THE LQ45 INDEX RESPONSE TO COVID-19 PANDEMIC: AN EVENT STUDY ON ABNORMAL RETURNS

Respon Index LQ45 terhadap Pandemi Covid-19: Studi Peristiwa pada *Return* Abnormal

MIRZA HEDISMARLINA YUNELINE
Ekuitas School of Business, Bandung, Indonesia
mirza.yuneline@ekuitas.ac.id

FUMICO FARDHA THREE FATIN
Ekuitas School of Business, Bandung, Indonesia
fumicofardhatf@gmail.com

Abstract

The Covid-19 Pandemic in 2020 have an impact on the pace of the economy, including the capital market. The greater the role of the capital market in economic activity, the more sensitive market reaction to the event in the vicinity. This study aims to determine the effect of the 2020 Covid-19 pandemic on the abnormal returns that received by investors during 3 event windows related to the Covid-19 pandemic in Indonesia by looking at the differences in abnormal returns received by investors at 5 days before and 5 days after the event window using the event study method. The results showed that there was an abnormal return in each event window, which indicated that there was information absorbed by the market. However, in the announcement of the first positive Covid-19 case event in Indonesia, there was no significant difference in abnormal returns. A significant difference in abnormal returns occurred during the period of the implementation of the new normal policy in 2020 and during the implementation period of the second large-scale social restrictions in 2020.

Keywords: Event Study, The Covid-19 Pandemic, Abnormal Return, The LQ45 Index

Abstrak

Peristiwa Pandemi Covid-19 tahun 2020 di Indonesia yang terjadi hingga saat ini, telah memberikan dampak pada laju roda perekonomian, termasuk pasar modal. Semakin besar peran pasar modal dalam kegiatan ekonomi, maka semakin sensitif pula reaksi pasar terhadap peristiwa di sekitarnya. Penelitian ini bertujuan untuk melihat pengaruh peristiwa pandemi Covid-19 tahun 2020 terhadap return yang diterima oleh investor selama 3 jendela peristiwa yang berkaitan dengan pandemi Covid-19 di Indonesia tahun 2020 dengan melihat perbedaan abnormal return yang diterima oleh investor pada 5 hari sebelum dan 5 hari setelah jendela peristiwa dengan menggunakan metode event study. Hasil penelitian menunjukkan terdapat abnormal return pada tiap-tiap jendela peristiwa, yang mengindikasikan bahwa terdapat informasi yang diserap oleh pasar. Tetapi pada peristiwa pengumuman kasus positif Covid-19 pertama di Indonesia tahun 2020 tidak terjadi perbedaan abnormal return yang signifikan. Perbedaan abnormal return yang signifikan terjadi pada periode peristiwa kebijakan adaptasi kebiasaan baru di Indonesia tahun 2020 dan pada periode pemberlakuan kebijakan Pembatasan Sosial Berskala Besar vol. II di Indonesia tahun 2020.

Kata Kunci: Event Study, Pandemi Covid-19, Abnormal Return, Indeks LQ45

1.0 INTRODUCTION

The infectious disease pandemic, namely Covid-19, that has occurred throughout the world, including Indonesia, not only threatens human health, but also causes a slowdown in the pace of the economy, resulting in economic losses. This is reflected in the economy in the first quarter of 2020 reported by the Central Statistics Agency (www.bps.go.id, downloaded at http://www.bps.go.id, October 10, 2020) which grew by 2.97%, slowing down compared to the first quarter of 2019 was 5.07%.

During the Covid-19 pandemic, the development of the Indonesian capital market was volatile, as did the domestic stock price which fell significantly, including the LQ45 index. LQ45 is a leading index consisting of 45 stocks that have a high level of liquidity and large market capitalization as well as good company fundamentals.

On the day of the announcement of the first positive case of Covid-19 in Indonesia, on March 2, 2020, the LQ45 index fell 2.30% at the level of Rp. 859.33, as well as the Jakarta Stock Composite Index (JSCI) which fell 1.68% at the level of Rp. 5,361.25. One day after the announcement of the first positive case of Covid-19 in Indonesia, the LQ45 index increased 3.79% at the level of Rp. 891.94, this increase was in line with the increase in the JSCI which was 2.94% and was at the level of Rp. 5,518.63. Furthermore, the LQ45 index strengthened 3.43% at the level of Rp. 922.5, on March 4, 2020.

In order to restrain the spread of Covid-19, the Indonesian government implemented the large-scale social restrictions. After the implementation of large-scale social restrictions in various regions in Indonesia, the Government of the Republic of Indonesia established a new policy by reopening limited economic, social and public activities while still adhering to health protocols, known as the new normal in adapting to Covid-19.

On the day the new normal was implemented, the LQ45 index decreased by 0.79% or -6.05 points and closed at Rp. 764.61, this decline was in line with the JSCI decline by 0.49% or -24.31 points and closed at Rp. 4. 916.70.

After using the new normal policy for, the government reimplement the large-scale social restrictions with some adjustments that called the second large-scale social restrictions on September 14, 2020. On the day the vol. 2 was enacted, the LQ45 index increased by 3.44% or 26.80 points and closed at Rp. 805.12. The increase in the LQ45 index was followed by the JSCI which also increased by 2.89% or 145.12 points and closed at Rp. 5.161.83. The following are the movement of the LQ-45 Index and JSCI for the March – October 2020 period:

Figure 1: Movement of the LQ45 Index for the March-October 2020 Period

Source: https://www.poems.co.id/asp/Menu/chart_fr.asp, downloaded on October, 22, 2020

Figure 2: JSCI movement for the March-October 2020 Period

Source: https:// www.poems.co.id/asp/Menu/chart_fr.asp, downloaded on October, 22, 2020

2.0 PROBLEM STATEMENT

With all information regarding the Covid-19 event, it will affect the level of market sensitivity and the return. This Covid-19 pandemic event certainly contains information that can be considered by investors for decisions making on their portfolios. The fluctuating LQ45 and JSCI indexes also indicate that the market is responding to information received during the ongoing Covid-19 pandemic.

There are previous studies that have tried to reveal the relationship between the events of the Covid-19 pandemic and abnormal returns. In a study conducted by Khoiriah, et al (2020) stated that the average abnormal return (AAR) before and during the Covid-19 pandemic had a significant effect on the top 45 stocks on the Indonesia Stock Exchange (LQ45). Research by Liu, et al (2020) stated that the Covid-19 outbreak had a significant negative effect on market returns in all affected countries and regions and confirmed cases of Covid-19 had a significant side effect on the performance of world stock indices with stock indexes in Asia experiencing greater decline in abnormal returns. The factors influencing the micro-economic environment are discussed in the research by Thuy, et al. (2019) which states that company size, money borrowed by the company, and the ratio of book value and market value have a negative effect on abnormal returns, while the growth rate has a positive effect on abnormal returns. Research conducted by Kusnandar & Bintari (2020) states that there are statistically significant differences in abnormal returns before and after the announcement of changes in trading times on exchange transactions during the Covid-19 pandemic.

In order to examine the relationship between the 2020 Covid-19 pandemic events and stock prices, the research will be conducted using abnormal return indicators and using the event study method. The abnormal return calculation used companies that listed in the LQ45 index.

3.0 METHODOLOGY

An efficient market contains stock prices that reflect information about the risk and expected return. Normal return is a profit or result commensurate with the risk of a stock. Meanwhile, an inefficient market contains stocks that will produce a greater return than its normal value or abnormal return. Abnormal return testing is basically a test of market efficiency. The abnormal return is calculated referring to the following formula:

$$AR_{i,t} = R_{i,t} - R_{m,t}$$

ARi,t = abnormal return in t period
Ri,t = stock actual return in t period
Rm,t = market return in t period

The actual return is calculated by the following formula:

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

$R_{i,t}$ = stock actual return in t period
$P_{i,t}$ = the daily stock prices in t period
$P_{i,t-1}$ = the daily stock prices in t-1 period

And the following is the calculation for market return:

$$E(R_{mt}) = \frac{JSCI_t - JSCI_{t-1}}{JSCI_{t-1}}$$

$E(R_{mt})$ = tock expected return in t period
$JSCI_{i,t}$ = Composite Index in t period
$JSCI_{i,t-1}$= Composite Index in t – 1 period

In this study, the abnormal returns are addressed to the LQ45 index in the Indonesia Stock Exchange. The samples used in this study are 40 companies that are listed in the LQ45 Index which was not performed the corporate action during the window period. The method used in this research is event study. Sunaryo (2019: 140) defines that event study is a study that learns the market reaction to an event that is informed to the public. This research also used descriptive and comparative approach.

The data analysis technique used in this research are the paired sample t-test and the Wilcoxon signed rank test. In the first stage, a descriptive analysis will be carried out on all available research samples. Furthermore, statistical testing will be carried out by conducting a normality test on the data that has been collected using the Kolmogorov Smirnov test method. After testing the normality of the data, then a partial hypothesis test will be carried out for each event window determined by using the paired sample t-test analysis test if the data are normally distributed and Wilcoxon signed rank test analysis model if the data are not normally distributed.

4.0 FINDINGS AND DISCUSSIONS

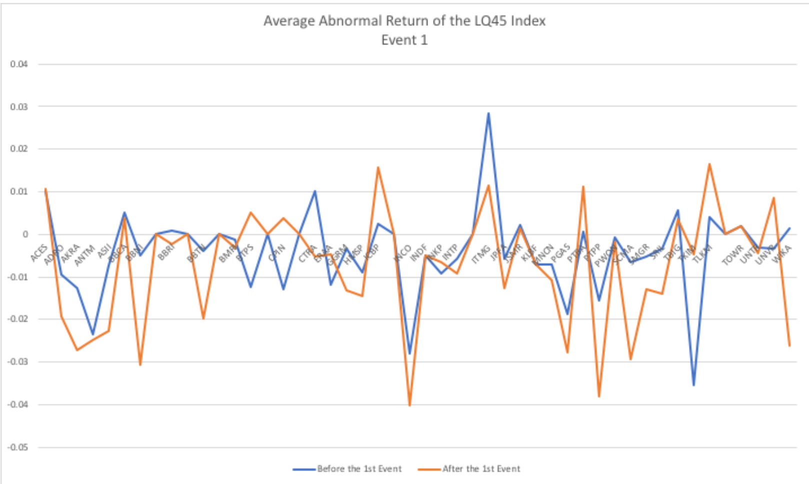
This study used 5 days-period within three windows period based on the event during the Covid-19 pandemic as follows:

1. The announcement of the first Covid-19 case in Indonesia on March, 2nd, 2020.
2. The implementation of the new normal policy in Indonesia on June, 4th, 2020.
3. The implementation of the second large-scale social restrictions in Indonesia on September, 14th, 2020.

4.1. FINDINGS AND DISCUSSIONS ON THE FIRST EVENT

The following is the average abnormal return on 5 days before and 5 days after the announcement of the first Covid-19 case on March, 2nd, 2020:

Figure 3: The Average Abnormal Return of the LQ45 Index on the First Event



The results of the Kolmogorov Smirnov normality test on the first event as follows:

Table 1: The Normality Test on the First Event

		Before	After
N		40	40
Normal Parameters[a]	Mean	-.00498025982	-.00361438220
	Std. Deviation	.010830667308	.012469806946
Most Extreme Differences	Absolute	.115	.139
	Positive	.096	.139
	Negative	-.115	-.071
Kolmogorov-Smirnov Z		.724	.876
Asymp. Sig. (2-tailed)		.671	.426

Referring to the Table 1, the abnormal return of the LQ45 Index both 5 days before and after the first event are normally distributed then the paired sample t-test was carried out with as follows result:

Table 2: The Comparative Test on the First Event

	Paired Differences							
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
Before - After	-.0014	.0182	.0029	-.0072	.0045	-.475	39	.638

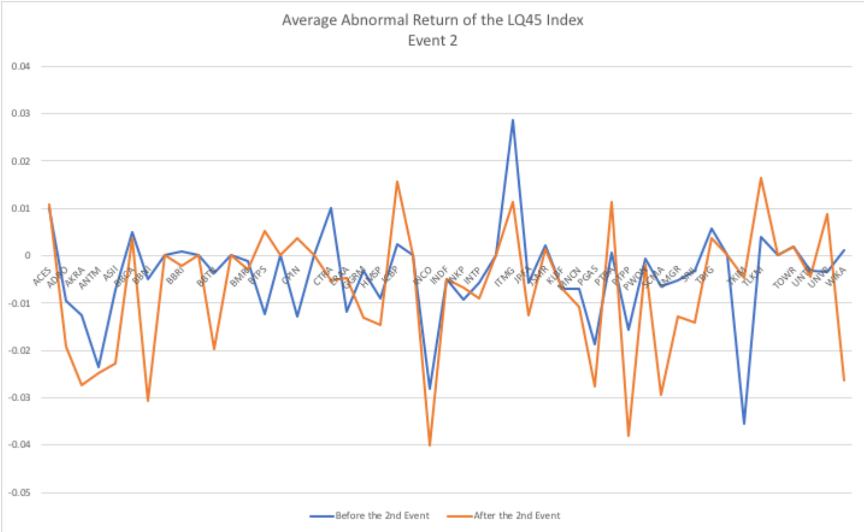
The paired sample t-test showed that there is no significant difference on abnormal returns in the LQ45 index in the period before and after the first event. There is no significant differences in abnormal was allegedly caused by the slowing pace of the economy since the beginning of the year. In the first quarter of 2020, the economic growth only by 2.97%, which was slower than the first quarter of 2019 (www.bps.go.id, downloaded on October 10, 2020). In addition, the Covid-19 virus has spread to various countries since January 2020, so the market has no longer panic experienced due to the announcement of the first case. This strengthens the notion that investors have taken anticipatory moves to minimize trading risks that may occur along with the uncertainty economic growth due to the Covid-19 pandemic.

This is in-line with Agustiawan and Sujana (2020) which showed that there was no difference in the average abnormal return on the LQ45 index for the period before and after the announcement of the government's policy regarding the emergency status of the Covid-19 disaster on February 29, 2020. Other studies also conducted by Sambuari, et al (2020) which showed that there was no difference in abnormal returns in food and beverage sector before and after the announcement of the first case.

4.2. FINDINGS AND DISCUSSIONS ON THE SECOND EVENT

The following is the average abnormal return on 5 days before and 5 days after the new normal policy in Indonesia on June, 4th, 2020:

Figure 4: The Average Abnormal Return of the LQ45 Index on the Second Event



The results of the Kolmogorov Smirnov normality test on the second event as follows:

Table 3: The Normality Test on the Second Event

		Before	After
N		40	40
Normal Parameters[a]	Mean	.00933194220	.00092683713
	Std. Deviation	.018171330579	.010229898550
Most Extreme Differences	Absolute	.067	.152
	Positive	.067	.152
	Negative	-.050	-.110
Kolmogorov-Smirnov Z		.425	.963
Asymp. Sig. (2-tailed)		.994	.312

The abnormal return of the LQ45 Index both 5 days before and after the second event are normally distributed then the paired sample t-test was carried out with as follows result:

Table 4: The Comparative Test on the Second Event

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Before - After	.0084	.0204	.0032	.0019	.0149	2.602	39	.013

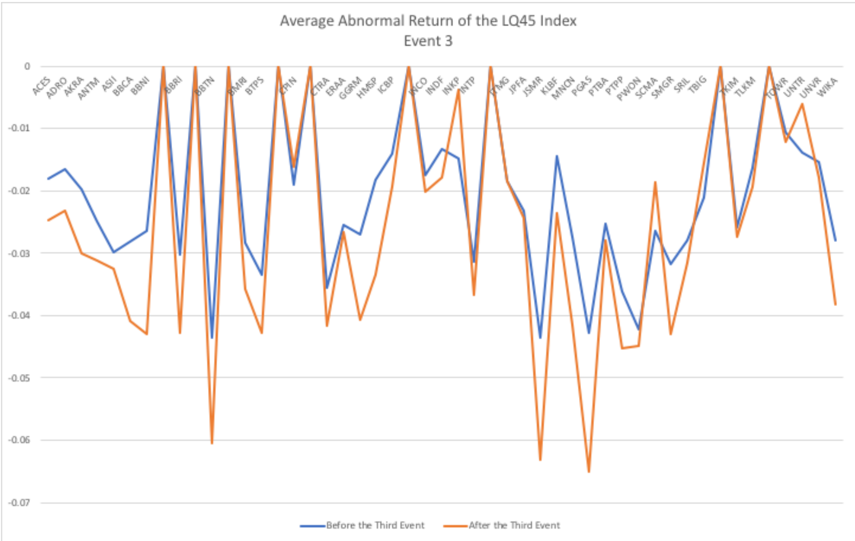
The paired sample t-test showed that there is significant difference on abnormal returns in the LQ45 index in the period before and after the second event. The significant difference in abnormal returns that occurred during the period of implementation of the new normal policy in Indonesia because there was an information content absorbed by markets in determining their actions for 5 days before and 5 days after the implementation the new normal policy. Yuneline and Sofyan (2020) stated that the fluctuations that occur indicates that the market also responds to the information received during the events. In an efficient market, information can be obtained easily and the stock prices usually reflect the occurred information.

This result is in-line with research conducted by Berliana (2020) and Rahmawati, et.al (2020) which explains that there are differences in abnormal returns on the LQ45 index before and after the new normal policy during February – July 2020.

4.3. FINDINGS AND DISCUSSIONS ON THE THIRD EVENT

The following is the average abnormal return on 5 days before and 5 days after the second large-scale social restrictions in Indonesia on September, 14th, 2020:

Figure 5: The Average Abnormal Return of the LQ45 Index on the Third Event



The results of the Kolmogorov Smirnov normality test on the third event as follows:

Table 5: The Normality Test on the Third Event

		Before	After
N		40	40
Normal Parameters[a]	Mean	-.02515136090	-.00601560277
	Std. Deviation	.008941090153	.007434321545
Most Extreme Differences	Absolute	.103	.104
	Positive	.071	.104
	Negative	-.103	-.058
Kolmogorov-Smirnov Z		.654	.659
Asymp. Sig. (2-tailed)		.786	.777

The abnormal return of the LQ45 Index both 5 days before and after the second event are normally distributed then the paired sample t-test was carried out with as follows result:

Table 6: The Comparative Test on the Third Event

	Paired Differences							
				95% Confidence Interval of the Difference				
	Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Before - After	-.0191	.0081	.0013	-.0217	-.0166	-15.021	39	.000

The paired sample t-test showed that there is significant difference on abnormal returns in the LQ45 index in the period before and after the third event. The implementation of the second large-scale social restrictions has an impact on market conditions and stock transactions. The market is alarmed about the economic uncertainty and accept the information on this event as bad signal. In the Figure 5, it is showed that the average abnormal returns decreased deeper after the announcement of the restrictions.

This result is in line with research conducted by Ismanto (2020) and Rahmawati, et.al (2020) which explains that there was a significant abnormal return on the LQ45 index before and after the announcement of the second large-scale social restrictions.

5.0 CONCLUSION

The infectious disease Covid-19 pandemic has occurred throughout the world, including Indonesia, not only threatens human health, but also causes a slowdown in the pace of the economy that resulting in economic losses. During the Covid-19 pandemic, the development of the Indonesian capital market was volatile. Based on the discussion and results regarding the market respond to Covid-19 on abnormal returns in the LQ45 index, it is showed that there was no significant difference in the announcement of the first Covid-19 case due to the decline in the pace of the economy since the beginning of 2020 and the market have already anticipated.

There was a significant differences in abnormal returns during the implementation of the new normal policy in Indonesia due to information content that already absorbed by the market in determining their actions. And the last, there is a significant difference in abnormal returns during the implementation of second large-scale social restrictions. This is presumably because the market perceive the second restrictions as a bad signal on prolonged economic uncertainty.

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