

MARKET REACTION TO THE COVID-19 PANDEMIC (CASE STUDY ON RETAIL COMPANIES LISTED ON THE IDX)

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ABSTRACT

The retail sector is one sector that has been affected by the COVID-19 pandemic. The price of issuers in the retail industry is in the red zone. This study aims to determine how the Indonesian market, especially in the retail sector, has reacted to the COVID-19 event. Observations were made one month before and one month after the event, as the event window in this study was determined based on the WHO declaration of Corona Virus (COVID-19) as a global pandemic on March 11, 2020. Fifteen samples were obtained in this study using the purposive sampling method. The testing was carried out using SPSS paired sample t-test. The results of hypothesis testing in this study indicate that all proposed hypotheses (Ha1, Ha2, and Ha3) are accepted. Thus, the market reacted to the WHO's designation of the coronavirus (COVID-19) as a global pandemic with a decrease in cumulative abnormal returns, a reduction in stock prices, and increased trading volume.

INTRODUCTION

The COVID-19 pandemic that emerged at the end of 2019 resulted in a social and global crisis. WHO declared the Corona Virus (COVID-19) a worldwide pandemic on March 11, 2020. According to statistical data released by Johns Hopkins University, on June 5, 2020, globally, there were 6,601,349 diagnosed cases and 389,620 deaths due to COVID-19. In addition, data gives signs of a recession in the global economy. In April 2020, the Global Economic Outlook reported that the Gross Domestic Product would decline by 3% throughout the year. The World Trade Organization estimates that in 2020 global trade may drop by as much as 32%.

The announcement of the coronavirus (COVID-19) outbreak as a pandemic resulted in the domestic stock market slumping by more than 4%. The Composite Stock Price Index (JCI) corrected 3.84% to 4,955.96. Then the JCI experienced a deep decline of up to 4.36% to 4,929.56, the lowest trading level that day. The leading Asian bourses also had the same fate, the Nikkei index dropped 5.17%, the Hang Seng index fell 3.61%, the Shanghai stock exchange fell 1.11%, and the Straits Times index fell 3.62%. (Saragih, 2020). According to Fauziah & Venusita (2021), Asian capital markets reacted negatively to the difference in abnormal returns before and after the WHO announced that the coronavirus was a global pandemic. The reaction showed by several Asian countries that experienced a decline in stock prices after the announcement was published, including Indonesia, Singapore, Malaysia, and Thailand.

According to Trisnowati & Muditomo (2021), eight industrial sectors in Indonesia reacted to the COVID-19 pandemic that hit Indonesia. The agriculture Sector, elemental and chemical industry; miscellaneous consumer goods; property and real estate; transportation and infrastructure; finance; trade, services, and investment, reacted more strongly than mining and manufacturing. Findings on eight sectors that are statistically proven to experience abnormal returns in the Indonesian stock market. These findings are in line with the research results (Baldwin & Mauro, 2020) in the stock markets of China and the United States, which showed a negative response to stocks in the transportation, property, retail, finance/investment, and primary industries/chemicals and consumer/personal goods industries.

The retail sector is one of the sectors affected by the COVID-19 pandemic. After Bank Indonesia released retail sector sales data in July 2020, most issuers' share prices in the retail

sector were traded in the red zone. The retail sales index (IPR) contracted by 12.3% YoY. On Wednesday (9/9/2020), namely in the initial trading session II, five retail issuers experienced a decline in stock prices, such as PT Matahari Department Store Tbk (LPPF) and PT Ramayana Lestari Sentosa Tbk (RALS)(Son, 2021). As reported via CNBC Indonesia in May 2020, the management of PT Ramayana Lestari Sentosa Tbk stated that it had to terminate the employment of its 421 employees while closing several of its outlets in the January to June period. The problem is that there will be a decrease in the company's revenue by between 51% to 75% in 2020. Also, the PT Matahari Department Store Tbk company was forced to lay off 5,623 employees and cut salaries to 12,080 employees due to an estimated decline in income of up to 25%—compared to the previous year.

The market reaction to the COVID-19 pandemic has been studied by several previous researchers, such as research(Anh & Gan, 2020) researching the impact of COVID-19 on stock performance in Vietnam. The results showed that an increase in COVID-19 cases harmed the stock market in Vietnam, and the financial sector was worst affected by COVID-19. The same results were obtained by research(Lee et al., 2020)which examines the impact of COVID-19 on the Malaysian stock market. The worst sector in Malaysia is the Real Estate Index Fund Investment (REIT). According to (P. He et al., 2020), the transportation, mining, electricity, and heating sectors and the industrial environment have been negatively affected by the pandemic, while the manufacturing, retail, information technology, education, and health care industries have the resilience to the pandemic.

In Indonesia, the COVID-19 pandemic has had destructive as harmful results of research by Rahmayani and Oktavilia (2021) show that the cumulative total of COVID-19 cases is getting higher and can weaken the Indonesian capital market in the long term. (Trisnowati & Muditomo, 2021)The eight industrial sectors in Indonesia reacted to the COVID-19 pandemic that hit Indonesia. where they also found that the agriculture sector; primary and chemical industry; miscellaneous, consumer goods; property and real estate; transportation and infrastructure; finance; trade, services, and investment, react more strongly than mining and manufacturing

The COVID-19 pandemic has devastatingly impacted various sectors in various countries. Indonesia is also one of the countries affected by the COVID-19 pandemic. One of the sectors that were severely affected in Indonesia was the retail sector. This sector is indicated by most retail shares traded in the red zone and experiencing a decline in performance. Research results (Baldwin & Mauro, 2020)stated that the retail sector negatively responded to the Covid pandemic in China and the United States stock markets. However, different things are shown by research (P. He et al., 2020), which found that the retail sector was resilient to pandemics. There is still not much research on the impact of the COVID-19 pandemic on the retail industry in Indonesia and how the retail sector will react to the COVID-19 pandemic. Thus, researchers are interested in researching it. This study aimed to determine how the Indonesian market, especially in the retail sector, reacted to the COVID-19 event. Previous empirical research results have shown that the COVID-19 pandemic has had a harmful impact at home and abroad. The research was conducted to understand the effect of COVID-19 on the retail sector and to provide a perspective on market reaction to the COVID-19 pandemic.

RESEARCH METHODS

In this study, the research method used is an event study. The observation period was carried out at a time of 1 month before and one month after the event. The event window in this study was March 11, 2020, when WHO declared the Corona Virus (COVID-19) as a global pandemic. In addition to 1 month after and before the announcement of the worldwide pandemic, researchers also observed the impact of differences every week, namely one week,

two weeks, three weeks, and four weeks before and after the WHO announcement that the Corona Virus (COVID-19) was a global pandemic.

The sample in this study is a retail company listed on the Indonesia Stock Exchange. This study obtained as many as 15 samples of companies using the purposive sampling technique. Data collection was carried out by studying various literature related to this research. In addition, other sources still associated with this research are used to gather theoretical knowledge and calculation techniques related to the study. The data source is obtained through the website www.idx.co.id, where the data needed is the stock price and trading volume.

Research variable

a. *Cumulative Abnormal Return*(CAR)

The measurement of market reaction in this study is measured by cumulative abnormal return (CAR). The formula used to calculate the CAR is as follows:

$$CAR_{i,n} = \sum_{t=-n}^{t=+n} AR_{it}$$

Information:

CAR_i = Cumulative Abnormal Return of the i-th security on day t to n

Sickle = Abnormal Return of stock I on day t.

b. *Trading Volume*

The trading volume shows the number of shares traded in the capital market during a specific period (Tandelilin, 2010). In this study, the measurement of the trading volume follows previous research(Suryatimur & Khabibah, 2021)as measured by:

$$it = \frac{\sum \text{company shares traded time}}{\sum \text{company shares outstanding time } t}$$

c. *Stock price*

The share price is the price assigned to the company for other parties who wish to have share ownership rights. In this research, the measurement of stock prices follows previous research(Suryatimur & Khabibah, 2021)

Stock price = closing stock price.

The hypothesis will be tested by using SPSS was carried out with the Paired sample t-test. For the paired sample t-test, the sample group was given the same treatment, and each subject had two paired scores. Paired sample t-test aims to examine whether a change occurs because of treatment by comparing before and after being given treatment.

Literature Review and Hypothesis Development

Signaling Theory

In Signaling Theory (Spence, 1973) and Efficient Capital Market Theory (Fama, 1970), the market will respond negatively to bad news about the company by showing a decline in stock prices. Arif and Baridwan (1999) state that the market reaction signals the existence of information on a specific event that can affect the company's value, which is reflected by changes in prices and stock trading volumes. The market reaction can be measured by using returns as the value of price changes or by using abnormal returns.

Hypothesis Development

The Covid outbreak has affected supply chains and disrupted the global economic system(OECD, 2020). (Baldwin & Mauro, 2020) states that the financial system experiences three shocks. First, they indicated that household expenses would be reduced due to unpaid vacations or experiences during the COVID-19 pandemic. Second, they noted that lower aggregate demand also tends to impair import and export activities for the affected countries. Third, the manufacturing sector has also been affected by the COVID-19 pandemic. As in the 2008-09 Global Crisis, the COVID-19 crisis has consumers and companies worldwide delaying spending; they are in "*wait-and-see mode*."

According to (Saraswati, 2020), During the pandemic in Indonesia, stock prices, in general, experienced a decline. The decline was due to concerns about the declining share price and the possibility of a share buyback by the issuer, which could inflict losses on shareholders. As a result, some shareholders sold their shares because of their concerns. However, some investors buy shares because they assume stock prices can increase after this pandemic. In this condition, investors who are risk-takers (dare to take risks) take advantage of the declining stock price conditions during the pandemic by increasing stock purchases. (Ibrahim et al., 2020) empirically test the direct reaction of stock market indexes of countries affected by COVID-19. The results show that eleven global stock market indices show that the announcement of the first confirmed COVID-19 case negatively impacts returns. Furthermore, the effect was even more significant after, on March 11, 2020, WHO declared COVID-19 a global pandemic. Using the conventional t-test and the nonparametric Mann-Whitney test (Liu et al., 2020), empirically analyze daily returns data from stock markets in the People's Republic of China, Italy, South Korea, France, Spain, Germany, Japan, and the United States of America. Our empirical results show that COVID-19 has a negative but short-term impact on the stock market and that the impact of COVID-19 on the stock market has a two-way spillover effect between Asian countries and European and American countries.

In line with previous researchers, the results of(Q. He et al., 2020)also have the same effect. The study evaluated the short-term impact of the COVID-19 outbreak on 21 leading stock market indexes in major countries; the results showed that countries affected by the COVID-19 pandemic included Japan, Korea, Singapore, the United States, Germany, Italy, and English, and others. The results showed that stock markets in the primary affected countries and regions fell rapidly after the virus outbreak. Compared to other countries, countries in Asia experienced more negative abnormal returns.

Several previous researchers have studied the impact of COVID-19 on Indonesia, such as (Suryatimur & Khabibah, 2021), which examined the stock market reactions of pharmaceutical companies before and after the announcement of COVID-19 in Indonesia. Research testing was carried out with a paired difference test. The results showed differences in stock prices, but for the stock price variables, there were no differences in the period before and after the announcement of the first COVID-19 case in Indonesia. Furthermore, research results (Manurung & Subekti, 2021) showed no significant difference in Abnormal Return (AR) before and after the COVID-19 pandemic.

In the capital market, emergencies often affect investor behavior by influencing investor sentiment, which can affect stock prices. There are mixed results regarding investors' reactions to the impact of the COVID-19 pandemic, which has become a global pandemic. According to Irfan et al. (2021), Stock market reactions depend on other economic factors unique to the country, so the impact of a COVID-19 event varies from country to country. The Energy, Retail, and Transportation sectors are losing money in China and the US due to COVID-19. As part of this, small businesses such as restaurants, wholesale and retail, tourism, and travel need support to address the challenges posed by the COVID-19 crisis. (Baldwin & Mauro, 2020).

Based on this explanation, the market reaction to the Covid event in Indonesia can be hypothesized, including:

- Ha1: a decrease indicates a market reaction in the average abnormal return before and after the announcement of COVID-19.
- Ha2: there was a decline in stock prices before and after the announcement of the COVID-19 pandemic.
- Ha3: there is a market reaction to increase sales volume before and after the announcement of the COVID-19 pandemic

RESULTS AND DISCUSSION

Testing the normality of the data was carried out in this study to determine the analytical tool to be used. Suppose the sample data is normally distributed, then the analytical tool used parametric (paired sample t-test). Testing using paired sample t-test is carried out if the information is typically distributed. However, if the test results show that the sample is not normally distributed, the test will be carried out using a nonparametric test (Wilcoxon signed test). The normality test of the data was carried out using the Kolmogorov Smirnov test. The following are the results of testing the normality of the data in this research:

Table 1.
Data Normality Test
One-Sample Kolmogorov-Smirnov Test

Asym. Sig (2-tailed)			
	Before	After	Distribution
CAR	0.200	0.200	Normal
Stock price	0.200	0.200	Normal
TVA	0.070	0.200	Normal

Based on table 1 above, it can be seen the results of the normality test of the data using the Kolmogorov-Smirnov test. In addition, the significance value of CAR, share price, and TVA before and after the announcement of the covid pandemic has a more excellent value than alpha, which is 0.05. Thus, all variables in this study are typically distributed. So, in this study, the test equipment used is paired *sample t-test*.

Table 2.
Descriptive statistics

Information	Minimum	Maximum	Average
CAR -1 Month	-0.1361	0.1517	0.027720
CAR +1 Month	-0.5989	-0.0060	-0.277296
Stock Price- 1 Month	50	6,000	1,361.30
Stock Price +1 Month	50	5,000	1,044.61
TVA -1 Month	0	0.01324	0.0007736
TVA +1 Month	0	0.02793	0.0014610

Table 2 shows the minimum, maximum, and average cumulative abnormal return (CAR), stock prices, and trading volume 1 month before and one month after the announcement

of the COVID-19 pandemic by WHO in retail sector companies. The average CAR value decreased from positive to negative, namely 0.027720, and fell to -0.277296. The same thing happens to stock prices. The average value before WHO announced the covid pandemic by IDR 1,361.30. after its announcement to IDR 1,044.61. Sales volume (TVA) has increased on average. Before the announcement of the covid pandemic, the average TVA value was 0.0007736 to 0.0014610

Hypothesis Test Results

Hypothesis testing regarding the market reaction to the COVID-19 pandemic was conducted using a paired sample t-test. The test results can be seen in Table 3 below:

Table 3
Test Results Paired Sample T-test
Market reaction to the COVID-19 pandemic

Information	t count	Probability	Results
CAR	7,208	0.000***	Ha1 Accepted
Stock price	10,404	0.000***	Ha2 Accepted
TVA	-3,842	0.000***	Ha3 Accepted

CAR = Cumulative Abnormal Return, TVA = Sales Volume.
Significant levels *, **, *** Significant 10%, 5%, and 1%.

Researchers also made additional observations of market reactions to the COVID-19 pandemic from time to time, namely one week, two weeks, three weeks, and four weeks before and after the COVID-19 pandemic, as shown in Table 4 below.

Table 3
Additional Testing
Market reaction to the COVID-19 pandemic

Information	CAR	Stock price	TVA
1 week	0.0008***	0.008***	0.002***
2 weeks	0.001***	0.001***	0.182
3 weeks	0.001***	0.562	0.026**
4 weeks	0.006***	0.000***	0.074*

CAR = Cumulative Abnormal Return, TVA = Sales Volume.
Significant levels *, **, *** Significant 10%, 5%, and 1%.

It can be seen in Table 4 the results of additional tests regarding the market reaction to the COVID-19 pandemic with observation times of 1 week, two weeks, three weeks, and four weeks. The test shows the results of the market reaction, which is indicated by a significant difference in the CAR value—the value consistently substantial every week below alpha (0.01). There are no differences between before and after the announcement of pandemic covid that affect stock prices. The same thing is shown by the trading volume variable, only for the second week, which did not experience a significant difference.

Based on table 3, the results of hypothesis testing in this study indicate that all proposed hypotheses (Ha1, Ha2, and Ha3) are accepted. Thus, the market reacted to the COVID pandemic announced by WHO with a decrease in cumulative abnormal returns, a reduction in stock prices, and increased trading volume. This study's results align with the results of the study (Baldwin & Mauro, 2020), which stated that the retail sector had a negative response to

the Covid pandemic in the stock markets of China and the United States. However, in contrast to the research conducted (P. He et al., 2020), the retail sector was resilient to pandemics.

Hypothesis 1 supported, namely, that there is a market reaction by a decrease in the average abnormal return before and after the announcement of COVID-19. The results of this study support the statement (Fauziah & Venusita, 2021), namely, the Asian Capital Market reacted negatively to the difference in abnormal returns before and after WHO announced that the coronavirus was a global pandemic. Research (Wicaksono & Adyaksana, 2020) showed a significant difference in the average abnormal return before and after determining COVID-19 as a global pandemic. The harmful effects caused by the COVID-19 pandemic resulted in a sharp decline in company profits causing losses. In Signaling Theory (Spence, 1973) and Efficient Capital Markets Theory (Fama, 1970), the market will respond negatively to bad news about the company, which is shown in the form of a decline in stock prices. In the capital market, emergencies often affect investor behavior by influencing investor sentiment, which can affect stock prices. Therefore, COVID-19 is terrible news, causing significant impacts on various sectors of life, especially in the economic and financial fields.

Hypothesis 2 is supported; namely, there is an adverse market reaction, as indicated by the decline in stock prices before and after the announcement of the COVID-19 pandemic. This study's results align with research (Fauziah & Venusita, 2021), which found that several Asian countries experienced share price declines after the announcement was published, including Indonesia, Singapore, Malaysia, and Thailand statement of the COVID-19 pandemic by the WHO. In the capital market, emergencies often affect investor behavior by influencing investor sentiment, which can affect stock prices.

Hypothesis 3 is supported; namely, there was a market reaction to increase sales volume before and after the announcement of the COVID-19 pandemic. Research results are in line with research (Wicaksono & Adyaksana, 2020) which shows significant differences in abnormal returns and transaction volume activities before and after the announcement of COVID-19 as a global pandemic. The test results show sharp fluctuations in stock price volatility and trading volume during the pandemic. According to Nurmasari (2020), an increase in the volume of share transactions that occurred was not followed by a rise in share prices. This event shows that many investors are selling their shares due to investor concerns. That is the loss caused by the impact of the COVID-19 pandemic. Even foreign investors sell more shares than buy shares during this pandemic (Fauziyyah & Ersyafdi, 2021)

CONCLUSION

This research was conducted to determine how the Indonesian market, especially in the retail sector, reacted to the COVID-19 event by testing paired *sample t-test with* an observation time of 1 month before and one month after the WHO declared the Corona Virus (COVID-19) a global pandemic.

The study results show significant differences in the cumulative abnormal return (CAR), stock price, and sales volume (TVA). Thus, the market reacted to the COVID pandemic announced by WHO with a decrease in cumulative abnormal returns, a reduction in stock prices, and increased trading volume.

LIMITATIONS OF THE RESEARCH

This research still has limitations in its scope. Namely, the content of this research is only for retail companies listed on the IDX, so it cannot be generalized. Then this study only focuses on the impact of the COVID-19 pandemic in the short term, namely, one month before and one month after. The limitations in this study can be used for further researchers by

increasing the scope of the research and the observation period to determine the long-term impact of the COVID-19 pandemic.

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