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Investor Reactions to the announcement of the Covid-19 Public Health Emergency Determination (Event Study at ILQ-45 Companies Listed on the IDX)

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ABSTRACT : The purpose of this study is to analyze investors' reactions to the announcement of the public health emergency determination of COVID-19 by seeing whether there is a significant difference in the average abnormal return, security return variability, and trending volume activity before and after the event. The research observations used the window period, H-5 and H + 5, for the determination of events on March 31, 2020. This research is an even study using secondary data in the form of daily transaction data in the capital market. The population and research sample were ILQ-45 companies for the period February 2020 - July 2020. The data analysis technique used a non-parametric test in the form of the Wilcoxon test. The results showed (1) The probability value of the abnormal return is below 0.05, so that there is a difference in the average abnormal return before and after the determination of the COVID-19 public health emergency. (2) The probability value of security return variability and trading volume activity is above 0.05, so the results of the study indicate that there is no difference in the average security return variability and trading volume activity before and after the determination of the public health emergency COVID-19.

Keywords –Abnormal Return, COVID-19, Investor Reaction, Security Return Variability, Tranding Volume Activity.

I.   INTRODUCTION

Coronaviruses (Cov) are indicated as flu that attacks the same respiratory tract as severe acute respiratory syndrome (SARS-CoV) and the Middle East respiratory syndrome (MERS-CoV). Transmission occurs between humans via droplets and direct contact [1]. Through its official website, the Indonesian Ministry of Health stated that the initial case was found in China, Wuhan, on December 30, 2019. The Wuhan Municipal Health Committee issued a statement "urgent notice on the treatment of pneumonia of unknown cause." The increase in cases that continues to occur in the world has caused the World Health Organization (WHO) to declare an international COVID-19 emergency on January 31, 2020.

On March 2, 2020, two positive cases of COVID-19 were found, which were announced directly by President Joko Widodo. The data from the COVID-19 task force showed that positive cases of COVID-19 continue to increase significantly. On March 31, 2020, Presidential Decree No. 11 of 2020, concerning the establishment of a public health emergency for COVID-19. This is an effort to suppress the spread of the COVID-19. The policies taken by the government have an effect on the weakness in economic growth in Indonesia. The sectors experiencing weakness were the trade, tourism, and investment sectors [2], [3].

The economic downturn in the investment sector can be seen through the capital market. According to Law Number 8 of 1995, the capital market is a sales offering activity related to securities, public companies, institutions, and professionals. Factors that affect the success of the capital market are the political and economic conditions of a country, legal and regulatory issues, demand for securities, supply of securities, and the existence of institutions that regulate and supervise, and institutions that allow transactions efficiently [4].

Political events are one that affects the capital market from a non-economic environment, and political conditions play a role in economic stability [5], [6]. Stable political conditions are followed by stable economic conditions, making investors feel safe in investing [7]. It is known that in the stock trading range before the determination of the public health emergency COVID-19, the JCI was observed to have strengthened to 75,596, but on April 1, the JCI experienced a decrease of 72,893. Based on these circumstances, COVID-19 is expected to cause the capital market to react.

Abnormal return, security return variability, and trading volume activity can be used as measuring tools to see investors' reactions. The difference between the actual return rate and the expected return is the abnormal return obtained by investors [8], [9]. The measurement of abnormal return is used to measure the market

reaction by differentiating it into two time periods before and after the event [10]. The measurement of abnormal return will also be useful for finding the amount of security return variability (SRV). To eliminate the effects of information, both bad news and good news that occur can use SRV [7]. The impact of this heterogeneous information can be detected by SRV, although the direction of movement cannot be seen [11], [12]. Market reaction movements can be measured through trading volume activity (TVA). TVA is an instrument for measuring capital market movements' parameters. The bargaining power exercised by investors will affect market conditions [13]. Trading volume increases as a result of demand is an indication that the market thinks the news is good, but if the trading volume is due to a sale, it indicates that the information is considered bad news [14].

As a barometer of economic performance and sensitivity to external shocks, many researchers have conducted research on the pandemic's impact on the economy, especially in Indonesia. Research on the impact of COVID-19 on the Indonesian economy shows that the government's efforts to minimize the spread of COVID-19 can reduce economic growth in Indonesia Hanoatubun (2020). Research by Burhanuddin et al., (2020) explored the threat of the global economic crisis from the impact of the spread of the coronavirus (COVID-19). The results obtained by the global economy must be measured from a broad economic scope to obtain maximum results. In addition to disrupting the health of COVID 19, it also disrupts economic stability. Kiky (2020) conducted research on risk management for the March 2020 black swan event in Indonesia, a case study of the effect of COVID-19 on the Indonesian capital market, showing the results of the event study and also the Wilcoxon Signed Test, confirming that in March there was an unusual movement from the JCI. Research from NastitiRizkyShiyammurti et al., (2020) regarding the impact of the COVID-19 epidemic at PT. The Indonesia Stock Exchange (IDX) showed that foreign investors tend to experience an increase in stock trading value, which is feared to be hot money. Furthermore, the weakening rupiah exchange rate will affect the weak JCI value.

In line with the above problems, this study seeks to analyze investors' reactions by assessing the performance competence in the stock market before and after determining the COVID-19 public health emergency. Specifically, this study identified the difference in the average abnormal return, security return variability, and trending volume activity during the observation period.

II. METHOD

The research is in the form of an event study, with the population and sample of this research, namely the ILQ45 company for the period February 2020 - July 2020. The research period was ten stock exchange working days, with a window period H-5 and H + 5. The H0 period is a public health emergency determination event for COVID-19 on March 31, 2020. The type of the study based on its data is a quantitative research using the documentation method. All data used are secondary data obtained through www.idx.co.idin the form of financial reports on daily transactions of stock movements and share sales volume.

a. Steps in analyzing abnormal returns.
    1. Calculating the actual return.

$$R_{it} = \frac{P_{it} - P_{it-1}}{P_{it-1}}$$

Note:
Pi, t   : share price i in period t
Pi, t-1   : share price i in period t-1
Ri, t   : the daily stock return of securities i in period t

    2. Calculate the expected return

$$Rm_{i,t} = \frac{IHSG_t - IHSG_{t-1}}{IHSG_{t-1}}$$

Note:
IHSGt   : Composite Stock Price Index in period t
IHSGt-1 : Composite Stock Price Index on the day before period t
Rmi, t   : Stock market return i in period t

    3. Calculating the abnormal return

$$AR_{i,\,t} = R_{i,t} - Rm_{i,t}$$

Note:

Ri, t : the actual return of security i in period t

Rmi, t : the expected return of security i in period t

ARi, t : the abnormal return of securities i in period t

4. Calculating the average abnormal return

$$AAR_{before} = \frac{\sum_{t=-5}^{t=-1} AR\ before}{t}$$

$$AAR_{after} = \frac{\sum_{t=+5}^{t=+1} AR\ after}{t}$$

Note:

AR before   : abnormal return before the event

AAR before   : the average abnormal return before the event

AR after   : abnormal return after the event

AAR after   : the average abnormal return after the event

b. Steps in calculating security return variability.

1. Calculating security return variability

$$SRV_{it} = \frac{(AR_{it})^2}{V(AR_{it})}$$

Note:

$(AR_{it})^2$: Abnormal Return of Stock i on day t

$V(AR_{it})$: Variant of Abnormal Return on stock i estimation period

SRVit : Profitability Variability of stock i on day t

2. Calculating the average security return variability

$$ASRV_{before} = \frac{\sum_{t=-5}^{t=-1} SRVbefore}{t}$$

$$ASRV_{after} = \frac{\sum_{t=+5}^{t=+1} SRVafter}{t}$$

Note:

T   : Period of time

SRV Before   : SRV before the event

Prior ASRV   : Average pre-event SRV

SRV After   : SRV after the event

ASRV After   : Average SRV after the event

c. Steps in calculating trading volume activity.

1. Calculating trading volume activity

$$TVA_{i,t} = \frac{\sum share\ sales\ volume}{\sum listed\ share}$$

2. Calculate the average trading volume of activity

$$ATVA_{before} = \frac{\sum_{t=-5}^{t=-1} TVA\ before}{t}$$

$$ATVA_{after} = \frac{\sum_{t=+5}^{t=+1} TVAafter}{t}$$

Note:

TVA before: TVA before events
ATVA before: average TVA before the event
TVA after: TVA after events
ATVA after: average TVA after the event

Hypothesis test

Hypothesis testing used the Wilcoxon test with the help of the SPSS version 20 for the windows program. The Wilcoxon test is a paired two-sample data test and is a non-parametric test as an alternative to the paired t-test (parametric test) with advantages in the results of research data that do not require a normal distribution [15]. The purpose of the Wilcoxon test is to see the comparison of reactions in two paired or related data groups, and the data scale used is continuous [16]. To determine the significance of a test, the significance level (α) used is 0.05 with the following test criteria.
If the probability <α, Ho is rejected
If probability> α, Ho is accepted

III.   RESULT AND DISCUSSION

Difference of Abnormal Return Before and After Determination of Public Health Emergency COVID-19

The calculation results of the average abnormal return experience fluctuating movements, the highest value of H-5 is 0.0508410, and the lowest value is -0.0518345, while for the period H + 5, the highest value is 0.0714715 and the lowest value is -0.0173595. From the calculation results, there are 19 data (N) stated as negative rank or the difference is negative, meaning that 19 data on the average abnormal return value has decreased, with the total negative value of 300.00 and an average decrease of 15.79. In comparison, the 26 existing data (N) experienced an increase in the average abnormal return or positive rank with a total of 735.00 and an average increase of 28.27.

Based on the analysis using SPSS with Wilcoxon testing to find out whether there is a difference in the average abnormal return obtained by investors in the observation period, it shows that the Z score on the "Test statistical" output results is -2.455. This test using a significance level or alpha value (α) of 5%. Asymp value. sig. (2-tailed) of 0.014 so that the probability value is below 0.05 (0.014 <0.05), then Ho is rejected, and this test result is statistically significant, meaning that there is a significant difference in abnormal returns before and after the public health emergency determination of COVID -19.

Differences in Security Return Variability Before and After the Determination of a Public Health Emergency for COVID-19

The calculation of the average security return variability has fluctuating movements. Based on the calculations results during the observation period, the highest value of H-5 was 4.9374783, and the lowest value was 0.2373246, while for the observation period H + 5, the highest value was 6.745979 and the lowest value was 0.018712. Based on the calculation, 30 data (N) have decreased in the average security return variability or stated as negative rank with the total negative value of 648.00 and an average decrease of 21.60. While the 15 data (N) existing data experienced an increase in the average security return variability or positive rank with a total of 387.00 and an average increase of 25.80.

The analysis of security return variability using SPSS with Wilcoxon testing to determine the difference in the average distribution of stock returns in the period before and after the event shows that the Z score in the output "Test statistics" is -1.473. This test used a significance level or alpha value (α) of 5%. Asymp value. sig. (2-tailed) of 0.141 so that the probability value is above 0.05 (0.141> 0.05), then Ho is accepted, and the test results are declared not statistically significant, meaning that there is no significant difference in security return variability before and after the emergency determination event. The public health COVID-19.

Differences in trading volume activity before and after the determination of a public health emergency for COVID-19

In the calculation of the average tranding volume activity, the movement fluctuates. The highest value is H-5 0.0119167, and the lowest value is 0.0005335, while for the period H + 5, the highest value is 0.0158038, and the lowest value is 0.0003369. There are 30 data (N) stated from the calculation results as negative rank or the difference is negative, meaning that 30 data on the average value of tranding volume activity has decreased, with the total negative value of 624.00 and an average decrease of 20.80. While the 15 data (N) existing data experienced an increase in the average tranding volume of activity or positive rank with a total of 411.00 and an average increase of 27.40.

The tranding volume activity analysis using SPSS with the Wilcoxon test to see the difference in the average share trading volume during the period before and after the COVID-19 public health emergency determination event shows that the Z score in the output "Test statistics" is -1,202. This test used a significance level or alpha value (α) of 5%. Asymp value. sig. (2-tailed) of 0.229 so that the probability value is above 0.05 (0.229> 0.05), then Ho is accepted, and the test results are not statistically significant, meaning that there is no significant difference in tranding volume activity before and after the emergency health event. The COVID-19 community.

DISCUSION

Based on the results of the study, it was found that there is a difference in the average abnormal return during the observation period. Although the events that occur are considered bad news, they do not affect investors in making investments. This statement is reinforced by research conducted by Shiyammurti et al. Shiyammurti et al. (2020), whihc found that the number of investors tends to increase in March 2020. In addition, quoted from www.marketbisnis.com, during the first quarter of 2020, the number of foreign investors has increased significantly. Factors that influence the increase in investment are caused by the demand and supply of securities and investor confidence in the company's fundamentals. Fundamental analysis used by investors has a long-term horizon. Investors will use historical data and future data to estimate the company's future growth. This is in line with the statement stated by Dewi& Vijaya (2017)that fundamental analysis provides conclusions on companies that can be selected for investment. Companies that have good fundamentals can describe their situation in the stock market. In addition, investors assume that good fundamentals characterize the viability of a company.

This study is different from the research conducted by Pamungkas (2015) on the 2014 Indonesian Presidential Election's effect on abnormal returns and trading volume activity. In this study, it was found that there is no significant difference in abnormal returns after the 2014 Indonesian presidential election. However, this research, it has similarities with the research conducted by Saraswati&Mustanda (2018) regarding the reaction of the Indonesian capital market to the announcement of the election results of the general election and the inauguration of the President of the United States, namely there is a market reaction around the announcement of the vote count results of the presidential election. The United States and the inauguration of the President of the United States.

The results showed that there was no difference in the average security return variability and tranding volume activity. The announcement of the COVID-19 public health emergency determination is considered not to contain informative information for investors, so it does not affect investors' decisions in investing. This can be seen through the absence of a significant change in the distribution of stock returns. In the form of company fundamentals, factors outside the announcement are observed to have a very strong influence, so this shows the very high level of investor confidence in the company's growth estimates and future prospects. In addition, the rapid development of technology has made all information easily accessible. There are also many means of obtaining information through the Indonesia Stock Exchange so that during the pandemic that hit the world today, it is not one of the reasons for the reduced interest of investors in investing.

This study is in line with research done by Diantriasih et al. (2018) concerning the comparative analysis of abnormal returns, security return variability, and trading volume activity before and after the 2018 simultaneous regional elections, showing that the information contained in the observation event does not have a strong influence, there is a difference in the average security return variability. This research also has similarities with research conducted by Asmorojati et al. (2016) regarding investors' reactions to the announcementtax amnesty policy's announcement on July 1, 2016 (evet study on LQ45 companies listed on the IDX). Research conducted by Karina et al., (2020) on the analysis of investors' reactions at the Indonesia Stock Exchange at Joko Widodo's inauguration also showed that not all available information causes investors to react.

IV.   CONCLUSIONS AND SUGGESTIONS
Conclusions

Based on the results of research and discussion of hypotheses related to the relationship between COVID-19 public health emergencies with abnormal returns, security return variability, and trading volume activity, it can be concluded that there is a difference in the average abnormal return during the observation period, while there is no average difference between average security return variability and trading volume activity before and after the COVID-19 public health emergency determination.

Suggestion

Based on the above conclusions, the advice that can be given to issuers is that the company's activities must be improved so that investors trust the company's prospects in the future. For investors, it is advisable to analyze relevant information so that it can be used as material for consideration in making decisions and not rushing into buying and selling actions and being more rational in every investment action. For the next researcher, it is hoped that further research will be carried out on the impact of determining the public health emergency of COVID-19 on abnormal returns, security return variability, and trading volume activity using different objects and periods to obtain better research results. In addition, it is also hoped that indicators for measuring market reaction can be developed, such as the holding period and the bid-ask spread as a comparison.

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