THE EFFECT OF FIRST CASE COVID-19 ANNOUNCEMENT ON AVERAGE TRADING VOLUME ACTIVITY OF PHARMACEUTICAL SECTOR COMPANIES

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Abstract: Indonesia announced its first case of Covid-19 on March 2, 2020. This research aims to find significant differences in the trading volume activity of pharmaceutical companies before and after the Covid-19 first case announcement. The data have been obtained 3, 10, and 14 days before the announcement and on the 3rd, 10th, and 14th days after Indonesia first announced the covid-19 coronavirus. The data has been processed using SPSS 26 version through a One-sample Kolmogorov Smirnov t-test. The results show that there is a significant difference in the transaction volume of the pharmaceutical stock company before and after Indonesia's first announcement of the covid-19 case. This is indicated by a significance value of 0.00 <0.05, which means that the transaction volume after the announcement shows an increased value compared to the volume before the announcement.
Keywords: Covid-19, Event Study, Pharmaceutical Stocks, Trading Volume Activity

Abstrak: Indonesia mengumumkan kasus pertama Covid-19 pada 2 Maret 2020. Penelitian ini bertujuan untuk mengetahui perbedaan signifikan volume transaksi perusahaan farmasi sebelum dan sesudah pengumuman kasus pertama Covid-19. Pengambilan data dilakukan 3, 10, dan 14 hari sebelum pengumuman dan pada hari ke-3, ke-10, dan ke-14 setelah Indonesia pertama kali mengumumkan virus Covid-19. Data diolah menggunakan SPSS versi 26 melalui uji t satu sampel. Hasil penelitian menunjukkan bahwa terdapat perbedaan yang signifikan pada volume transaksi perusahaan saham farmasi tersebut sebelum dan sesudah pengumuman kasus Covid-19 pertama di Indonesia. Hal ini ditunjukkan dengan nilai signifikansi 0,00 < 0,05 yang berarti volume transaksi setelah pengumuman menunjukkan nilai yang meningkat daripada volume sebelum pengumuman.
Kata Kunci: Aktivitas Volume Perdagangan, Covid-19, Studi Peristiwa, Saham Farmasi

INTRODUCTION

Indonesia is one of the countries affected by Covid-19 with the first case occurring on March 2, 2020 (Susilo et al., 2020). This Covid-19 incident did not occur simultaneously in Indonesia, and there is no national policy like Italy's lockdown policy (Johan, 2020). The impact of the Covid-19 pandemic causes low investor sentiment towards the market which in turn leads the market to tend to be negative (Nasution et al., 2020). This pandemic also has an impact on the capital market and stock movements of companies listed on the Indonesia Stock Exchange. In addition to stock prices, the trading volume of shares greatly affects the number of shares outstanding, if the trading volume is large, these shares are declared as active shares. Stocks that have a large trading volume occur because these stock transactions are very active and attract the interest of many investors. Furthermore, the volume of stock trading is important for an investor, because the volume of stock trading describes the conditions traded in the stock

market. Very high-volume trading activity on the stock exchange would be interpreted as a sign of favorable market conditions.

Empirically, some researchers have conducted research related to stock offer volume on stock prices such as Rahayu and Masud (2019) who found stock trading volume has a positive and significant effect on stock prices. Widayanti and Mulyo (2013) found that stock trading volume has a positive and significant effect on stock returns. However, Abidin et al. (2016) found that the bid volume partially did not affect stock prices. Indriastuti and Nafiah (2017) found that stock trading volume showed positive results but not significant to stock returns. Muhammad and Yanuarti (2020) found trading volume had no significant effect on stock returns. Based on the research problem and research gaps, it is necessary to carry out further research by asking research questions: Did the announcement of the first case of Covid-19 affect trading volume activity on pharmaceutical stocks companies? Therefore, this research aims to find significant differences in the trading volume activity of pharmaceutical companies before and after the Covid-19 first case announcement. In addition, the author has a hypothesis that there is a significant difference in the average trading volume of the pharmaceutical sector stocks before and after the announcement of the first Covid-19 case in Indonesia.

THEORETICAL CONCEPT
Market Efficiency Theory

Tandelilin (2001) states that the capital market can be said to be efficient if the prices of all traded securities reflect all available information. Meanwhile, according to Husnan (1993), an efficient capital market is a market in which information is widely available, cheap for investors, and all relevant information is reflected in the prices of these securities. Hanafi (2004) defines market efficiency theory as a theory that discusses the price or value of a security that fully reflects all the information available on that information. The market response to information is something that companies need to pay attention to because the price of the company's shares will depend on investors. Based on an empirical study of research from Putra and Putri (2018) which states that there is information contained in the event of Donald Trump's victory to become president of the United States. Based on research by Hatmanti and Sudibyo (2017), the market also reacts to the inauguration of the Work Cabinet as a result of the volume II reshuffle.

Trading Volume Activity

Trading volume activity is the ratio between the number of shares traded at a certain time to the number of shares outstanding at a certain time (Husnan, 1993). The number of shares issued is the number of shares when the company issued shares. Consistent with Hartawan et al. (2015), this study applies the following steps in calculating the Trading Volume Activity (TVA) variable such as:

1. Calculating the Trading Volume Activity (TVA) of each security using the following formula.

$$TVA = \frac{\sum traded\ stocks}{\sum outstanding\ stocks}$$ ....(1)

2. Calculating the Average Trading Volume Activity (ATVA) of all stocks sample.

$$ATVA_t = \frac{\sum_{t=1}^{n} TVA_{i,t}}{n}$$ ....(2)

Notation:

$TVA_{i,t}$ = The trading volume of the i security on day t, and n is the number of total securities.

Event Study

Suganda (2018) states that an event study is a study that studies the impact or influence of the market on an event or information that can be published. Research conducted by Sutrisno et al. (2000) found that stock prices have increased in the period after the stock split and there is a significant difference in stock trading volume between before and after the stock split.

RESEARCH METODHOLOGY
Research Design

This research used an event study to test whether the Covid-19 announcement has had a more impact on the conditions of the Indonesian capital market, especially on the trading volume activity of pharmaceutical stocks. This research is an event study. An event study is a study that studies the market's reaction to an event in which information is published as an announcement. Event study 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 market (Hartono, 2017).

Data Collection Method

This research uses quantitative data, data used in this research is secondary data from the web of id.investing.com. Secondary data needed in this research are data daily stock trading volume of pharmaceutical companies in the period 11th February 2020 - 20th March 2020 (trading days of t-3, t-10, t-14 before the announcement of the first case of Covid-19 until t+3, t+10, t+14 after the announcement of the first case of Covid-19). Population in this research is stocks companies that have been listed on the Indonesia Stock Exchange in 2020 and the number of populations is 10 companies. The sample selection is done by using the purposive sampling method, which means that the population that will be used as the research sample is that the population meets certain samples criteria by what the researcher wants. Therefore, the total samples of this research are 7 pharmaceutical companies.

RESULT AND DISCUSSION
Descriptive Statistic Analysis

Trading volume activity is measured by looking at the activity indicator stock trading volume. The change in share trading volume in the capital market shows the activity of stock trading on the stock exchange and reflects investors' investment decisions. The results of the descriptive statistics for the first series are t-3 to t+3 (26 February 2020 to 05 March 2020), the second series is t-10 to t+10 (17 February 2020 to 16 March 2020) and the last series is t-14 to t+14 (11 February 2020 to 20 March 2020). The results of descriptive statistics based on t-3 to t+3 (26 February 2020 to 05 March 2020) can be seen in Table 1 below:

Table 1
The Result of Average Trading Volume (t-3 to t+3)

Descriptive Statistics				
Condition	Minimum	Maximum	Mean	Std. Deviation
Before	,0082	,8572	,3300	0,37336
After	,0068	6,4329	1,6757	2,75894

Source: Processed data (2021)

Based on the descriptive statistics test result on the table above, it shows an increase in average trading volume activity from the condition before to the condition after the announcement of the first Covid-19 case, which was increased significantly from 0,329% to 1,675%. Before the announcement, the minimum value based on the descriptive statistics test is 0,0082% which is PT Phapros Tbk (PEHA) stock. This value means that during the period t-3, PEHA stocks were not very actively traded (just 0,02% traded from 200 Mio number of shares). On the other hand, the maximum value based on the descriptive statistics test is 0,8572% which is PT Indofarma Tbk (INAF) stocks which traded 2,57% from 300 million shares. Whereas, after the announcement, the minimum value based on the descriptive statistics test is 0,0068% which is PT Tempo Scan Pacific Tbk (TSPC) stocks which traded 0,02% from 800 million number of shares and the maximum value is 6,4329% which is PT Indofarma Tbk (INAF) stocks which traded 19,30% from 300 million number of shares. In addition, the standard deviation shows an increase, where the condition before the announcement amounted to 0,3733 to 2,7589. The increase in the standard deviation represents volume Stock trading on the IDX after the announcement is more volatile so it is close to heterogeneous. There is a difference in the average stock trading volume activity during the period observations before

and after the event show that investors responded to the stock market that was so responsive to the announcement of the first Covid-19 case. The results of descriptive statistics based on t-10 to t+10 (17 February 2020 to 16 March 2020) can be seen in Table 2 below:

Table 2
The Result of Average Trading Volume (t-10 to t+10)

Descriptive Statistics				
Conditions	Minimum	Maximum	Mean	Std. Deviation
Before	,0047	,8182	,2831	,36386
After	0,0189	3,3485	1,0120	1,57467

Source: Processed data (2021)

Based on the descriptive statistics test result on the table above, it is known that the average trading volume activity from the condition before to the condition after the announcement of the first Covid-19 case has been increased significantly from 0,283% to 1,012%. In addition, the standard deviation shows an increase, where the condition before the announcement amounted to 0,3638 to 1,5746. The increase in the standard deviation represents volume Stock trading on the IDX after the announcement is more volatile so it is close to heterogeneous. Before the announcement, the minimum value based on the descriptive statistics test is 0,0047% which is PT Phapros Tbk (PEHA) stock. This stock was not very actively traded (just 0,0047% traded from 200 million shares). On the other hand, the maximum value based on the descriptive statistics test is 0,8182% which is PT Kimia Farma Tbk (KAEF) stocks which traded 8,18% from 500 million shares. Whereas, after the announcement, the minimum value is 0,0189% which is PT Phapros Tbk (PEHA) stocks which traded 0,19% from 200 million number of shares and the maximum value is 6,4329% which is PT Kimia Farma Tbk (KAEF) stock which traded 33,49% from 500 million number of shares. The results of descriptive statistics based on t-14 to t+14 (11 February 2020 to 20 March 2020) can be seen in Table 3 below:

Table 3
The Result of Average Trading Volume (t-14 to t+14)

Descriptive Statistics				
Condition	Minimum	Maximum	Mean	Std. Deviation
Before	,0056	,8236	,0277	,36298
After	,1953	2,8960	,8886	1,34281

Source: Processed data (2021)

Based on the descriptive statistics test result on the table above, it is known that average trading volume activity before and after the announcement of the first Covid-19 case was increased significantly from 0,277% to 0,887%. In addition, the standard deviation shows an increase, where the condition before the announcement amounted to 0,3629 to 1,342 which means the volume stock trading on the IDX after the announcement is more volatile and heterogeneous. Whereas, before the announcement, the minimum value based on the descriptive statistics test is 0,0056% which is PT Phapros Tbk (PEHA) stock (just 0,078% traded from 200 million shares). On the other hand, the maximum value based on the descriptive statistics test is 0,8236% which is PT Indofarma Tbk (INAF) stocks which traded 11,52% from 300 million shares. Whereas, after the announcement, the minimum value is 0,1953% which is PT Industri Jamu dan Farmasi Sido Muncul (SIDO) stocks which traded 2,7% from 5 billion number of shares and the maximum value is 2,896% which is PT Indofarma Tbk (INAF) stock which traded 40,54% from 300 million number of shares.

If we look at the average values in tables 1, 2, and 3, there is an increase in the volume of shares traded after the announcement of the first Covid-19 case in Indonesia. It can happen because when times of pandemics, investors tend to actively sell shares, thus leading to lower prices of stock and increasing the trading volume. Investors who sell the stock because of the anxiety reaction psychology of investors on stock returns caused by the impact of the pandemic the Covid-19 outbreak. Also, Asian capital markets that were affected by the pandemic experienced a negative return abnormal compared to other countries.

Instrument Accuracy Test

In this part, the author examines the accuracy of the data sample using a normality test. This data was examined before the author tested the hypothesis. The normality test used in this study is the Kolmogorov-Smirnov test. The results of the Kolmogorov-Smirnov test of this study are presented using three-time series. The first series is t-3 to t+3 (26 February 2020 to 05 March 2020), the second series is t-10 to t+10 (17 February 2020 to 16 March 2020) and the last series is t-14 to t+14 (11 February 2020 to 20 March 2020). The results of the normality test based can be seen in Table 4 below:

Table 4
The Result of Normality Test

Normality Test		
Kolmogorov-Smirnov		
Period	df	Sig.
t-3 to t+3	7	0,001
t-10 to t+10	7	0,001
t-14 to t+14	7	0,002

Source: Processed data (2021)

Based on the results of the Normality Test Kolmogorov-Smirnov (K-S) statistical test above, it can be seen that all the significance value is less than 0.05. This value indicates that the Average Trading Volume Activity (ATVA) data is not normally distributed. Therefore, the hypothesis test will be used as a non-parametric test method which is One-sample Kolmogorov Smirnov Test.

Hypothesis Test

This research used One-sample Kolmogorov Smirnov Test to test the hypothesis statement. The results of the One-sample Kolmogorov Smirnov Test based on the period of 11th February 2020 – 20th March 2020 can be seen in Table 5 below:

Table 5
The Result of One Sample Kolmogorov-Smirnov Test

One-Sample Kolmogorov-Smirnov Test	
Period	Asymp. Sig. (2-tailed)
t-3 to t+3	0,001
t-10 to t+10	0,001
t-14 to t+14	0,002

Source: Processed data (2021)

Based on the results of the one-sample t-test above, it can be seen that all the significance value is less than 0.05. This significance value means H_0 is rejected and H_1 is accepted. Therefore, a significance value < 0.05 indicates that there was a significant difference in Average Trading Volume Activity (ATVA) before and after the announcement of the first cases of Covid-19 in Indonesia during the period 11 February 2020 to 20 March 2020. Based on the result, can we conclude that investors carry out the massive trading activity in pharmaceutical stocks from 11 February 2020 to 20 March 2020? These results are in line with research conducted by Nurmasari (2020) which examined the impact of Covid-19 on changes in share prices and transaction volume at PT Ramayana Lestari, Tbk stated at PT Ramayana Lestari Sentosa, Tbk experienced a significant increase in the volume of share transactions due to cases caused by Covid-19. The increase in the volume of stock transactions occurred due to the increase in the buying and selling activities of shares at PT Ramayana Lestari Sentosa, Tbk.

Moreover, when a big event occurs there will be a relationship to changes in share prices, this occurs when the announcement of the first Covid-19 case in Indonesia has had a significant impact on stock prices which is supported by a very active trading volume (volume has increased significantly high). This of course can provide information for investors to consider future investment decisions when there is a big event or the same thing (Caraka et al., 2020).

CONCLUSION

This research is conducted to find out whether there is an effect on trading volume activity (TVA) before and after Covid-19's first case announcement. Also, this research can help the new and current investors to make a good decision before they invested in pharmaceutical companies during the pandemic Covid-19s. However, this research concluded that the average trading volume activity (TVA) before and after the announcement of the first Covid-19 case, showed that there is a significant difference to the average TVA before and after the announcement of the first Covid-19 case. The TVA shows an increase in the average trading volume after the announcement of the first Covid-19 case. This is because investors are doing profit-taking on several stocks in the pharmaceutical sector during the research period.

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