

# Sharia Stock Reaction Against COVID-19 Pandemic: Evidence from Indonesian Capital Markets

Muhamad Nafik Hadi RYANDONO<sup>1</sup>, Muafi MUAFI<sup>2</sup>, Agung GURITNO<sup>3</sup>

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## Abstract

The purpose of this study is to explore the reaction of sharia stock in the Indonesian capital market to the global Covid-19 pandemic. The method used in this study is an event study with a Market Adjusted Model (MAM) approach. The population of this study is shares listed on the Indonesian Stock Exchange (IDX), with the sample chosen from the Jakarta Sharia (Islamic) Index. The result of this study found that the global Covid-19 pandemic is bad news, with the indicators as follows: a) the average expected return is negative; b) the average actual return is negative; c) the average abnormal return is negative, and d) the increase selling action of stock as a cut loss strategy. There is a negative abnormal return and significant Trading Volume Activity (TVA) before, during, and after the announcement of the global Covid-19 pandemic. However, this study found no difference in abnormal return and TVA before and after the announcement of the global Covid-19 pandemic. From these results, this study indicates that the sharia stocks in the capital market in Indonesia can respond quickly to the information that existed. Therefore, the capital market of Indonesia is a capital market with a semi-strong efficient form.

**Keywords:** COVID-19 Pandemic, Return, Event Study, Defensive Stock

**JEL Classification Code:** G2, E6, O1

## 1. Introduction

The world at the end of 2019 was hit by panic because of the outbreak of a virus that originated in the Chinese city of Wuhan, namely Coronavirus which later became known as Covid-19. This virus first infected a 57-year-old woman from Wuhan named Wei Guixian (patient zero Covid-19). Covid-19 was first discovered on November 17, 2019, in Wuhan City, China, and then became an epidemic in that city and in a very short time by January 2020 it infected 81,340 people and killed 3,292 people in China

(Gridhealth.id, 2020). Covid-19 then quickly spread throughout the world, reaching more than 118 countries. The development of the rapid and massive spread of Covid-19 made the World Health Organization (WHO) on March 11, 2020, announced that Covid-19 is a global pandemic (Gridhealth.id, 2020). Covid-19 caused a global panic with multiplayer effects on people's socio-economic life. The impact is very pronounced on both the macro and micro-economies in countries around the world. This panic can be seen clearly in the reaction of the capital market with indicators of increasing trade volume and price index. Composite stock indexes have corrected quite sharply, especially in major world capital markets such as New York, Tokyo, Hong Kong, Singapore, and other countries' capital markets, including Indonesia. Data published by CNBC Indonesia.com (Friday, March 13, 2020) shows the sharp decline in the world's leading composite stock indexes; Nikkei Index: -8.16%, S&P: -9.4%, Wall Street: -The worst 10% since 1987, Dow Jones: -9.94%, Nasdaq: -9.4%, South Korea: -6% and Asian markets in general except Japan fell by 2.75%.

The tremendous impact of the Covid-19 pandemic on the capital markets is interesting to be examined since the study regarding the impact of the Covid-19 pandemic is not much researched yet. Even if there are studies regarding the

<sup>1</sup>First Author. Department of Islamic Economics, Faculty of Economics and Business, Universitas Airlangga, Indonesia

<sup>2</sup>Corresponding Author. Professor, Department of Management, Business and Economics Faculty, Universitas Islam Indonesia, Indonesia [Postal Address: Jl. SWK Ringroad Utara Condong Catur, Yogyakarta, 55283, Indonesia] Email: muafi@uii.ac.id

<sup>3</sup>Department of Islamic Economics, Faculty of Sharia Economics and Business, IAIN Salatiga, Indonesia

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impact of the Covid-19 pandemic on the financial industry, it is mostly related to the banking industry. Camba Jr and Camba (2020) researched the effects of restrictions on economic activity on the spread of Covid-19 in the Philippines. The major findings revealed that across mobility measures, staying-at-home has the highest impact on reducing the spread of COVID-19, followed by visiting transit stations less, less use of public transport, less amount of walking, and fewer workplace visits. Yakean (2020) described the general advantages and disadvantages of a cashless society in Thailand in the COVID-19 situation. The cashless payment in Thailand consists of credit cards, automated teller machines, direct debit, mobile/Internet banking, e-Wallet, PromptPay, and QR code. The results indicated that cashless payment can reduce the spread of COVID-19. Besides, the study conducted by Al-Kharusi and Murthy (2020) in their study was able to throw light on which factors lead to bank instability and weakness. Jabbar et al. (2020) showed that COVID-19 affects financial reporting in companies around the world. Therefore, companies face difficulty reporting finances based on the challenging environment that the pandemic represents. Besides, IFRS fair value measurements consider the prices that were predicted according to current market values. The contexts of the changing the standards by IFRS to curb the effects of the COVID19 financial reporting was attained through evaluation of the online files that were randomly selected and filtered to obtain valid data.

This study examined the reaction of the capital market on the Covid-19 pandemic, with the event study method in the sharia stocks of Jakarta Islamic Index (JII) in the Indonesian Stock Exchange (IDX). The JII stocks are chosen because of the empirical data in the capital market, which shows that sharia stocks during the Covid-19 pandemic still have good performance compared to stocks on other indexes.

## 2. Literature Review

### 2.1. Sharia Stock Reaction

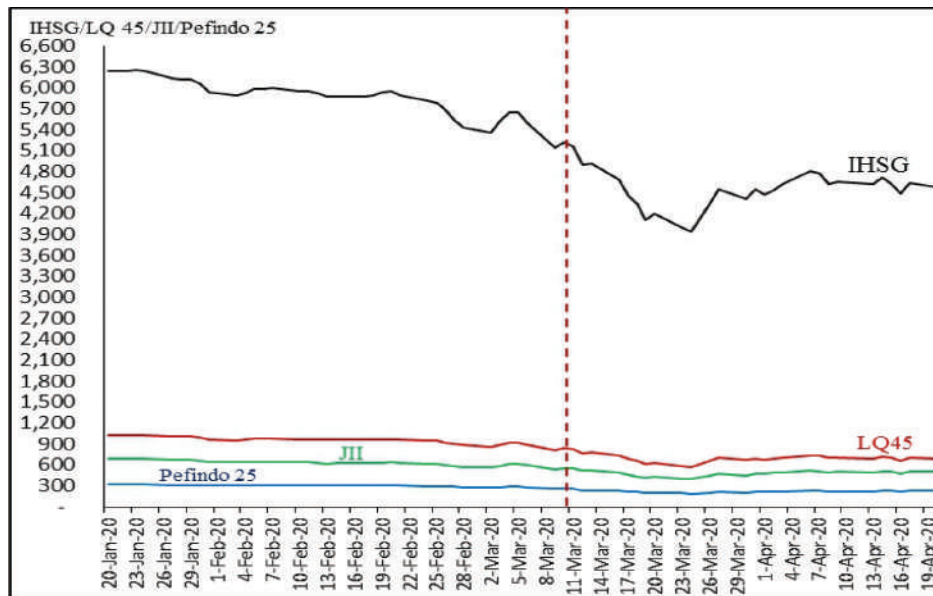
The reaction of the Indonesian Capital Market to Covid-19 took place at the beginning of 2020 or before it was declared by WHO as a global pandemic, even though at that time there were no positive cases in Indonesia. This reaction shows that capital market players in Indonesia are psychologically and informally connected to the global market such that what happens to capital markets in other countries will be responded to by Indonesia's domestic market. According to Widagdo et al. (2020), sharia stock investment in Indonesia has developed rapidly and is attracting many investors and market players. In this case, market players had the belief that

the Covid-19 case will also occur in Indonesia. This belief was proven when Covid-19 was announced for the first time positive in Indonesia on March 2, 2020, namely the case of 2 people in Bogor. The market response was immediately volatile. The market reaction is increasingly apparent after March 11, 2020, when WHO declared Covid-19 a global pandemic (Figure 1). This market panic can be seen from the correction of the Composite Stock Price Index (IHSG) and more specific stock price indexes, for example, LQ 45 (45 blue-chip stock, both conventional and Sharia stock), JII (Jakarta Islamic Index: 30 blue-chip stock from sharia stock), and Pefindo25 (25 stock of small and medium-sized companies with good prospective business performance and development).

The movement of the Composite Stock Price Index (IHSG) from early 2020 experienced a sharp decline until March 2, 2020 (Indonesia found 2 positive Covid-19) and this decline became sharper after WHO on March 11, 2020, announced that Covid-19 was a global pandemic. This negative movement of the Indonesian capital market will be more evident when viewed from a longer movement, from early 2020 to April 2020. IHSG on January 20, 2020, was at position 6,245.04 and fell to 4,575.90 on April 20, 2020, that is, within 2 months was down by 27%. This condition also occurred in JII (-28%, from 687.90 to 498.12), Pefindo 25 (-30%, from 317.75 to 223.71) and LQ 45 (-33% from 1,022.01 to 682.84). The fluctuation in the negative response of the Indonesian capital market to the announcement of the global Covid-19 pandemic can be seen in Figure 1.

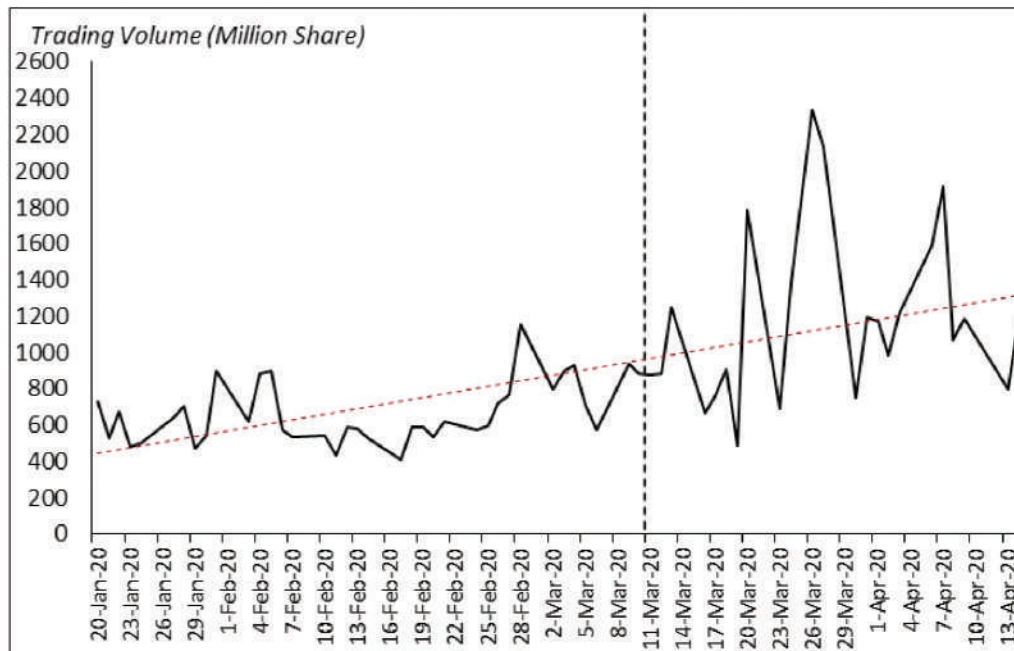
How the reaction of the Indonesian capital market specifically around the WHO report can be seen in the stock price index the day before and the day after the announcement. The IHSG on March 10, 2020, was still at 5,220.83, down by 6.2% to 4,895.75 on March 12, 2020. The drop in the IHSG was followed by the JII, LQ 45, and Pefindo 25 indexes. JII on March 10, 2020, was at 549.48, down by 6.6% to 512.96 on March 12, 2020. LQ 45 on March 10 was at 832.47, down by 7.5% to 769.64 and the Pefindo Index experienced the sharpest decline on March 10, 2020, was at 259.10, down by 8.9% to 235.96 on March 12, 2020. The negative stock index movement can be strongly suspected due to the negative market reaction to the announcement of the global Covid-19 pandemic.

JII as a derivative sharia stock price index from the IHSG can be categorized as more resistant (Figure 1) from the shock of negative Covid-19 information; this is interesting to explore further. The impact of negative information (bad news) on Covid-19 on JII can be seen from the increase in trading volume as in Figure 2.



**Figure 1:** The Stock Indices Development of IHSG, LQ 45, JII, and Pefindo 25 (January 20–April 20, 2020)

Source: www.idx.co.id and reprocessed



**Figure 2:** Development of Stock Trading Volume Jakarta Islamic Index (January 20–April 20, 2020)

Source: www.idx.co.id and reprocessed

The fluctuation fact of the capital market due to the Covid-19 incident proves that this economic sector is very sensitive to the existing information. Available information will be responded to immediately and will quickly be reflected in an increase in trading volume as well as an increase or decrease in stock prices. If the information is positive (good news), the market reaction will be positive, which is indicated by an increase in stock trading volume due to the action of buying stock so that stock prices will increase. Conversely, if the information is negative (bad news), there will also be a negative reaction, which is marked by an increase in stock selling so that trading volume will increase and stock prices will decline. Thus, the increase in trading volume and the decline in stock prices on the Indonesian capital market in the period around March 11, 2020, are thought to be negative reactions to the WHO's decision on Covid-19 as a global pandemic. This condition can be explained by signaling theory (Brigham & Houston, 2011); that information sourced from internal companies (financial reports, dividend distribution decisions, changes in company executives and other internal information) and external companies (government succession, political events, terrorism, major crimes, natural disasters, epidemics, etc.) affect the price of securities in the capital market. Therefore, investors in making investment decisions do not only carry out technical analysis of market movements and fundamental analysis but must know and respond to large and small events that will have a direct or indirect effect on price movements in the capital market.

How the capital market's ability to react toward existing events (information) is reflected by price movements and stock trading volume that will determine the level and form of capital market efficiency. An efficient capital market is a capital market that is able to react to information quickly and accurately. Efficient hypothesis capital markets were first raised by (Fama, 1970). Though the efficient market hypothesis as a whole theorizes that the market is generally efficient, the theory is offered in three different versions: weak, semi-strong, and strong.

The efficient market hypothesis posits that the market cannot be beaten because it incorporates all important information into current share prices, so stocks trade at the fairest value. Though the efficient market hypothesis theorizes the market is generally efficient, the theory is offered in three different versions: weak, semi-strong, and strong. The weak form suggests today's stock prices reflect all the data of past prices and that no form of technical analysis can aid investors. Advocates for the weak form efficiency theory believe that if the fundamental analysis is used, undervalued and overvalued stocks can be determined, and investors can research companies' financial statements to increase their chances of making higher-than-market-average profits (Fama, 1970). The semi-strong form

submits that because public information is part of a stock's current price, investors cannot utilize either technical or fundamental analysis, though information not available to the public can help investors. Those who subscribe to this version of the theory believe that only information that is not readily available to the public can help investors boost their returns to a performance level above that of the general market. The strong form version states that all information, public and not public, is completely accounted for in current stock prices, and no type of information can give an investor an advantage on the market. Advocates for this degree of the theory suggest that investors cannot make returns on investments that exceed normal market returns, regardless of information retrieved or research conducted (Fama, 1970).

The event study is a reliable method for examining the information content of securities prices in the capital market and whether the prices that occur have responded to events that occur outside the market. Jogiyanto (2014) argued information content testing is intended to see the reaction of an announcement or event. If it contains information, the market is expected to react. The market reaction is indicated by the change in the price of the securities and this reaction can be measured using abnormal returns. Therefore, how to find out the market response to the existing information is by analyzing whether an event causes an abnormal return of securities traded in the capital market. The abnormal return that occurs may be positive or negative. If there is a positive abnormal return, the event that occurs is good and positive information (good news) for investors so that buying occurs, and the volume of demand and prices will increase. If there is a negative abnormal return, the event that occurs is bad and negative information (bad news) for investors, so there is a selling action, and the volume of supply increases and prices decline. Abnormal return is the difference between actual return and expected return by investors. If there is a significant abnormal return both before and after the event, it shows that the market has been efficient to an extent.

Another indicator to see the market's reaction to the available information is by analyzing the Trading Volume Activity (TVA). Gunarsih and Nursasmita (2015) defined TVA as an indicator that can be used to observe and measure capital market reactions to information or events that occur outside the capital market. TVA (TVA) is an instrument that is applied to observe the capital market reactions towards the information through the parameter used to measure the capital market reaction to the events. TVA is calculated by comparing several stocks that were traded in a particular time with the total number of circulation stocks in a similar time. TVA can also be classified as a variety of event studies. The information content of an announcement can be examined by involving a factor such as abnormal return. Whereas, two factors are required to examine the information on market efficiency, namely abnormal return and reaction rate.

The detection mechanism for the market reaction to information with this TVA, namely; If an event occurs, an impact on an increase in the volume of purchases of securities will be interpreted by investors as containing good and positive information (good news). The next effect is an increase in price and an increase in actual income (actual return) of the security. Conversely, if an event has an impact on an increase in the volume of sales of securities, then the event is interpreted by investors as containing bad and negative information (bad news), the result is a decrease in prices and automatically the actual return of the securities will also decrease.

Panic in the world capital market due to a virus outbreak occurred in 2002 namely the Severe Accurate Respiratory Syndrome (SARS) virus epidemic. This virus was identified for the first time in the same month and from the same country as Covid-19, namely in November and from China (SARS in November 2002 in Guangdong Province, South China which then spread to 37 countries in the world while Covid-19 on November 17, 2019, in the city of Wuhan, China). Chen et al. (2007) examined the effect of the SARS epidemic on Taiwanese hotel stock price movements using an event-study approach. Seven publicly traded hotel companies experienced steep declines in earnings and stock price during the SARS outbreak period. On and after the day of the SARS outbreak, Taiwanese hotel stocks showed significantly negative cumulative mean abnormal returns, indicating a significant impact of the SARS outbreak on hotel stock performance. Empirical findings could be used to prepare businesses for similar epidemics, such as a deadly bird-flu epidemic.

Chen and Siem (2004) used the event study methodology to assess the effects of terrorism on global capital markets. They examined the U.S. capital market's response to 14 terrorist/military attacks dating back to 1915 and global capital markets' response to two recent events—Iraq's invasion of Kuwait in 1990 and the September 11, 2001, terrorist attacks. U.S. capital markets are more resilient than in the past and recover sooner from terrorist attacks than other global capital markets. Evidence suggested that this increased market resilience can be partially explained by a stable banking/financial sector that provides adequate liquidity to promote market stability and minimize panic.

Carter and Simkins (2004) examined both the market reaction on September 17, the first trading day after the attack, and the period immediately thereafter when the Air Transportation Safety and System Stabilization Act was passed by Congress and signed into law (September 18–24, 2001). Their findings supported the hypothesis of rational pricing and suggest that the market differentiated among various air-transport firms. Cross-sectional results for the September 17 abnormal returns suggested that the market was concerned about the increased likelihood of financial

distress in the wake of the attacks and distinguished between airlines based on the level of their cash reserves. With respect to the Air Transportation Safety and System Stabilization Act, they found evidence that the market believed the major airlines benefited, while the small airlines did not.

Drakos (2010) explored whether terrorism exerts a significant negative impact on daily stock market returns in a sample of 22 countries. The employed empirical specifications are based on flexible versions of the World CAPM, allowing for autoregressive conditional heteroscedasticity. The results suggested that terrorist activity leads to significantly lower returns on the day a terrorist attack occurs. Besides, the negative effect of terrorist activity is substantially amplified as the level of psychosocial effects increases. On the one hand, this evidence shed light on the underlying mechanism via which terrorism affects stock markets while on the other hand, it provided further empirical support for the sentiment effect.

Ferstl et al. (2012) investigated the impact of the Japanese nuclear disaster in Fukushima-Daiichi on the daily stock prices of French, German, Japanese, and U.S. nuclear utility and alternative energy firms. Hypotheses regarding the (cumulative) abnormal returns based on a three-factor model are analyzed through joint tests by multivariate regression models and bootstrapping. Their results showed significant abnormal returns for Japanese nuclear utility firms during the one-week event window and the subsequent four-week post-event window. Furthermore, while French and German nuclear utility and alternative energy stocks exhibit significant abnormal returns during the event window, we cannot confirm abnormal returns for U.S. stocks

Tay et al. (2016) investigated the connection between ethics and profitability by examining the association between published reports on white-collar crime and the share-price performance of the Malaysian-listed companies. Their findings indicated that an announcement of a white-collar crime has a negative abnormal return on the share price. As a result, the market does not react efficiently toward the information released regarding the incidence of a white-collar crime.

Utama and Hapsari (2012) investigated whether the Indonesian stock market reacts to the terrorist bomb attack and whether the Indonesian stock market reaction to the terrorist bomb attack is affected by industry type and foreign ownership. Using data of terrorist bomb attacks from 2000 until 2006, an event study test shows that generally, Indonesia's capital market reacts negatively to the terrorist bomb attack. Further, the multiple regression analysis shows that the stock market reaction is more negative for the tourism industry than other industries while foreign ownership does not influence the stock market reaction. Thus, this study corroborates previous studies showing that a terrorist attack is deemed as bad news in the capital market and consequently will negatively affect the investment decision (Chen & Siem 2004).

The global Covid-19 Pandemic (Figure 1 and Figure 2) can be presumed to have a negative impact on investment in the Indonesian capital market because it is negative information (bad news) for investors. If the response is positive or negative, exploration and testing are needed using the event study method. This event study was conducted to answer the questions; first, is there a negative reaction to the Indonesian capital market to WHO’s announcement on the global Covid-19 pandemic which is reflected in abnormal returns and TVA (TVA). Second, is there a difference between abnormal returns and TVA (TVA) before and after the WHO decision on the global Covid pandemic 19? The research conceptual framework is as shown in Figure 3.

Based on Figure 3, the hypothesis can be formulated as follows:

**H1.** *There is a negative Abnormal Return on the Indonesian Capital Market before, during, and after the announcement of Covid-19 as a global pandemic.*

**H2.** *There is significant TVA in the Indonesian Capital Market before, during, and after the announcement of Covid-19 as a global pandemic.*

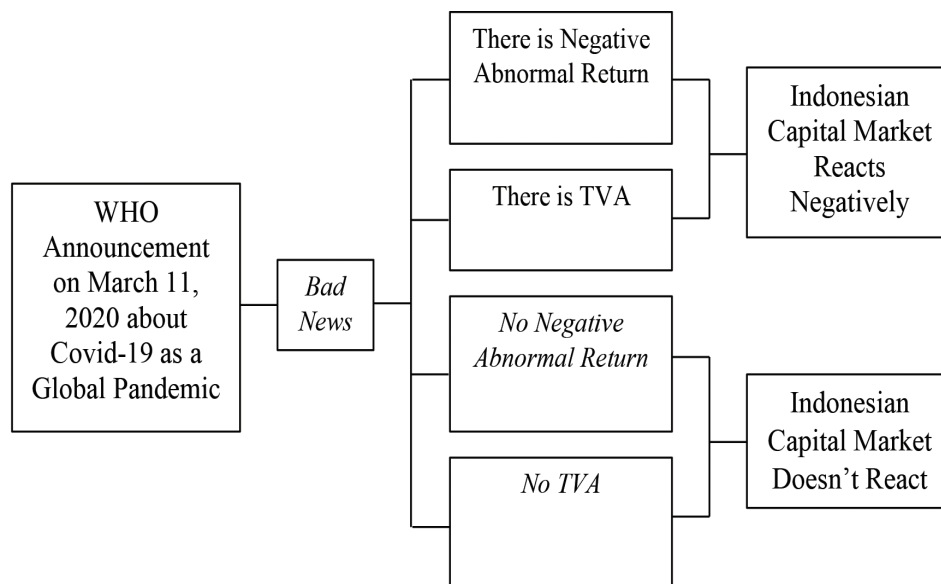
**H3.** *There was a difference in the abnormal return before and after the announcement of Covid-19 as a global pandemic.*

**H4.** *There was a difference in TVA before and after the announcement of Covid-19 as a global pandemic.*

### 3. Research Methods

The research question will be answered in this study using the event study method. The event that the capital market reacts to in this study is the announcement of the WHO’s decision regarding the COVID-19 pandemic on March 11, 2020. Thus the “ $t_0$ ” in the event study is March 11, 2020. The selected event study model is Market Adjusted Model (MAM). The MAM model was chosen because it is simpler, that is, it does not require an estimation period in calculating expected return and is suitable for testing events other than corporate action, where information spreads more quickly in the market so that market players respond quickly to the information. In the MAM model Expected Return (ER) is the market index income level. The observation period was taken for 7 days before and 7 days after, then a day when the announcement of Covid-19 as a global pandemic so that there are 15 days of observation.

Taking the observation period of 7 days before and after the event to avoid the influence of other different events and if the same event recurs on the day after the first event, the time of the event can be assumed to shift. Thus, later to conclude whether the capital market is efficient in a half-strong form or not, we do not use a single event conclusion theory like event studies in general, because this event is a pandemic that takes a long time.



**Figure 3:** Conceptual Framework

The Reaction of the Indonesian Capital Market towards the Covid Pandemic 19

The populations taken are stocks on the Indonesia Stock Exchange (BEI) whose price movements are measured by the Composite Stock Price Index (IHSG). Thus, the Expected Return (ER) calculated based on the market index income in this study is HSG using formula 1.

$$E(R_{it}) = R_{mt} = \frac{IHSG_{it} - IHSG_{t-1}}{IHSG_{t-1}} \quad (1)$$

The sampling technique was purposive sampling with the following sample criteria:

- a. Sharia stocks that are part of Jakarta Sharia Index (JII)
- b. Sharia stock issuers that continue to be included in the Jakarta Sharia Index (JII) during the study period.
- c. Has a closing price during the study period.
- d. During the study period, there was no suspend and delisting.
- e. During the study period there was no corporate action.

Based on these criteria, 30 JII stock can be used as a sample, so the price and trading volume of these 30 stocks are used to calculate Actual Return ( $R_{it}$ ) and TVA (TVA). The calculation formula for calculating actual return is formula 2 and the formula for calculating TVA is formula 3.

$$R_{it} = \frac{P_{it} - P_{t-1}}{P_{t-1}} \quad \dots\dots\dots(2)$$

$$TVA_{it} = \frac{TV_{it} - TV_{t-1}}{\text{Outstanding Share}} \quad \dots\dots\dots(3)$$

Based on the count results of the  $R_{it}$  and  $E(R_{it})$  can be calculated. Abnormal Return ( $AR_{it}$ ) which is the difference between Actual Return ( $R_{it}$ ) with Expected Return,  $E(R_{it})$  or as formula 4.

$$AR_{it} = R_{it} - E(E_{it}) \quad \dots\dots\dots(4)$$

Is there a difference between Abnormal Return ( $AR_{it}$ ) and TVA (TVA) before and after the event, the paired mean difference test is used. This test was chosen because to test the difference between the two observations due to the difference in treatment, namely an event, in this case, the announcement of Covid-19 as a global pandemic by WHO on March 11, 2020. Analysis and hypothesis testing in this study used analysis tools with SPSS Statistics Version 23 software.

## 4. Results and Discussion

### 4.1. Sharia Stock Reaction of Jakarta Islamic Index against COVID-19 Pandemic

The capital market is categorized as efficient if the prices reflect existing information. Jogyanto (2015) argued that the

form of market efficiency can be seen from the perspective of information availability and market-player sophistication in decision making. An efficient market with the perspective of information availability is called the informational efficient market. From an efficient market perspective, when market-player sophistication uses available information in decision making, it is called a decisional efficient market. Market-player sophistication in making decisions based on available information will be reflected in the price and level of income received (actual return). Actual return is the difference between the price of a security when it is sold and the price when it is purchased. The actual return has two possibilities: *first*, positive which means the selling price is higher than the purchase price, and *second*, negative which means the selling price is lower than the purchase price.

Technically rising or falling prices in the market (technical analysis) are strongly influenced by market participants' perceptions of existing information. If the price rises, it means that market players have a positive perspective on existing information (good news) and vice versa when prices go down, meaning that market players have a negative perception of existing information (bad news). Good news will encourage market players to buy stock and prices will increase due to the effect of increasing demand. Meanwhile, bad news will encourage market players to sell stock and prices will decrease due to the effect of increasing supply (Rahmawati & Pandansari, 2016). Information on the global Covid-19 pandemic, whether it is good news or bad news for Sharia stock investors in the Indonesian capital market, technically, can be seen in Table 1.

Based on Table 1, it can be concluded that the global Covid-19 pandemic is bad news for investors in Sharia stock in the Indonesian capital market. The bad news indicator is that the majority of actual returns both before and after the announcement of the global Covid-19 pandemic are negative and the actual average income is also negative. This condition indicates that there is a sell-off by investors which increases supply and a fall in stock prices so that the actual income of investors decreases (negative).

Good news and bad news in general on the capital market can also be seen in the stock market fluctuation, which is reflected in price index fluctuations, in this case, the Composite Stock Price Index (IHSG). IHSG can be used to calculate the market index income level as a proxy for expected return which will be a measure of whether an investor's income is normal (normal return) or his income is abnormal (abnormal return). Normal income is when the investor's income is the same as market income, while abnormal income is when the actual income is higher (positive) or lower (negative) than expectations. The fluctuation of the market index income (expected income) during the test period of this study is as in Figure 4.

**Table 1:** Actual Return and Abnormal Return Composition of Sharia Stock during the Test Period

Actual Return Composition					Abnormal Return Composition			
Event Period	Negative Actual Return ( $R_{it}$ )	Positive Actual Return ( $R_{it}$ )	Total Issuers	Average Actual Return ( $AR_{it}$ )	Total Negative Abnormal Return ( $AR_{it}$ )	Total Positive Abnormal Return ( $AR_{it}$ )	Total Issuers	Average Abnormal Return (AAR)
t-7	20	10	30	0.0009	19	11	30	0.0003
t-6	13	17	30	0.0073	14	16	30	0.0056
t-5	3	27	30	0.0058	14	16	30	0.0054
t-4	4	26	30	-0.0047	17	13	30	-0.0053
t-3	17	13	30	-0.0089	21	9	30	-0.0079
t-2	26	4	30	-0.0246	25	5	30	-0.0261
t-1	30	0	30	-0.00018	14	16	30	-0.0013
Total	113	97	210	-0.0037	91	59	150	-0.0042
$t_0$	9	21	30	-0.0168	20	10	30	-0.0191
t+1	24	6	30	-0.0299	23	7	30	-0.0326
t+2	30	0	30	-0.0158	21	9	30	-0.0150
t+3	20	10	30	-0.0212	29	1	30	-0.0205
t+4	30	0	30	-0.0060	25	5	30	-0.0049
t+5	28	2	30	-0.0211	24	6	30	-0.0214
t+6	27	3	30	-0.0106	28	2	30	-0.0094
t+7	14	16	30	0.0213	17	13	30	0.0176
Total	173	37	210	-0.0119	177	33	210	-0.0123

Figure 4 shows that the income trend of the market index is negative, this condition indicates that the market, in general, has a negative reaction to the information on the global Covid-19 pandemic. Investors use a cut loss strategy (selling action to avoid greater losses), as a result, stock offerings increase so that stock prices fall. The fall in the composite stock price index due to falling stock prices will have an impact on the expected return and of course, the actual stock income, which will then affect abnormal returns both before, during, and after the information on the global Covid-19 pandemic. Samsul (2015) argued that abnormal returns can occur before the information is published and it can also occur after the information is published.

Abnormal return is more valid evidence about how the market reacts to information. If there is a positive abnormal return, it means that the market gives a positive reaction to the information that occurs. Conversely, if there is a negative abnormal return the market gives a negative reaction to the available information (Agustia et al., 2019). The results of the abnormal return analysis of sharia stock in JII as a reaction reflection of the Indonesian capital market to the WHO announcement regarding the global Covid-19 pandemic are shown in Table 1.

Table 1 provides information that the average Sharia stock in JII for 7 trading days before the event, the majority gave a negative reaction to the occurrence of the global Covid-19 pandemic. Negative reactions continued to increase in t-4 (14 stocks), t-3 (21 stocks), t-2 (25 stocks), and at t-1 decreased to 14 stocks but increased again when at  $t_0$  (the event occurred) to 20 stocks. If the abnormal return is negative before the event is added, is up to 91 (60.67%) of the total abnormal returns of 210. Abnormal return after the event, the majority of stock is also negative until t+7 if the total is 177 (84.29%) of the total abnormal returns (210). This condition proves that the information on the global Covid-19 pandemic is bad news for Sharia stock investors in the Indonesian capital market and this shows that the decline in JII Sharia stock prices has been able to reflect the negative information that has occurred.

When the condition of the Sharia stock majority gave a negative reaction to the bad news of the global Covid-19 pandemic there were 4 stocks that before, during, and after the event still had a positive average performance. This was marked by the average abnormal return and the Cumulative Abnormal Return (CAR) which is always positive. Whether the incident on these four stocks is an anomaly or a natural occurrence, needs further analysis. The four stocks are as shown in Table 2.



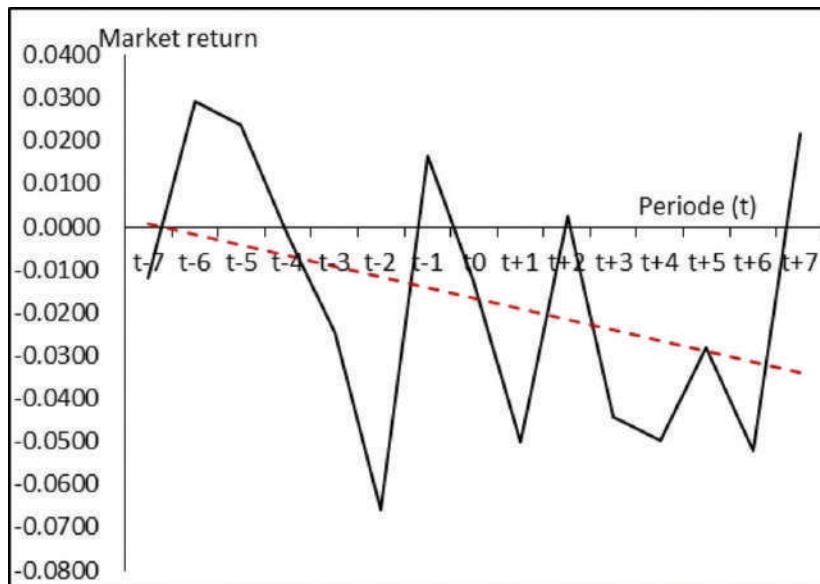


Figure 4: Indonesian Capital Market Index Income during the Test Period

Table 2: Consistent Issuers of Abnormal Positive Return during the Test Period

Issuer	Before the Event		During the event	After the Event	
	AAR	CAR	AAR	AAR	CAR
ICBP	0.0077	0,0877	0.0290	0.0031	0,0379
INDF	0.0009	0,0812	0.0202	0.0124	0,0600
KLBF	0.0009	0,0812	0.0202	0.0124	0,0600
UNVR	0.0103	0,0777	0.0409	0.0286	0,1175

The four stocks listed in Table 2 always have a positive average abnormal return and cumulative abnormal return, even though there is negative information about the global Covid-19 pandemic, meaning that this information is not bad news. This reaction was different from the 26 stocks of JII which considered the information to be bad news. This condition shows that the 4 stock investors still have positive perceptions and expectations of the available information. After in-depth analysis related to the 4 stocks industrial sector, it was found that one issuer is engaged in the pharmaceutical industry sector (KLBR, PT Kalbe Farma), and two companies are engaged in the Food and Beverage industry sector (noodles and foodstuffs and other follow-up industries, namely INDF stock. (PT Indo Food Sukses Makmur) and ICBP stock (PT Indofood CBP Sukses Makmur).

Another one, namely UNVR (PT Unilever Indonesia) stock is engaged in the consumer goods sector. Thus it is relevant if the 4 stocks give a positive reaction and are not a capital market anomaly. Why is that? Because in the conditions of the COVID-19 pandemic, industries that have the

prospect of stable demand and even increasing are the food, beverage, and pharmaceutical industries. This prospect that remains positive is reinforced that one of the strategies for handling Covid-19 is social distance or stay at home or in the wider area called lockdown. In such conditions, needs for food, drink, and medicine tend to increase. Therefore, the response of these 4 stocks is not an anomaly but something reasonable and relevant, because, at the time of the pandemic, these 4 stocks had good performance expectations even though they might not be as good as under normal conditions. These four stocks can be categorized as “resilient stock” or better known as a defensive stock. Defensive stocks are stocks that are not affected by bad news and a weakening economic situation because the issuers are public utilities, industrial and consumer goods companies, food and beverage, and pharmaceutical products, especially drugs. These results are the same as the results of research on the reaction of industrial stock in the consumer goods and retail sectors to the 2013 Jakarta floods conducted by Yuwono (2013). The consumer goods and retail sectors

continue to have positive abnormal returns during floods and this is a characteristic of “resilient stock” and still has a positive market performance despite being hit by bad news. This result also shows the enactment of the law that; **“Every adversity there is always luck”**, and this has been told in the Qur’an, Surah Ash-Sharh (5–7):

“For indeed, with hardship [will be] ease (5). Indeed, with hardship [will be] ease (6). So when you have finished [your duties], then stand up [for worship] (7).” (QS 94, Ash-Sharh: 5–7)

Based on the above verse of the Qur’an, if it is related to the positive abnormal return of 4 **“resilient”** JII stocks, it shows that; *first*, Allah always gives you luck and convenience in every downturn and difficulty so that there is always a balance. *Second*, there is nothing anomaly in every event in this world including the existence of this **“resilient stock”** but it is Allah’s will and provision so that people are always optimistic and have good hopes even in difficult conditions so that they will remain enthusiastic to try to find solutions to difficulties.

#### 4.2. Negative Reaction of Indonesian Capital Market to the COVID-19 Pandemic

An event study is a method to test how the capital market reacts to information or event that occurs and it can also be used to test the information content of securities prices in the capital market. The results of the test can detect whether the efficiency of the capital market at the level of a semi-strong efficiency. If there is a significant abnormal return

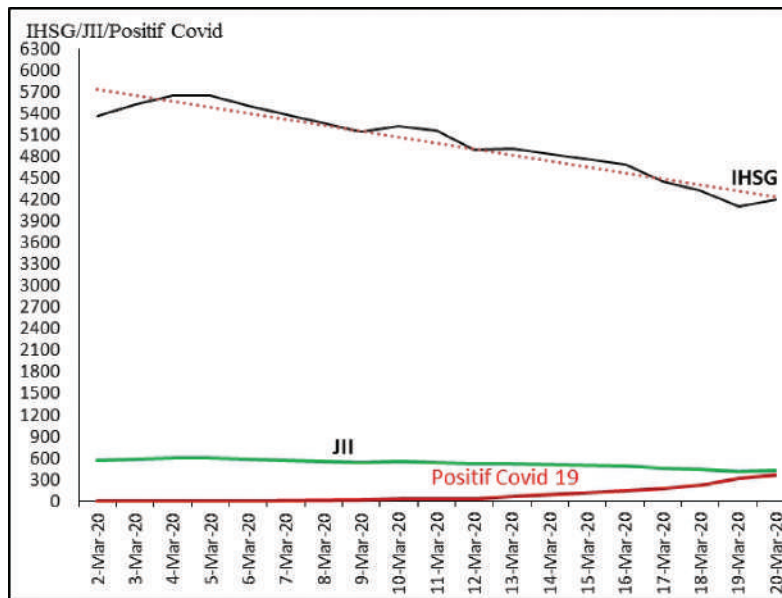
around the event, the capital market is a semi-strong efficient capital market. The results of the analysis of the significance level of abnormal returns around the announcement of the COVID-19 global pandemic are as shown in Table 3.

Based on Table 3, for 7 days before the event, there were 2 days of significant negative abnormal returns, namely at  $t-3$  and  $t-2$ , and the remaining 5 days before the event there was no significant abnormal return. When the event occurred ( $t_0$ ) there was a significant negative abnormal return and after the event, there were 4 significant negative abnormal returns, namely  $t+1$ ,  $t+2$ ,  $t+3$ , and  $t+5$ . These results indicate that; JII Sharia stocks are able to respond quickly to existing information. Negative abnormal returns mean that the information on the global pandemic Covid-19 is negative (bad news) for Sharia stock investors and this negative response is prolonged because more than 3 times significant abnormal returns have occurred. Tandelilin (2010) relates to the market reaction conditions to prolonged information; a semi-strong efficient market is if abnormal returns only occur around the publication of an event as a representation of the market response to the publication. Prolonged abnormal returns (more than 3 times) show that there is a late market reaction in absorbing information so that the market is considered to be inefficient as a half strong form. These results are in line with event studies conducted by Chen et al. (2007), Chen and Siem (2004), Drakos (2010), Utama and Hapsari (2012), and Tay et al. (2016), who found negative information will also be responded to by negative markets, which is marked by a significant negative abnormal return.

**Table 3:** The Significance Test Results of Abnormal Return during the Test Period

Test Period	Mean	t	Sig. (2-tailed)	Hypothesis Results
t-7	0.0004	0.068	0.946	Not significant
t-6	0.0056	0.886	0.383	Not significant
t-5	0.0054	0.994	0.328	Not significant
t-4	-0.0054	-1.300	0.204	Not significant
t-3	-0.0079	-1.967	0.059	Significant *
t-2	-0.0261	-4.530	0.000	Significant
t-1	-0.0013	-0.268	0.791	Not significant
$t_0$	-0.0191	-3.277	0.003	significant
t+1	-0.0326	-4.364	0.000	significant
t+2	-0.0150	-1.996	0.055	significant*
t+3	-0.0205	-8.807	0.000	significant
t+4	-0.0049	-0.749	0.460	Not significant
t+5	-0.0214	-4.192	0.000	significant
t+6	-0.0094	-1.107	0.278	Not significant
t+7	0.0176	1.097	0.282	Not significant

\* Significant at the 10% level.



**Figure 5:** Negative Relationship between IHSJ and JII with Positive Covid-19 in Indonesia

**Source:** www.idx.co.id and processed from various sources

This prolonged reaction is acceptable and not a problem because, after the announcement of the global Covid-19 pandemic, Indonesia experienced a high spike of Covid sufferers. When Indonesia first announced that there were positive patients on March 2, 2020, there were only 2 patients and became 34 sufferers on March 12, 2020 (the day after WHO announced the global Covid-19 pandemic) and it continues to increase in an uncertain time until when it will stop. The increasing number of Covid sufferers worries investors and this is getting more and more worried because the pressure to lockdown or a narrower social distance is getting stronger and if a blackout occurs, the economy will stagnate. The uncertainty for investors has increased with the uncertain lockdown decision, which has led to speculation that the pandemic will be prolonged.

On the other hand, the Covid pandemic has a very fast and extensive multiplayer effect on the socio-economic life of the community. This condition will certainly greatly affect the performance of the Indonesian capital market issuers, so it is only natural that the capital market has a prolonged negative response. Thus, it is natural that if there is a prolonged significant negative abnormal return, the Indonesian capital market can still be categorized as a semi-strong efficient capital market (Scholtens & Peenstra, 2009). Because announcements about the addition of Covid-19 continue to be announced every day until the end of the test period and every day positive patients continue

to increase. This does not contradict Tandelilin's opinion, because the Covid case is not a single event but multi-event, so the day the event shifts from "to" to t+1 and at t+2, the reaction to the announcement on day t+1, announcement on day t+2 will be responded to at t+3 and so on. Covid announcements every day during the test period is always responded negatively by the market (Table 3) and this is made clear by the addition of positive Covid patients having a negative relationship with stock prices in the Indonesian capital market, which is as shown in Figure 6. Figure 6 illustrates the addition of positive Covid patients 19 is related negatively with the IHSJ (market index earnings) and JII (stock being sampled in this event study).

The Indonesian capital market in response to the global Covid-19 pandemic event can still be categorized as a semi-strong efficient capital market, which is clarified by the results of the significant TVA (TVA) significance test during the 15-day test period as shown in Table 4.

This significant prolonged TVA (TVA) is in line with prolonged abnormal returns as well. Although ATV has been significant for a prolonged period of time, it has strengthened the Indonesian capital market in responding to the Covid-19 pandemic, including a semi-strong efficient capital market. This conclusion is not the same as concluding general event studies where the event is used only one event and the same event does not recur or is announced only once (Barokah & Witiastuti, 2016). In the Covid-19 pandemic in

Indonesia, the development and increase in the number of sufferers and affected areas were announced continuously throughout the event test period so that this is the same multi-event not because of other events. Thus, significant TVA at t+2 is the market's rapid reaction to announcements at t+1, and significant TVA at t+3 is the market response to announcements at t+2 and beyond. This significant abnormal return is evidence of the speed of the market in absorbing and responding to existing information so that the Indonesian capital market can be categorized as a semi-strong efficient capital market.

The Indonesian capital market at the time of responding to the Covid-19 pandemic was an efficient semi-strong form of capital market which was also strengthened by the results of the Average Abnormal Return (AAR) difference test before and after the event which resulted in no difference (t: 1.043; Sig.: 0.337) so that both before and after the event the market had the same speed in responding to existing information.

The analysis result of the average difference test for Average TVA before and after the event also showed no difference (t: -0.421; Sig.: 0.689). These results indicate that Sharia JII stocks can absorb information quickly both before and after the event so that the Indonesian capital market is categorized as a semi-strong efficient capital market which is acceptable.

**Table 4:** TVA Significance Test Results during the Test Period

Period	ATVA	t	Sig. (2-tailed)	Hypothesis Results
t-7	0.0018	5.325	0.000	Significant
t-6	0.0019	5.959	0.000	Significant
t-5	0.0019	5.651	0.000	Significant
t-4	0.0017	4.069	0.000	Significant
t-3	0.0013	5.624	0.000	Significant
t-2	0.0020	6.862	0.000	Significant
t-1	0.0020	5.835	0.000	Significant
t <sub>0</sub>	0.0020	5.555	0.000	Significant
t+1	0.0021	4.935	0.000	Significant
t+2	0.0026	6.653	0.000	Significant
t+3	0.0012	7.229	0.000	Significant
t+4	0.0015	5.754	0.000	Significant
t+5	0.0016	8.377	0.000	Significant
t+6	0.0009	4.631	0.000	Significant
t+7	0.0036	6.956	0.000	Significant

**Table 5:** TVA Average Before and After the Event

Period	ATVA	AAR	Action
Before	0.001798	-0.00419	Sell
After	0.001944	-0.01231	Sell

The results of the overall analysis have proven that the first hypothesis, there is a negative abnormal return on the Indonesian Capital Market before, during, and after the announcement of Covid-19 as a global pandemic can be proven. The second hypothesis; There was a significant TVA in the Indonesian Capital Market before, during, and after the announcement of Covid-19 as a global pandemic was also proven to be true. The third hypothesis, there is a difference in abnormal returns before and after the announcement of Covid-19 as a global pandemic that cannot be proven or statistically there is no difference. The fourth hypothesis; There is a difference in TVA before and after the announcement of Covid-19 as a global pandemic, the truth is not proven, or statistically, there is no difference. When viewed the average trading volume before and after the event is shown in Table 5.

Based on Table 5, conclusions can be drawn, among others; after the event, there was an increase in trading volume by 8.13% percent (0.001944-0.001798/0.001798) of all total outstanding stocks from stocks that are JII members. This increase in trading volume is a selling action, it can be seen that the negative average abnormal return has increased from -0.00419 before the event to -0.01231 after the event. The increase in negative abnormal returns from before the event increases after this event is the impact of investors selling action to avoid greater losses or cut loss strategies as a result, stock prices have decreased. Thus, the global Covid-19 pandemic has a significant negative response by capital market investors and statistically, there is no difference in TVA and abnormal returns before and after the event, so it can be concluded that the Indonesian capital market is a semi-strong efficient capital market.

## 5. Conclusion

WHO's announcement about the Covid-19 pandemic is bad news for the Indonesian Capital Market. The indicators for bad news include; a) the negative average expected return (market revenue), b) the average actual return of Sharia stock in Jakarta Islamic Index (JII) is negative, c) negative average abnormal return d) Increased selling of Sharia stock in Jakarta Islamic Index (JII). In this negative market condition, it turns out that there are stocks that are not affected by bad news and a weakening economic situation because the issuers are companies engaged in the production of public utilities, industrial and consumer goods companies,

food and beverage, and products, pharmacy especially medicines. Stocks that continue to perform positively on the market despite negative information (bad news) and are shock-resistant in the economic cycle are categorized as “resilient stock” or defensive stock. This reality shows that the law applies that; “Every adversity there is always luck” or every difficulty is always along with ease.

There is a negative Abnormal Return and significant TVA on the Jakarta Sharia Index (JII) sharia stock before, during, and after the announcement of Covid-19 as a global pandemic. However, there was no difference between Abnormal Return and TVA in the Jakarta Sharia Index (JII) sharia stock before and after the announcement of Covid-19 as a global pandemic. These results indicate that Sharia stocks in the Indonesian capital market can respond quickly to the existing information so that the Indonesian capital market is a capital market in a semi-strong efficient form. The implication is that investors in making investment decisions should not only consider technical market statistics and fundamental factors but must also consider non-economic events.

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