Investors can access the news directly to monitor the development conditions of the impact of the corona virus pandemic.

There is no difference in the average abnormal return in the agriculture, mining, misc industry, property, infrastructure, and finance sectors. The agriculture sector could not survive the Covid-19 announcement in Indonesia due to a 0.65% decline in March 2020. The mining and misc industry sectors experienced an impact at the beginning of the Covid-19 announcement due to panic caused by the government to implement regulations lockdown and implementation of WFH and WFO. The property sector includes buying and selling, renting, building houses or various types of buildings. At the beginning of the pandemic, the sector experienced a decline because people needed money more for their necessities of life during the pandemic and delayed buying property. The infrastructure sector, especially transportation and telecommunications, experienced an impact at the beginning of the Covid-19 announcement due to government regulations for prohibiting entering and exiting regions and cities during the lockdown period. It can be seen that this event does not contain information about the agriculture, mining, misc industry, property, infrastructure, and finance sectors so that there is no reaction that arises and has a major influence on market players on activities in the capital market, especially in these sectors.

The results of testing hypothesis 4 in this study indicate that there are significant differences in average trading volume activity in sectors in the industrial sector before and after the announcement of Covid-19. There are differences in average trading volume activity in the mining, consumer good, property, and finance sectors, ultimately making this condition encourage investors' optimism to invest their shares in IDX sectoral industrial companies. The movement of stock prices is strongly influenced by the amount of trading volume traded. The higher the trading volume traded, the higher the price of the listed shares and vice versa. This encourages investors to keep buying and selling shares in the capital market. This shows that the Covid-19 announcement contains information on the mining, consumer good, property, and finance sectors because investors are very quick to respond to information circulating in the market.

There is no difference in average trading volume activity in the agriculture, basic industry, misc industry, infrastructure, and trade sectors, meaning the market does not show a significant change in trading volume activity due to the Covid-19 announcement. The absence of a significant difference indicates that investors tend not to make significant buying or selling trade transactions, so that in general there is no significant difference in stock liquidity. Investors do not want to take risks by making decisions too quickly from external information or outside economic events. This shows that the Covid-19 announcement does not contain information on the agriculture, basic industry, misc industry, infrastructure, and trade sectors because at the time of the Covid-19 announcement there was a decrease in trade volume in these sectors. The decrease in trade volume in the agriculture, basic industry, misc industry, infrastructure, and trade sectors can be seen in table 4.16 which is indicated by the negative ranks and positive ranks generated for each sector. The decrease in trading volume seen from the announcement information

received by investors makes investors not want to take risks by making decisions too quickly from external information or outside economic events.

V. CONCLUSIONS

From the conclusions above, the results of the analysis in measuring abnormal returns and trading volume activity using the event study method show that the findings based on each sector are better because they describe the results of each sector in the IDX sectoral index. The results of the analysis obtained from each sector can make it easier for investors to observe the shares circulating in the capital market and as a consideration in investing in companies in that sector.

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