Jurnal Manajemen Bisnis dan Kewirausahaan
DOI: 10.22219/jamanika.v2i04.22756
Jamanika December 2022 Vol.02 No.04

The Reaction of The Indonesian Capital Market to The Implementation of Covid-19 Emergency Large Scale Social Restriction

Riza Farid[1*], Bambang Widagdo[2], Muhammad Jihadi[3]
Management Department, University of Muhammadiyah Malang, Indonesia
E-mail: rizanani23@gmail.com

Abstract

This research purpose to discover and determine the conditions in the Indonesian capital market regarding the implementation of the Covid-19 Pandemic Emergency Large-Scale Social Restrictions (PSBB) at April 10, 2020. This study uses an event study type of research which aims to examine the information content which is happening to the capital market. The indicators in this study are using Average Abnormal Return (AAR) and Average Trading Volume Activity (ATVA). The observation period in this study was 11 working days on the Indonesia Stock Exchange with 3 types, namely 5 days before the implementation of the Covid-19 Pandemic Emergency PSBB, 1 day on the event date, and 5 days after the Covid-19 Pandemic Emergency PSBB implementation. The character of this research is comparative, namely comparing an indicator from before and after the event took place. This study uses the LQ45 Index population with a sample of 45 stocks in the period August 2021-January 2022. The results of this study indicate that the implementation of the Covid-19 Pandemic Emergency PSBB, April 10, 2020, has no effect on Average Abnormal Return (AAR) and Average Trading Volume Activities (ATVA).

Keywords: *Stock Market Reaction, Abnormal Return, Trading Volume Activity*

Abstrak

Penelitian ini bermaksud untuk mengetahui dan memperlihatkan kondisi dalam pasar modal Indonesia terhadap peristiwa penerapan Pembatasan Sosial Berskala Besar (PSBB) Darurat Pandemi Covid-19, 10 April 2020. Penelitian ini menggunakan jenis penelitian *event study* (studi peristiwa) yang bertujuan untuk menguji suatu kandungan informasi yang sedang terjadi terhadap pasar modal. Indikator dalam penelitian ini yaitu menggunakan *Average Abnormal Return* (AAR) *dan Average Trading Volume Activity* (ATVA). Periode pengamatan pada penelitian ini dengan waktu 11 hari kerja Bursa Efek Indonesia dengan 3 macam yaitu 5 hari sebelum peristiwa penerapan PSBB Darurat Pandemi Covid-19, 1 hari pada *event date*, dan 5 hari setelah peristiwa penerapan PSBB Darurat Pandemi Covid-19. Penelitian ini bersifat komparatif yaitu membandingkan suatu indikator dari sebelum dan sesudah peristiwa berlangsung. Penelitian ini menggunakan populasi Indeks LQ45 dengan sampel 45 saham pada periode Agustus 2021-Januari 2022. Hasil dari penelitian ini mengindikasikan bahwa peristiwa penerapan PSBB Darurat Pandemi Covid-19, 10 April 2020, tidak berpengaruh terhadap *Average Abnormal Return* (AAR) *dan Average Trading Volume Activity* (ATVA).

Kata kunci: reaksi pasar modal, *Abnormal Return, Trading Volume Activity*

Article info
Received (15/11/2022)
Revised (10/ 12/2022)
Accepted (13/12 /2022)
Corresponding e-mail: rizanani23@gmail.com

INTRODUCTION

Various natural disasters, wars, riots as well as political and legal issues are often the main factors triggering stock price fluctuations on stock exchanges around the world (Alrhafynza, 2018). At the beginning of 2020 the world was shocked by an outbreak of a new disease known as the Corona Virus. The World Health Organization (WHO) has named it Coronavirus Disease 2019 (COVID-19). The Corona virus was declared to have entered Indonesia after President Joko Widodo confirmed that two Indonesian citizens had tested positive for the corona virus. WHO (World Health Organization or World Health Organization) officially declared the corona virus (COVID-19) as a pandemic on March 9, 2020. This means that the corona virus has spread widely in the world. The term pandemic is mentioned because of a disease / virus whose spread is very widespread. In general, the corona virus only causes mild or moderate symptoms, such as fever and cough, and most can recover within a few weeks (covid19.go.id, 2021).

The announcement issued by President Joko Widodo on March 2, 2020 made the Jakarta Composite Index (JCI) weaken so that the majority of investors withdrew their funds and sold their shares for financial security (Ghibran et al., 2021). The JCI had experienced a very significant decline, namely when it fell very deeply throughout last year, to be precise in March 2020, as the World Health Organization (WHO) announced the corona virus as a pandemic. The global economic slowdown due to the corona virus at that time finally made market participants sell on the stock market (CNBC Indonesia, 2021). PSBB is regulated in Minister of Health Regulation Number 9 of 2020 concerning Guidelines for Large-Scale Social Restrictions in the Context of Accelerating Handling of Covid-19. PSBB is implemented in an area where the number of cases or the number of deaths due to Covid-19 has spread significantly and quickly to several areas. Restrictions are implemented in the form of prohibiting crowds of people in social and cultural activities. This also includes an association or group gathering, sports activities, entertainment, academics, and cultural activities (www.beritasatu.com, 2021).

The JCI, which started 2020 at the level of 6,300, finally left the level of 6,000 at the end of January and finally declined to 3,937.63 on March 24, 2020. This figure was the lowest since June 4, 2012 when the JCI closed at 3,654.58. The concern experienced by investors when investing in a company is the safety of investment capital funds when the situation is deteriorating. The impact that is most often experienced by investors, especially novice investors, is the psychological impact on the safety of investment capital funds in the company. Based on this description, this study aims to determine the reaction of the Indonesian Capital Market to the Implementation of the Covid-19 Pandemic Emergency PSBB, April 10, 2020, using the Average Abnormal Return (AAR) and Average Trading Volume Activity (ATVA) indicators.

LITERATURE REVIEW

An efficient market is a stock market with stock prices with a certain rate of return which means that the stock price indicates a fair price in terms of fundamentals. The capital market can be called an efficient market if there is information at a certain time, then the capital market reacts intensely to form a new equilibrium price (Suganda, 2018). The concept of market efficiency is a combination of the value of stock prices with information that occurs so that they can find out whether the information received can affect the movement or changes in the price of new shares (Rori et al., 2021). Stock index is a statistical measure that reflects the overall price movement of several stocks selected based on certain criteria and methodologies and evaluated in stages. Currently, IDX has 40 stock indices, some of which are JCI, IDX80, LQ45, IDX30, IDX High Dividend 20, IDX Value 30, IDX BUMN 20, MNC36, etc. The LQ45 index is a collection of 45 selected leading stocks with high liquidity and the most active in selling their shares on the

Stock Exchange. The company's shares listed on this index are the best shares that have been selected with certain criteria over several periods (Amanda & Pratomo, 2013). The LQ45 index is always reviewed every 3 months to evaluate some of the stocks listed in LQ45 are still relevant or not with the criteria that were inaugurated. On the other hand, stock changes always occur every 6 months, from February to August (Permata & Ghoni, 2021). *Event study* is a study that finds out the condition of the market reaction to an event whose information occurs at that time or day (Jogiyanto, 2017). *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 of the market. More specifically, event studies investigate the market's response to the information content of an announcement or publication of a particular event. Information content can be in the form of good news or bad news (Tandelilin, 2010).

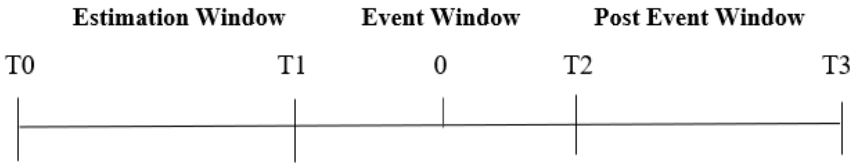

Figure 1. Time Series Event Study

Based on the figure, there is a time series of observation periods with 3 types, namely the estimation period, the event period, and the period after the event. Abnormal Return is an abnormal return from the actual return to the expected return (Jogiyanto, 2017). Thus the abnormal return is the difference between the actual return that occurs and the expected return. Realized return can also be said as a return that has occurred and is calculated based on historical data. Expected return is the return that is expected to be obtained by investors in the future. Trading Volume Activity (TVA) is an indicator that is used to observe and measure the market reaction to information or events that occur in the capital market (Suganda, 2018). *Trading volume activity* (TVA) is the ratio between the number of shares traded from a company at a certain time to the number of shares outstanding of a company at a certain time (Alrhafynza, 2018).

Research from Subrata & Werastuti (2020) analyzes the market reaction to the COVID-19 global emergency status determination on the Indonesia Stock Exchange The study used LQ45 stock samples with indicators *Average Abnormal Return* (AAR) and *Average Trading Volume Activity* (ATVA). The results of this test are found to be differences from *Average Abnormal Return* (AAR) and *Average Trading Volume Activity* (ATVA) before and after the determination of the global emergency status to the relevant highest level COVID-19. Other research from Mailangkay et al., (2021) analyzes the market reaction to the PSBB policy on the Indonesia Stock Exchange. This study uses a sample of stocks in the hotel industry with indicators *Average Abnormal Return* (AAR) and *Average Trading Volume Activity* (ATVA). The result is that there is no difference between *Average Abnormal Return* (AAR) *and Average Trading Volume Activity* (ATVA) before and after the PSBB policy. As for other research from (Sambuari et al., 2020) analyzing the market reaction to COVID-19 events. The study used stock samples in food and beverage companies listed on the Indonesia Stock Exchange. The result is that there is no difference from the *Average Abnormal Return* (AAR), while for the *Average Trading Volume Activity* (ATVA) there is a significant difference.

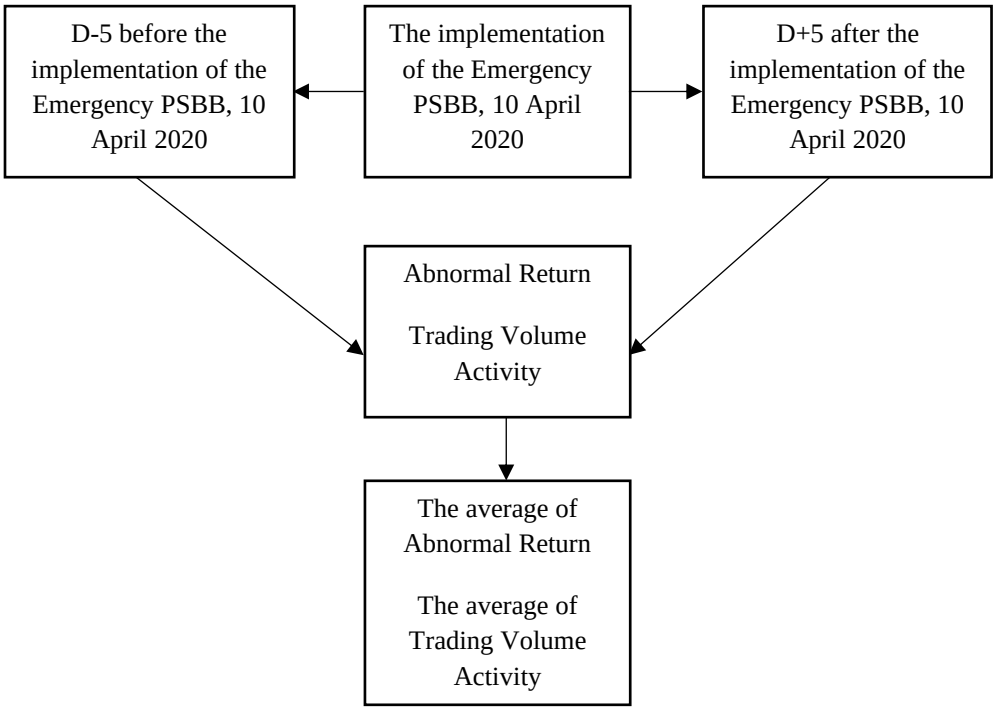

Figure 2. Conceptual Framework

The picture explains that testing will be carried out using indicators, namely *Abnormal Ret*urn (AR) and *Trading Volume Activity* (TVA). Then it will be tested from the *average abnormal return* before and after the implementation of the Emergency PSBB, April 10, 2020 and *the average trading volume activity* before and after the implementation of the Emergency PSBB, April 10, 2020.

H1: There is a difference in *Average Abnormal Return* (AAR) from before and after the implementation of the Covid-19 Pandemic Emergency PSBB, April 10, 2020

H2: There is a difference in *Average Trading Volume Activity* (ATVA) from before and after the implementation of the Covid-19 Pandemic Emergency PSBB, April 10, 2020.

RESEARCH METHODS

This research uses the type of event study research. The nature of this research is comparative, namely a model that describes the differences in variables or indicators of a particular event. The population and sample in this study are using the LQ45 Index with stocks for the period August 2021 - January 2022. The type of data used is quantitative data in the form of stock prices and daily trading volume and the data source used is a secondary source. The data collection technique of this research uses the documentation method. An analysis of the data used in this study through several operational definitions of variables as such as abnormal return (AR) that calculate using this formula below:

$$ARi.t = Ri.t - E[Ri.t] \quad (1)$$

Description:

ARi.t = *abnormal return* of stock i on day t

Ri.t = *actual return* of stock i on day t

E [Ri.t] = *expected return* of stock i on day t

Mean-Adjusted Model

$$E[R_{i,t}] = \frac{\sum_{j=t1}^{t2} R_{i,j}}{T} \quad (2)$$

Description:
E[Ri,t] = *expected return* of stock i on period t
Ri,j = *actual return* of stock i on period estimation j
T = the length of the estimation period is from t1 to t2

*Trading Volume Activity (*TVA)

TVA = ∑ company shares i traded on the day t/ ∑ the company's shares i outstanding on the day t (3)

Average Abnormal Return (AAR)

$$AARt = \frac{\sum_{i-1}^{k} ARit}{K} \quad (4)$$

Description:
AARt = *Average Abnormal Return* of stock on day t
K = number of shares

Average Trading Volume Activity (ATVA)

$$ATVA = \sum_{t=1}^{n} \frac{\Sigma TVAi}{\Sigma i} \quad (5)$$

Description:
ΣTVA(it) = total *trading volume activity* of stock on day t
ATVA = *average trading volume activity*
Σi = number of shares

The data analysis technique in this study used descriptive statistical analysis, namely knowing the value of the mean, standard deviation, minimum and maximum. The average difference test explains whether or not there is a significant difference between the average abnormal return and the average trading volume activity. The test uses a paired sample T-test with reference = 0.05, if < then the hypothesis is accepted, but if > then the hypothesis is rejected.

RESULTS AND DISCUSSION

This study aims to determine the reaction of the Indonesian capital market to the event of the implementation of the Covid-19 Pandemic PSBB, April 10, 2020. The following are the results of stock returns on the LQ45 Index:

Table 1. Descriptive Statistics of LQ45 Index Stock Return

Event Observation Day	LQ45 Index Stock Return
T-5	0.02079
T-4	0.04884
T-3	-0.00949

Event Observation Day	LQ45 Index Stock Return
T-2	-0.04386
T-1	0.00333
T0	-0.00939
T+1	0.02708
T+2	-0.02502
T+3	-0.04572
T+4	0.04946
T+5	-0.01816

Based on the table above, it shows a description of the LQ45 Index stock return and standard deviation during the observation period on April 3 to 20, 2020 with the LQ45 Index stock sample in this study. The results of the stock returns show that there are many stock returns of the LQ45 Index which are in a negative trend, the period is T-3, T-2, T-0, T+2, T+3, and T+5. This condition indicates that investors are quite pessimistic about the occurrence of this event so that they generate less profit (Capital Gain).

Table 2. Descriptive Statistics Abnormal Stock Returns Index LQ45

Event Observation Day	*Abnormal Return* Stock
T-5	0.02652
T-4	0.05457
T-3	-0,00376
T-2	-0.03813
T-1	0.00906
T-0	0.00573
T+1	0.03281
T+2	-0.01929
T+3	-0.03999
T+4	0.05519
T+5	-0.01243

Based on table 2, the results of abnormal stock returns during the observation day, namely April 3 to April 20, 2020, show that they are dominated by abnormal stock returns that are in a positive trend, which occurs in the period T-5 to T-4, T-1 to T. +1, and T+4. Negative abnormal returns only occur in periods T-3, T-2, T+2, T+3 and T+5. This condition shows that the implementation of the Covid-19 Pandemic Emergency PSBB is well received by the market.

Table 3. Descriptive Statistics *Trading Volume Activity*

Event Observation Day	LQ45 Index Transaction Volume	TVA
T-5	2.202.700.000	0.003846
T-4	2.962.900.000	0.006196
T-3	3.564.500.000	0.008662
T-2	1.989.400.000	0.004372
T-1	2.091.500.000	0.004129
T-0	1.350.400.000	0.002856
T+1	2.010.900.000	0.005521
T+2	2.303.600.000	0.004076

Event Observation Day	LQ45 Index Transaction Volume	TVA
T+3	2.084.200.000	0.005216
T+4	2.291.600.000	0.004627
T+5	1.667.700.000	0.003635

Based on the table above, the condition of stock trading volume activity during the observation period from April 3 to April 20, 2020 shows that the T-3 period on April 7, 2020 has the highest trading volume activity value and the T-0 period on April 13, 2020 has the highest value. lowest trading volume activity. These results indicate that during the implementation of the Covid-19 Pandemic Emergency PSBB, there was a decline in stock trading transaction activities.

Table 4. Average Abnormal Return Test

	One-Sample Test					
	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Index LQ45	0.637	10	0.538	0.00639000	-0.0159565	0.0287365

The standard value of the research significance level at the value of Sig.(2-tailed) is 5%, which means that if the value of Sig.(2-tailed) <0.05 then the indicator of the average abnormal return by statistical test shows that there is an abnormal return in observation period. Based on the results of the average abnormal return in table 4, it shows that the value of Sig.(2-tailed) is above 0.05, which is 0.538 in an 11-day observation period, starting from April 3 to April 20, 2020 for the event of the implementation of the Emergency PSBB for the Covid-19 Pandemic in progress.

Table 5. Average *Trading Volume Activity* Test

	One-Sample Test					
	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Index_LQ45	12.380	10	0.000	0.00162982	0.0013365	0.0019231

The standard value of the research significance level at the value of Sig. (2-tailed) is 5%, which means that if the value of Sig. (2-tailed) < 0.05 then the indicator of the average trading volume activity in a statistical test show that there is trading volume activity in the observation period. Based on the results of the average trading volume activity in table 5, it shows that the value of Sig.(2-tailed) below 0.05 occurred in all observation periods from T-5 to T+5 for the implementation of the COVID-19 Pandemic Emergency PSBB.

Table 6. Test Results for Average Abnormal Returns Before and After

Paired Samples Test									
		Paired Differences							
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	AAR_Before - AAR_After	0.00639200	0.06280027	0.02808514	-0.07158484	0.08436884	0.228	4	0.831

Based on the calculation results from the Paired Sample T-test statistical test with the application of the Statistical Package For Social Science (SPSS) Program in table 6, it indicates that there is no significant difference from the average abnormal return 5 days before and 5 days after the implementation of the Pandemic Emergency PSBB. Covid-19 because it is based on the p-value of the parameters AAR Before and AAR After 0.831> =0.05. This result rejects H1, which means that the implementation of the Covid-19 Pandemic Emergency PSBB did not have a significant impact on abnormal returns on stocks in the LQ45 Index during the observation period.

Table 7. Test Result for *Average Trading Volume Activity* Before and After

Paired Samples Test									
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 2	ATVA_before - ATVA_after	-0.00266440	0.00709764	0.00317416	0.01147728	0.00614848	-0.839	4	0.448

Based on the calculation results from the Paired Sample T-test statistical test with the application of the Statistical Package for Social Science (SPSS) Program in table 4.8, it indicates that there is no significant difference from the average trading volume activity 5 days before and 5 days after the event of implementing the Emergency PSBB. The Covid-19 pandemic is based on the p-value of the AAR Before and After AAR = 0.448> = 0.05. This result rejects H2, which means that the implementation of the Covid-19 Pandemic Emergency PSBB did not have a significant impact on trading volume activity on stocks in the LQ45 Index during the observation period.

Based on a significant test of the average abnormal return value with the One Sample T-test, it shows that the implementation of the Covid-19 Pandemic Emergency PSBB gave a response that could be said to be positive or good news on 5 days, 4 days and 1 day. days before the event, during the event, 1 day and 4 days after the event against abnormal returns. This shows that investors are still very confident and optimistic about the policies implemented by the government, however, after the implementation of the Covid-19 Pandemic Emergency PSBB took place, there were 3 days after the event indicated an abnormal return in the direction of a negative trend. Subjectively, investors are skeptical about the implementation of

the policy in the short term. The next test result is whether the implementation of the Covid-19 Pandemic Emergency PSBB has an impact on the trading volume activity indicator. The result is that 5 days before the event and 5 after the implementation of the Covid-19 Emergency PSBB showed a positive significance. However, the test results indicate that there is no difference in the average trading volume activity before and after the event. This shows that the market does not react too much and has no effect on the implementation of the Covid-19 Pandemic Emergency PSBB. Subjectively, investors did not react much to the implementation of the policy and it can also be said that investors received a good response because they are still confident and optimistic that the implementation of the policy can bring good for the company in terms of performance and fundamentals in the long term.

The results of this study also support previous research from research by Mailangkay et al. (2021), Sa'diyah & Widagdo (2020) who also found the test results that there was no significant difference to abnormal returns and trading volume activity. With no influence and differences from before and after the event took place, it indicated that the information content was not accepted by the market and it can be said that the market responded well to the event of implementing the Covid-19 Emergency PSBB.

CONCLUSION

In the event of the Implementation of the Covid-19 Pandemic Emergency PSBB, it can be said that it does not have or influence information content, this is proven by using the abnormal return indicator on the LQ45 Index stock, there is no significant difference in the average abnormal return in the observation period before and after the implementation event. PSBB Covid-19 Pandemic Emergency. In the event of the Implementation of the Covid-19 Pandemic Emergency PSBB using a trading volume activity, there was also no significant difference in the average trading volume activity before and after the implementation of the Covid-19 Pandemic Emergency PSBB. This indicates that the information from a policy carried out by the government is not very meaningful for investors and it can be said that investors accept the information well, which is a policy from the government.

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