

ANALYSIS OF DIFFERENCES IN SHARE RETURN, TRADING VOLUME ACTIVITY, AND BID-ASK SPREAD OF SHARE BEFORE AND AFTER THE ANNOUNCEMENT OF EMERGENCY COMMUNITY ACTIVITIES RESTRICTIONS ENFORCEMENT (PPKM): STUDY ON TRANSPORTATION SECTOR COMPANIES LISTED ON THE INDONESIA STOCK EXCHANGE

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ABSTRACT

COVID-19 is a virus that spreads very quickly throughout the world, including Indonesia, which has an impact on health and economic conditions. Community Activities Restrictions Enforcement (PPKM) Emergency is one of the policies of the Indonesian government as an effort to overcome it. The purpose of this study was to examine differences in returns, trading volume activity, and bid-ask spreads of stocks before and after the announcement of the Emergency PPKM using the event study method. The sample of this study is all members of the population totaling 27 companies in the transportation sector listed on the Indonesia Stock Exchange. The research approach uses descriptive and comparative methods with a different Wilcoxon signed rank test with SPSS 26 program. The test results show that there is no difference in stock returns, no difference in trading volume activity, and no difference in the bid-ask spread before and after the Emergency PPKM announcement.

Keywords: *Return, Trading Volume Activity, Bid-ask Spread, event study, Emergency PPKM*

1. Introduction

The 201 Coronavirus (COVID-19 outbreak hit the world in the middle of 2019 and 2020, including Indonesia. The COVID-19 outbreak grew rapidly in a short period of time. Because this virus is highly contagious, it must be prevented from spreading in the community. The World Health Organization (WHO) has declared COVID-19 a pandemic, emphasizing earlier and faster detection to reduce the number of infections and limit virus transmission through appropriate management. The uncontrolled transmission has resulted in an increase in the number of cases and a strain on the health-care system's capacity. As a result, the number of deaths increases rapidly in several countries (hamid, 2020)

According to Indrawati (2021), the COVID-19 pandemic, in addition to having an impact on health, also had an impact on Indonesia's economic condition, with the increase in COVID-19 cases affecting the world's economic conditions, including Indonesia, and having an impact on various sectors such as transportation, tourism, health,

and trade. Lockdown is a decision made by many countries to prevent the spread of COVID-19, which has the effect of stifling economic activity and putting pressure on future global economic growth, including economic growth in Indonesia (Indrawati, 2021). Furthermore, the COVID-19 pandemic has resulted in negative investor sentiment (HaiYue Liu, Aqsa Manzoor, CangYu Wang, Lei Zhang, and Zaira Manzoor, 2020).

The stock market is heavily influenced by investor sentiment. Investors will behave more optimistically when the market is trending upward and the risk is low. When the market is trending downward, investor sentiment becomes relatively pessimistic, and investors tend to hold off on entering the market until the recovery begins. This situation causes short-term investors to overreact (Liu et al., 2020). Shu (2010) investigated the impact of mood on financial market behavior. The study demonstrates how changes in investor sentiment have a direct impact on equilibrium asset prices and stock returns.

Investors invest for the purpose of gaining a return in the form of dividends or capital gains, as well as ownership of a company. Before making an investment, investors will consider the return on their shares. The share price represents the public company's value. A higher stock price indicates a greater value for the company (Suhadak, Kurniaty, Siti Ragil Handayani, and Sri Mangesti Rahayu, 2019).

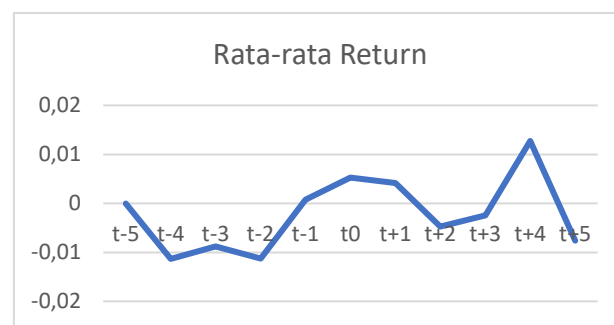


Figure 1. Average Stock Return

(Source: finance.yahoo.com (processed data, 2021))

According to Figure 1., there is a positive return of 0.0042 at t+1, whereas the return is negative from t-4 to t-2 before the announcement. This is not consistent because the PPKM policy contains rules for limiting community mobility, which results in limited company operations, resulting in lower profits and lower stock prices, causing the transportation sector shares to be negatively reacted to by the market (bad news). At t+4, the return has increased by 0.0127, indicating a positive market reaction. This contradicts Tandelilin's (2010) assertion that the market will respond positively to good news as reflected in positive abnormal returns and negatively to bad news as reflected in negative abnormal returns.

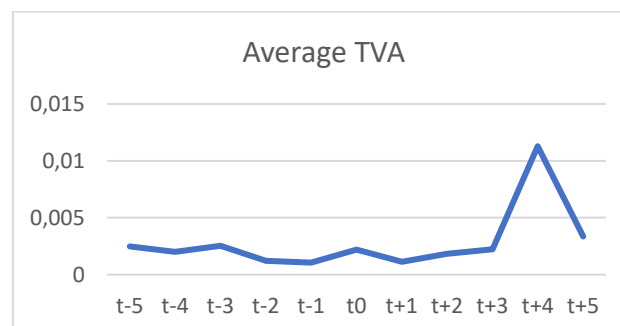


Figure 2. Trading volume on average

(Source: finance.yahoo.com (processed data, 2021))

The volume of trade transactions fluctuated as shown in Figure 2, with a decrease at t+1 of 0.0011, an increase at t+2 and t+3 of 0.0018 and 0.0022, and a significant increase at t+4 of 0.0112. This contradicts Suganda's (2018) assertion that the volume of stock trading will increase if the information released is positive and decrease if the information released is negative.

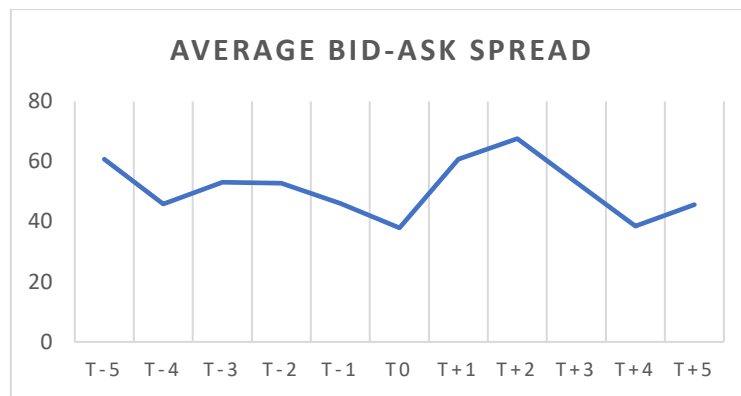


Figure 3. Average trading volume activity
(Source: finance.yahoo.com (processed data, 2021))

Figure 3 shows that the bid-ask spread condition fluctuated five days before the announcement, and the bid-ask spread rose significantly five days after the announcement before falling again. The bid-ask spread position decreased from t-2 to t0 from 52.8% to 37.9%, then rose to 67.6% on t+2 after the announcement and then fell back to 38.5% at t+4 after the announcement. This contradicts the findings of Neneng Susanti, Muhammad Ridwan, Sakina Ichsan, and Mohammad Nugraha (2020), who discovered a significant difference in the bid-ask spread in Indonesia before and after the announcement of COVID-19, owing to investor confidence in the presence of COVID-19. In Indonesia has hampered the economy, resulting in a drop in revenue for almost all Indonesian companies.

According to Irawati (2021), there was a significant decrease in all modes of transportation during Community Activities Restrictions Enforcement (PPKM) Emergency level 4, including land, public transportation, sea, air, and rail. The number of passenger movements in air transportation decreased by 80.8%. The daily passenger number then decreased by 77% in the rail transportation mode. Daily bus passenger movements decreased by 42.36% in terms of land transportation modes. Meanwhile, passenger movement on sea transport decreased by 30.3%.

The national announcement of the Emergency Level 4 Community Activities Restrictions Enforcement (PPKM) policy in Java and Bali is used in this study. According to Luhut (2021), the Level 4 Emergency PPKM policy for the Java and Bali regions will be implemented from July 3, 2021 to July 20, 2021, as part of Indonesia's response to the COVID-19 pandemic. The Emergency PPKM policy exerts significant pressure on all parties and lines, including entrepreneurs who perceive a negative impact on their business or business.

Investment is a current commitment to a number of funds or other resources with the goal of obtaining a number of benefits in the future. In exchange for the time and risk associated with the investment, investors purchase a number of shares today in the hope of profiting from an increase in stock prices or a number of dividends in the future (Tandelilin, 2010).

The capital market brings together parties with excess funds and those in need of funds through the trading of securities. Therefore, the capital market can be defined as a market for trading securities with a lifespan of more than one year, such as stocks and bonds. The stock exchange is the location where investors can buy and sell securities. As a result, the stock exchange can be thought of as a physical capital market (Tandelilin, 2010).

An efficient market is one in which the prices of all traded securities already reflect all available information. The information available can include information from the past (for example, the company's profit last year), current information (for example, plans to increase dividends this year), as well as opinionated or rational market opinions that can affect price changes (Tandelilin, 2010). The concept of an efficient market implies a process of adjusting the price of securities to a new equilibrium price in response to new information entering the market. After investors have fully assessed the impact of the information, the equilibrium price will be determined (Tandelilin, 2010).

The event study method can be used to test the market reaction to an event or announcement in finance, economics, accounting, marketing, politics, information systems, and social sciences (event study). Event studies are studies

that investigate the impact of an announcement of information on the price of securities. The majority of event studies research is concerned with how quickly information entering the market can be reflected in stock prices (Tandelilin, 2010).

An event study specifically investigates the market response to the information content of the announcement or publication of certain events, where the information content can be good or bad news. According to the efficient market hypothesis, the market will react positively to good news, as evidenced by positive abnormal returns, and negatively to bad news, as evidenced by negative abnormal returns (Tandelilin, 2010).

Stock returns, also known as realized returns or actual returns, are returns that have occurred (Hartono, 2017). The difference between the current price of the security and the previous period's price is the actual return (Jogiyanto, 2018). According to Jogiyanto (2018), the following formula can be used to calculate actual returns:

$$R_{i,t} = \frac{P_{i,t} - P_{i,t-1}}{P_{i,t-1}}$$

Trading volume activity is a metric of the market's movement in which investors evaluate an event that contains information, and the event results in trading decisions on normal trading decisions (Tandelilin, 2010). In this case, if the stock's trading volume increases, the information released is positive. If, on the other hand, the trading volume falls, the published information becomes negative. Trading Volume Activity (TVA) can be expressed in the following way (Suganda, 2018):

$$TVA = \frac{\text{Number of shares traded}}{\text{Outstanding shares}}$$

According to Ong (2016), Bid and Ask represent the transaction process between buyers and sellers in the stock market. The difference between the bid and ask prices is known as the bid-ask spread; when the bid-ask spread is too wide, it indicates that the stock is becoming less actively traded or is not liquid. This level of liquidity is something that investors should think about when selecting stocks. If an investor purchases non-liquid shares, the investor will face difficulties reselling the shares to the market due to a lack of interest in these shares (Ong, 2016). The bid-ask spread can be calculated using Komalasari et al.'s (2001) formula:

$$Spread = \frac{(Ask - Bid)}{1/2 (Ask + Bid)} \times 100\%$$

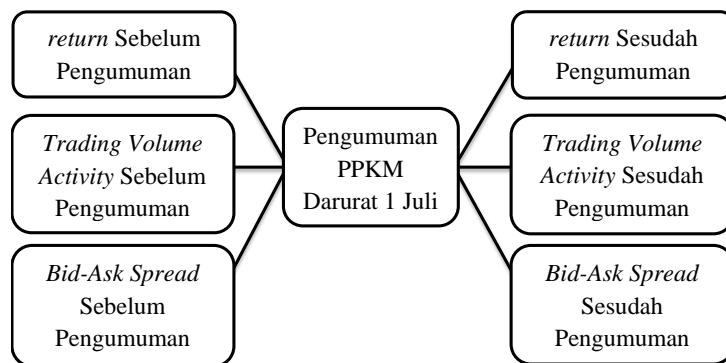


Figure 4. Research Paradigm

The following hypotheses are proposed in this study based on the framework described above:

- H1: There are differences in stock returns before and after the announcement of the Emergency PPKM.
- H2: There is a difference in the volume of stock transactions before and after the announcement of the Emergency PPKM.
- H3: There is a difference in the bid-ask spread of shares before and after the announcement of the Emergency PPKM.

2. Method

This research strategy employs descriptive and comparative methods. Descriptive research seeks to describe or

explain something in order to provide a clear picture of field situations (Widodo, 2018). According to Nazir (2005), comparative research is similar to descriptive research in that it seeks answers to fundamental questions about cause and effect by analyzing the factors that contribute to the occurrence or emergence of a specific phenomenon.

The sample is a subset of the population that was drawn using specific procedures (Sugiarto, 2017). The census method were used in this study, where all individuals are the unit of analysis in the population that is appropriate and worthy of being drawn or used as research samples (Sugiarto, 2017). The samples used in this study were all 27 transportation sector companies listed on the Indonesia Stock Exchange.

This event study research aims to see how the market reacts when an event is announced as an announcement with information. This study's time span or window period is 11 days (5 days before, 1 day of announcement, and 5 days after the announcement of Emergency PPKM). The event window period used in this study is neither too long nor too short because it considers the impact of other events that can affect stock prices, as well as the study's results or the presence of confounding events from various disruptive events during the study. The longer the window period, the more difficult it is to control for other factors (Tandelilin, 2010). This event lasts 5 days in order to observe the liquidity of the bid-ask spread and the volume of stock trading transactions, as well as absorb information on the events that occur.

In this study, the data was analyzed using statistical tools, specifically descriptive statistics and inferential statistics. Before testing the hypothesis, researchers must first determine whether the data is normally distributed or not by using descriptive statistics and testing the data's normality. If the data to be analyzed is normally distributed, the parametric statistical method can be used to analyze the data, which is then tested for different tests using the Paired Sample t-Test. If the normality test reveals that the data is not normally distributed, the Wilcoxon Signed Rank Test, a non-parametric statistical method, is used in this study.

3. Results and Discussion

Table 1. Descriptive statistics results

Variable	Minimum	Maximum	Mean	Std. Deviation
Return before	-0.061	0.011	-0.00725	0.015557
Return after	-0.038	0.033	0.00042	0.013204
TVA before	0.000	0.013	0.00186	0.002887
TVA after	0.000	0.042	0.00397	0.008933
Bid-ask spread before	0.000	200	51.74128	82.057136
Bid-ask spread after	0.000	200	53.12670	79.262401

Source: Processed data, 2022

The average value of stock returns prior to the announcement is -0.00725, indicating a significant negative return value. As a result, the average return during the study period is negative, indicating that the company suffers financial losses or investors suffer losses on the value of their investment during a specific time period. After the announcement, the average return is 0.00042. This shows that the level of positive stock returns explains why stock performance following the announcement of the Emergency PPKM has a relatively good ability to generate returns.

Prior to the announcement, the average trading volume was 0.00186. Following the announcement, the average trading volume was 0.00397. This indicates an increase in the volume of trade transactions between before and after announcements to transportation companies.

Before the announcement, the average stock spread was 51.74128. This can be interpreted to mean that the level of a positive stock spread explains why the stock liquidity was relatively good prior to the announcement. After the announcement, the average stock bid-ask spread was 53.12670. This demonstrates that a positive level of stock spread explains why stock liquidity has been relatively good following the announcement of the Emergency PPKM, indicating that investors are actively requesting and offering stock prices in several transportation companies engaged in logistics that are considered to be performing well even though they are performing well. The government imposes restrictions.

Normality Test

Table 2. Normality Test Results

Period	Nilai Sig.	Significance	Note
Return before	0.005	0.05	Abnormal
Return after	0.002	0.05	Abnormal
TVA before	0.000	0.05	Abnormal
TVA after	0.000	0.05	Abnormal
Bid-ask spread before	0.000	0.05	Abnormal
Bid-ask spread after	0.000	0.05	Abnormal

Source: Processed data, 2022

Because all of the data in table 2 are not normally distributed, we use the Wilcoxon signed rank test to test the hypothesis.

Hypothesis Testing

Table 3. The results of the Wilcoxon signed rank test hypothesis test

Variable	Asymp. Sig. (2-tailed)
Return after – before the announcement of Emergency PPKM	0.006
TVA after – before the announcement of Emergency PPKM	0.882
Bid-ask spread after – before the announcement of Emergency PPKM	0.940

Source: Processed data, 2022

The first hypothesis test has a significance value of 0.006. The test is significant at the level of significance = 5% because the significance is $0.006 < 0.05$, so it can be concluded that there are differences in stock returns before and after the announcement of Emergency PPKM, so hypothesis H1 in this study is supported.

The second hypothesis test has a significance value of 0.882. The test is not significant at the significance level of 5% because the significance is $0.882 > 0.05$, so it can be concluded that there is no difference in trading volume activity before and after the announcement of the Emergency PPKM, so hypothesis H2 in this study is not supported.

The third hypothesis test has a significance value of 0.940. The test is not significant at the significance level of 5% because the significance is $0.940 > 0.05$, so it can be concluded that there is no difference in the bid-ask spread before and after the announcement of the Emergency PPKM, and thus hypothesis H3 in this study is not supported.

Stock Returns Prior to and Following the Event

The Wilcoxon signed rank test results in sig. values of $0.006 < 0.05$, as shown in table 3 above. As a result, there are differences in stock returns before and after the announcement of the Emergency PPKM.

Based on the descriptive analysis, this finding contradicts Tandelilin's (2010) theory that the market will respond positively to good news as reflected by positive returns and negatively to bad news as reflected by negative returns. In Indonesia, the announcement of Emergency PPKM is a form of signal from the government to market participants. One of the policies implemented by the government to deal with the COVID-19 pandemic in Indonesia is the Emergency PPKM, which was announced on July 1, 2021 and went into effect from July 3 to July 20, 2021. The impact of this Emergency PPKM will have an impact on the Indonesian economy and stock market (bad news) (Hikmat, 2021). As a result, while the government's announcement of the Emergency PPKM is a negative signal for investors and market participants, descriptive statistical analysis shows that the difference in stock return conditions before and after the announcement shifts from negative to positive. As a result, while the government's announcement of the Emergency PPKM is a negative signal for investors and market participants, descriptive statistical analysis shows that the difference in stock return conditions before and after the announcement shifts from negative to positive.

These findings are consistent with previous research from Kefi et al. (2021), Alam et al. (2020), and Anh and Gan (2020), which discovered differences in stock returns before and after an event's announcement. This result

contradicts Septiana's (2021) study, which found no difference in stock returns before and after an event's announcement.

The Difference Between Trading Volume Activity Before and After the Event

The Wilcoxon signed rank test results yield a significance value of $0.882 > 0.05$, implying that there is no difference in the trading volume of stock activity before and after the announcement of the Emergency PPKM. These findings indicate that the information contained in the announcement of the Emergency PPKM event has no effect on investors' decisions to trade shares in transportation sector companies, which contradicts Tandelilin's (2010) theory that investors will assess an event that contains information that will influence trading decisions.

The hypothesis test results show that there is no difference in stock activity trading volume before and after the announcement of the Emergency PPKM. As a result of the study's findings, it is possible to conclude that the market does not provide signals or sufficient information for investors to make trading decisions on transportation sector companies listed on the Indonesia Stock Exchange. This is due to the fact that investors may still be looking for policy direction from the government regarding the implementation of Emergency PPKM. Investors have also learned a lot from the previous implementation conditions of various tightening policies and restrictions. This policy is also supported by efforts to accelerate the COVID-19 vaccination, which is still being gradually injected into the entire community (Riza, 2021). With the acceleration of the vaccination, investors predict that there will be a lot of policy easing in the future, so investors will not change their decision in trading stocks and will remain optimistic in trading stocks.

This finding is consistent with Ismanto's (2020) study, which discovered no difference in trading volume activity on LQ-45 shares before and after the announcement of PSBB Volume II in DKI Jakarta. This is because the activities of all companies listed on LQ-45 can increase the volume of trading transactions even when investor sentiment is negative, and investors tend to wait for government policy directions that may or may not affect the company. This finding contradicts the findings of Nurmasari (2020), Iswanti et al. (2021), and C.Y. Talumewo et al. (2021), who discovered a difference in the volume of trading transactions before and after the announcement of events.

The Difference between Bid-Ask Spread from Before and After the Event

The Wilcoxon signed rank test produces a significance value of $0.940 > 0.05$ in the test results, indicating that there is no difference in the bid-ask spread of the stock before and after the announcement of the Emergency PPKM. According to Ong (2016), when the bid-ask spread is too wide, the stock becomes illiquid; the level of liquidity is an important factor for investors to consider when selecting stocks. a lack of enthusiasm for the stock According to this theory, there is no difference in bid-ask spreads in transportation sector companies because investors remain confident in making requests and offerings of shares, as evidenced by relatively good stock liquidity. Previous policies have taught and experienced investors. Investors anticipate significant policy easing in the future, so they remain bullish on stock trading.

The lack of a difference in the bid-ask spread before and after the announcement indicates that the Emergency PPKM announcement contains no information that can influence investors' investment decisions. The lack of a difference in the bid-ask spread before and after the announcement could also be caused by information leaks prior to the issuance of the Emergency PPKM announcement, or by invalid signals from issuers with less appealing prospects after the announcement.

These findings are consistent with the findings of Bactyarina et al. (2020), who discovered no difference in the bid-ask spread before and after the event. However, these findings are not consistent with the findings of Susanti et al. (2020), who discovered a difference in the bid-ask spread before and after the event's announcement.

4. Conclusion and Implications

There are differences in stock returns before and after the Emergency PPKM announcement. This is because investors have learned a lot from the previous implementation conditions of various tightening policies and restrictions. This policy is also supported by efforts to accelerate the COVID-19 vaccination, which is still being carried out in stages for the entire community, so that investors are more confident in making investments.

There is no difference in trading volume activity before and after the Emergency PPKM announcement. This is because investors may still be waiting for policy direction from the government regarding the implementation of Emergency PPKM, so investors' stock trading decisions will not change.

There is no difference in the bid-ask spread before and after the Emergency PPKM announcement. This is due to the fact that the announcement of the Emergency PPKM does not contain information that can influence investors' investment decisions, which is caused by the possibility of information leakage prior to the announcement of the Emergency PPKM, or it can also be caused by invalid signals from issuers with less appealing prospects after the announcement of the Emergency PPKM.

Suggestion

Investors and prospective investors should pay attention to all information, including PPKM policies, as a reference in making investment decisions because Emergency PPKM can affect stock returns. Issuers are expected to be better prepared to deal with government policies and to research previous policies or events in order to make stock pricing decisions in the capital market. It is expected that future researchers will try to extend the observation period so that the results obtained can better capture the influence of an event under study and are not biased. Additional variables relevant to event study research can be added in future research.

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