



The Impact of COVID-19 on Stock Price Changes

Dewi Anggraini^{1*}

¹ Faculty Business And Knowledge Social, Program Studies Accountancy, Dian Nusantara University, Jakarta, Indonesia

*Corresponding author: dewi.anggraini205@gmail.com |

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Abstract

Purpose: This study aims to determine the capital market's reaction to the announcement of the arrival of the COVID-19 virus in Indonesia.

Research Methodology: Data were collected at the time of the announcement, implementation of the Large-Scale Social Restrictions or *Pembatasan Sosial Berskala Besar (PSBB)* policy to combat the COVID-19 pandemic, and announcement of the resumption of public transportation. The event window used in this study spanned 11 days, with five days before and five days after the event announcement, and one event date on that day.

Results: The paired sample t-test results show a significant difference in stock prices before and after the announcement of the first COVID-19 case in Indonesia. Price share experience decline compared to before existence case COVID-19. When the *PSBB* policy was implemented and the announcement of the resumption of transportation modes was made, there was no significant difference in share prices before and after the event.

Conclusions: The announcement of the first COVID-19 case in Indonesia had a significant negative effect on stock prices, as share prices declined compared to the period before the announcement. Implementation of *PSBB* and the announcement of the resumption of transportation modes did not cause significant changes in stock prices, indicating a weaker market reaction.

Limitations: This study only examined companies in the telecommunications, consumer goods, and tourism sectors using a short event window of eleven days.

Contributions: This research contributes empirical evidence on how the Indonesian capital market responded to COVID-19 related announcements. The findings help investors and policymakers understand market reactions during crisis conditions.

Keywords: Capital Market Reaction, COVID-19, Event Study, PSBB Policy, Stock Prices

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1. Introduction

Countries around the world are currently facing a major challenge in handling the coronavirus outbreak, officially identified by the World Health Organization (WHO) as Coronavirus Disease-19, or COVID-19 for short (Adiza et al., 2020). The pandemic, which originated in Wuhan, China, has caused global shock, as we have never experienced a virus outbreak with such rapid and massive transmission rates and power in recent decades. This is unlike the SARS, MERS, and Ebola viruses, which also threatened the world a few years ago but were quickly contained (Baker et al., 2020; Cowling et al., 2020; Dingel & Neiman, 2020).

Since its emergence in December 2019, the COVID-19 pandemic has had a serious impact on nearly every aspect of human life on earth. This is especially true in the economic sectors (Kusnandar & Bintari, 2020). Although, objectively, the pandemic has also had a positive impact on improving the Earth's ecological condition on a scale and extent that is not trivial: globally, every country in the world has felt it (Brynjolfsson et al., 2020; Carnevale & Hatak, 2020). The coronavirus pandemic first emerged on December 31, 2019, when the WHO received a report from China that an outbreak of an unknown virus had occurred in the port city of Wuhan (Akter, 2021). The outbreak spread rapidly to various countries within the next two weeks, and it became a global pandemic. In Indonesia, the total number of positive COVID-19 cases is 3,512, with 306 deaths and 282 patients recovered (Ayouni et al., 2021; Bahtiar & Saragih, 2020).

Data as of April 10, 2020, 7:56 PM. The death rate in Indonesia (8.71%) is higher than the global death rate (5.99%). This high rate has caused considerable anxiety among the public.

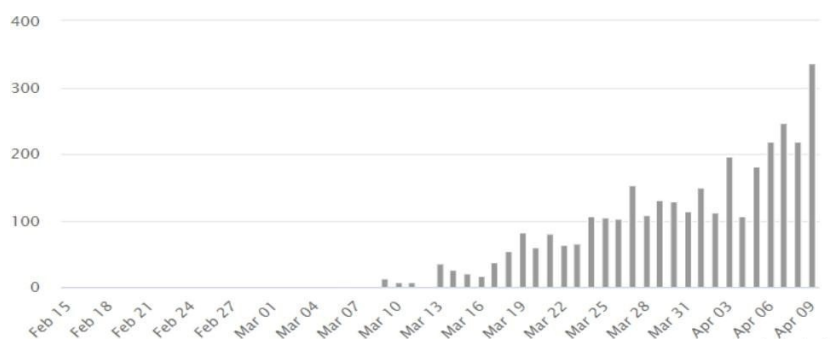


Figure 1. Amount Addition Case Daily 02 March 2020-April 2020

Source: <https://www.worldometers.info/coronavirus/country/indonesia/>, 2020

Based on Figure 1, number of cases per day is increasing from day to day, with the 9th April seeing the highest increase in cases, with 337 positive cases in one day. This has caused significant losses to the community and Indonesia. The increase in positive cases from day to day caused many losses to various sectors in Indonesia. One of these is the Indonesian economic sector. The COVID-19 pandemic has severely devastated the Indonesian economy. The first case was announced by President Jokowi on March 2, 2020. President Jokowi announced that two people tested positive for COVID-19. On March 2, 2020, the rupiah exchange rate was not as weak as it is now. On March 2, 2020, the exchange rate of 1 USD against the Indonesian rupiah was Rp. 14,265.00, as of today, April 9, 2020, the exchange rate of 1 USD against the Rupiah is Rp. 15,880.004. Therefore, the rupiah weakened by 1,615 points or weakened by 11.32% in 39 days. The rupiah's worst weakening up to April 10, 2020, occurred on March 23, 2020, with the exchange rate of 1 USD to the rupiah at Rp. 16,575.00, a weakening of 16.19%.

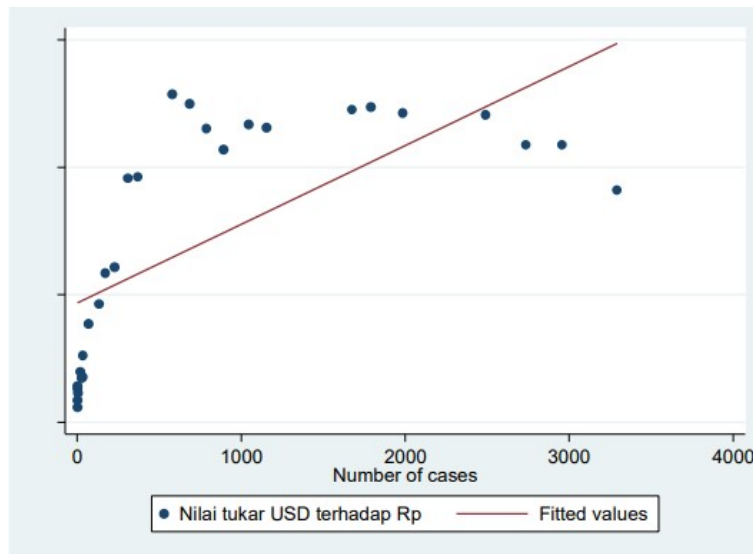


Figure 2. Influence Amount Case COVID-19 in Indonesia to Mark Swap Rupiah

Source: Source: Data Processing Results, Sihalo, 2020

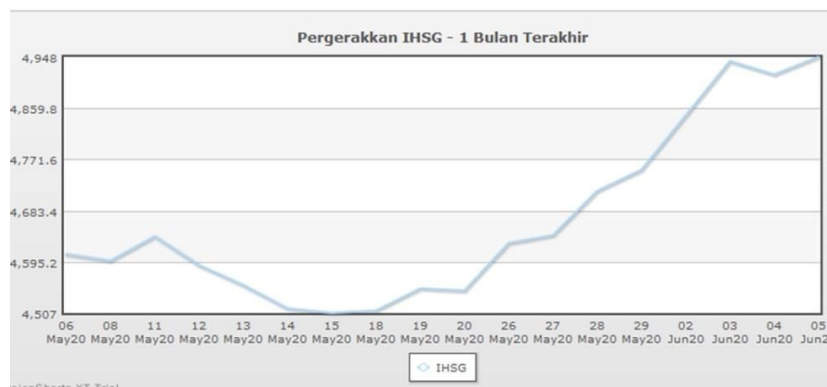


Figure 3. Chart Movement IHSG Month May 2020

Source: Source: <https://ihsg-idx.com/>

Based on Figure 2 and Figure 3, indicate a positive correlation between the number of COVID-19 cases and the strength of the USD exchange rate against the Rupiah. If COVID-19 cases continue to rise, Indonesia's economic situation will worsen. One indicator of this is the weakening of the Rupiah against the USD dollar and other foreign currencies. In Indonesia, the industrial sector is the most affected by this. The tourism sector was the main driver of the COVID-19 outbreak. The tourism sector has long been touted as Indonesia's second-largest source of foreign-exchange earnings. However, the COVID-19 pandemic has impacted everything. Since the introduction of social distancing instructions and stay-at-home orders, the tourism sector has been sluggish. Several government stimulus measures to revive the tourism sector have been unable to stem the negative impact of the COVID-19 pandemic. Many tourist attractions have been closed (Dirani et al., 2020; Donthu & Gustafsson, 2020).

Occupancy at most hotels has also dropped drastically, meaning that there is no income. Bali is one of them (Priyatno, 2016). the most impacted destinations. Foreign tourists are the primary source of income for the Island of the Gods. In February 2020, 392,824 tourists visited Bali, according to the Bali Immigration Office, which has seen a 33% drop since January due to the coronavirus. Hotel occupancy

in Bali dropped by 70 percent since the coronavirus spread, which has impacted welfare (Ivanov & Das, 2020; Kniffin et al., 2021). for employee. The impact of the coronavirus on the economy cannot be avoided. Therefore, some hotel employees in Bali are only paid half their wages. This reduction is necessary to keep businesses running while ensuring their employees' financial well-being. Some hotel managements are also asking their employees to take leave during off-peak periods (Fairlie, 2020; Inceoglu et al., 2018; Khoiriah et al., 2020).

In the cigarette industry sector, the Cigarette Manufacturers Association (Gapero) stated that the Corona virus (COVID-19) pandemic has also impacted the cigarette industry, particularly related to the production and sales of cigarette products (Kristiawan, 2010; Spagnoli et al., 2020). However, manufacturers must continue to operate their production during the pandemic and continue to operate. In this way, they can still absorb labor and stimulate the community's economy. While several industrial sectors began to collapse due to the COVID-19 outbreak, the consumer goods sector was the least affected. Based on data from the Indonesia Stock Exchange, the performance of the consumer sector fell by 19.17 percent throughout the first quarter of 2020. This decline was the smallest compared that with of the other sectors. Consumer goods were predicted, namely the sector that was the most defensive, meaning those that can survive recessions and crises but cannot grow as strongly during economic booms. The coronavirus pandemic and calls to work from home have led to increased consumer goods consumption, likely contributing to positive sentiment supporting the performance of the consumer sector.

Bloomberg data, shares of PT Siantar Top Tbk. (STTP) were a mainstay in the consumer goods sector, rising 44.44 percent throughout Q1 2020. This was followed by ITIC (40.38 percent), INAF (24.14 percent), and KAEF (4.80 percent). The presence of these two pharmaceutical issuers is unsurprising. Both of them are manufacturer product health as well as drug and vitamin, Which It now much sought after by the public. In addition, Indofarma is a responsible company. will tool health for handling COVID-19 in Indonesia, such as importing 100,000 rapid test packages from China and Korea.

The medical device and pharmaceutical industries are in high demand. The government encourages these sectors to meet the public demand for healthcare products (Lestari, 2020). Currently, the demand for products from both sectors is increasing in line with the handling of the COVID-19 outbreak. need utilized with Good, For realize independence Indonesia in sector health and The high demand for pharmaceuticals can be seen from the number of medicines and medical devices used to address the COVID-19 pandemic. This is a positive achievement that should be maintained. Currently, the pharmaceutical and medical device sectors are the largest contributors to the Indonesian economy (Kusumahadi & Permana, 2021; Muhammad et al., 2016).

Furthermore, the telecommunications sector is considered to have benefited from the pandemic. Data demand has increased due to the implementation of policies for studying from home, working from home, and praying at home during the emergency response period for the coronavirus (COVID-19) (Cahyaningdyah, 2010; Kusnandar & Bintari, 2020). These policies, which are part of physical distancing efforts and large-scale social restrictions (*PSBB*) to break the chain of COVID-19 transmission, have resulted in public Work And Study via virtual world. Access to the Internet even Keep going increased as more offices asked employees to work from home, schools implemented home learning, and lectures moved online. Several Internet service providers (ISPs) were flooded with new customers seeking to use their services to support their work-from-home activities (Narayan et al., 2020). The COVID-19 pandemic forced many people to maintain physical distance and stay at home. Individuals and businesses that previously met in person can now only communicate via Internet connection services or mobile phones. Social distancing policies, including working and studying from home, have resulted in a 10%–30% surge in data or Internet traffic (Nuraini, 2016; Nurmasari, 2020).

The implementation of the Large-Scale Social Restrictions (*PSBB*) policy to suppress the spread of

the coronavirus also contributed significantly to the surge in Internet traffic. DKI Jakarta Province was the first region to implement *PSBB*, starting April 10, 2020, for 14 days until April 23, and then it was extended for another 14 days until May 7, 2020. This *PSBB* policy was then followed by cities/regencies surrounding Jakarta, namely Kota Depok, Bogor City, Bogor Regency, Bekasi City, Bekasi Regency, Tangerang City, South Tangerang City, and Tangerang Regency. In fact, West Java Province implemented Large-Scale Social Restrictions (*PSBB*) applicable to all regencies/cities from May 6 to May 19, 2020. Several regions, including Surabaya, have implemented *PSBB*. In response to this situation, telecommunications companies and Internet broadband service providers have prepared several measures to support government policies (Ogbonnaya et al., 2017; Priyatno, 2016). The current high data traffic provides momentum for telecommunications operators and Internet providers to improve service quality and expand. Another factor that improves the business prospects of the telecommunications sector is the continued increase in the number of Internet users (Putri & Fauzie, 2014).

Stock prices in the stock market are still overshadowed by the increasingly worrying spread of COVID-19 within the country (Shangguan et al., 2020; Xiang et al., 2021). The differing impacts of the COVID-19 pandemic on various economic sectors in Indonesia have prompted researchers to examine this issue in greater depth. This study examines the impact of the COVID-19 pandemic on stock prices in several industrial sectors listed on the Indonesia Stock Exchange using the event study method. Event studies examine the impact of information announcements on the security prices. Event studies generally examine how quickly information entering the market is reflected in the stock prices (Khan, 2020; Tandelilin, 2010). The event study method used in this study aims to determine the capital market's reaction to the announcement of the COVID-19 virus entering Indonesia and its implementation of the COVID-19 pandemic (Chinedu et al., 2020; Wang et al., 2021). The *PSBB* policy was implemented to address the COVID-19 pandemic, followed by the announcement of the resumption of public transportation. The event window used in this study was 11 days, with five days before and five days after the announcement, and one event date on that dayv (Roseliani & Khairunnisa, 2015).

2. Literature Review & Hypothesis Development

2.1 Signaling Theory

This research is underpinned by signaling theory. Signaling theory originated from Trisnadi and Sedana (2016) work, "The Market for Lemons," which introduced the term asymmetric information. Trisnadi and Sedana (2016) studied the phenomenon of information imbalance regarding product quality between buyers and sellers by examining the used car market. Signaling theory explains that financial reports are used to provide positive signals (good news) and negative signals (bad news) to users. According to Ferita (2018), signals are actions taken by the company management that form clues for investors regarding how management views the company's prospects (Ferita, 2018).

Signaling theory states that investment spending provides a positive signal of future company growth, thus increasing stock prices, which are indicators of company value (Cahyaningdyah, 2010). External parties can also interpret increasing debt as a signal of a company's ability to pay its future obligations or low business risk; thus, increasing debt provides a positive signal. This is because companies that increase their debt can be seen as confident in their future prospects (Jogiyanto, 2017).

Every action contains information, which is the basis of the principle of signal theory owing to the existence of asymmetric information. Signal theory explains that managers provide several signals to reduce information asymmetry (Cahyaningdyah, 2010). Information published as an announcement provides a signal for investors to make investment decisions. If the announcement contains a positive value, it is expected that the market will react when the announcement is received by the market (Jogiyanto, 2017). Financial reports are one type of information released by companies that serves as a signal to

external parties. Information in financial reports relates to accounting information, namely, information related to the company's finances, such as financial statements, and non-accounting information unrelated to financial statements. The main assumption of this signal theory provides space for investors to understand how their decisions relate to market reactions to announcements or events. These events or announcements contain information that can affect a company's value and its impact on all companies in the capital market.

2.2 *Efficient Market Hypothesis (EMH)*

A capital market is considered efficient, among other things, if stock prices reflect all available market information. All information must be available to investors to understand everything about the company and its stock. The Efficient Market Hypothesis (EMH) concept was first proposed by [Paskalis \(2016\)](#) in [Kusumahadi and Permana \(2021\)](#), which essentially states that in an efficient market, securities in the form of convertible bonds will always be traded at their fair value, so that no one can obtain abnormal returns after adjusting for risk, using existing trading strategies. In other words, prices formed in the market reflect all available information.

[Baker et al. \(2020\)](#) made adjustments to the EMH concept supported by empirical evidence and grouped market efficiency into three forms, namely:

2.2.1 *The Weak Efficient Market Hypothesis*

Market efficiency is considered a weak form because investors rely on historical price and volume data to make stock buying and selling decisions. Based on these historical prices and volumes, various technical analysis models are used to determine whether prices will increase or decrease. This hypothesis assumes that market prices reflect past financial performance and that past price and volume data should have no bearing on future financial performance. Therefore, investors cannot profit significantly by using trading rules based on historical information available in capital markets ([Rahmawati & Hidayati, 2016](#)).

2.2.2 *The Semi-strong Efficient Market Hypothesis*

Market efficiency is said to be semi-strong in the process of making decisions to buy and sell shares, where investors use past price data, past volumes, and all published information such as financial reports, annual reports, stock exchange announcements, and international financial information. regulation legislation, incident political, incident law, incident social, and others that can affect the national economy. The assumption in this hypothesis is that when investors make decisions after new information is published, they should not receive abnormal profits because stock prices reflect all published information. Stock prices react quickly and accurately to new price levels when public information is released ([Harsono, 2013](#)).

2.2.3 *The Strong Efficient Market Hypothesis*

Efficiency is said to be strong-form because investors use more comprehensive data, namely past prices, past volumes, published information, and private information that is not publicly available. A condition where stock prices reflect not only published information but also reflect information that is not published and is known with insider information because the party that has this information is the party within the company. Therefore, there are no investors.

This is abnormal because the investors and the company party own the same information.

Several conditions must be met to achieve an efficient market ([Gumanti, 2011](#)):

1. Many rational investors seek to maximize profits. These investors actively participate in the market by analyzing, evaluating, and trading it.
2. All market players can obtain information simultaneously in a cheap and easy way.

3. The information that occurs is random, meaning that every announcement that occurs is free and not influenced by other announcements.
4. Investors react quickly to new information so that security prices change according to the changes in actual value due to the information.

In a competitive market, price changes are determined by the magnitude of supply and demand. When new information about an asset enters the market, it is used to analyze and interpret its value. Prices reflect the information obtained by market participants. Therefore, if prices contain information, they can be said to fully reflect the information systems. The essence of the EMH theory is that if information is not blocked and reflected in stock prices in the market, then tomorrow's stock price will reflect tomorrow's information and news and will be independent of today's stock price. The implication of the EMH is that no investor can achieve abnormal returns unless there is a gap between available information and efficiency in the stock market. Ultimately, if a market is inefficient, the stock market mechanism will not achieve abnormal returns. Existing prices cannot guarantee the efficient allocation of capital in the economy, which can negatively impact the economy as a whole (Selvita et al., 2024) in Fahmi (2013).

2.3 Theory Event Study

Kusumahadi and Permana (2021) in his article entitled Understanding and Conducting Event Studies (1983) defines event studies as research into the behavior of security prices in A market reaction to an announcement or event. This event or announcement contains information that can affect a company's value and its impact on all companies in the capital market, both systemic and non-systemic. These events or announcements include dividend announcements, presidential elections, convertible bond issuances, the Bali bombings, merger announcements, acquisition announcements, stock split announcements, earnings announcements, and new product announcements, as quoted from Kasdjan et al. (2017).

The steps analysis study uses the event study technique, as follows:

1. The incident that will be researched is determined.
2. Conducting a literature study by collecting supporting theories and literature and previous research to obtain the necessary basis for theoretical studies as an alternative solution to the problems discussed in this research.
3. Conduct documentation through finance.yahoo.co.id and www.idx.co.id to collect secondary data.
4. Determine the limitation criteria for the company to be investigated so that the sample issuer is obtained.
5. Event date (t_0) and determine the observation period (event window). The event studies method used in study This is For know reaction market capital to existence the announcement of the entry of the Covid-19 virus into Indonesia, the implementation of the PSBB policy in order to overcome the Covid-19 pandemic, then at the time of the announcement of the resumption of transportation modes, And during Eid al-Fitr. The event window used in this study was 11 days, with five days before and five days after the event announcement, and one event date on that day.

2.4 Market Capital

The capital market is a meeting place between sellers and buyers with the risk of profit and loss and a means for companies to raise long-term funding needs by selling shares or issuing bonds (Jogiyanto, 2017). Meanwhile, according to (Kasdjan et al., 2017), the capital market can be formally defined as a market for various long-term financial instruments that are commonly traded. Good in form of debt and capital Alone Which published by the government and companies. Capital markets play a crucial role in the economy, particularly in the allocation of public funds. Capital markets enable companies to raise

long-term funds by selling shares or issuing bonds. Capital markets also serve as a means of productively allocating funds and transferring funds from lenders to borrowers. This allocation occurs if an individual has excess funds; he can lend them to other productive individuals who need funds.

BAPEPAM shares the role and benefit of market capital as follows:

1. Market capital is an efficient vehicle allocation fund.
2. It allows investors to own a company that is healthy and has good prospects.
3. Implementation management company in a professional and transparent manner.
4. Improvement assets economy national

2.5 Share

Shares are proof of participation or participation in a limited liability company. Shares are a form of equity capital or proof of a position. ownership in a company. Many stocks are not traded because they are too small or are entirely controlled by families. Stocks that can be used as investment vehicles are known as publicly traded emissions and are bought and sold on the open market (Umam & Sutanto, 2017). Stocks can also be defined as proof or certificates of ownership or a body for the company that issued the securities. This can also be interpreted as an investor's participation as a financier in a company, thus having the right to claim the company's income and assets as their own. Furthermore, Fahmi (2013) explains the definition of shares in several ways:

1. Sign proof inclusion ownership capital/funds on a company.
2. The paper is listed with a clear mark of nominal, name of the company, and followed with the rights and obligations explained to each holder.
3. Supply Which Ready For for sale.

Shares are divided into several types. Umam and Sutanto (2017) describe the following types of shares:

1. Based on method transition
 - (a) Bearer stock is a stock that does not have the name of the owner written on it, so that it can be easily transferred from one investor to another.
 - (b) Registered stock clearly states the owner. Therefore, the transfer process must follow a specific procedure, including a transfer document and the owner's name being recorded in the company's books, which specifically maintains a shareholder register.
2. Based on the benefits
 - (a) Ordinary shares are the type of securities most frequently used by issuers to obtain funds from the public and are the most popular type in the capital market.
 - (b) Preferred stock is a combination of bonds and common stocks. Preferred stock is similar to common stock in that it has no maturity date and represents capital ownership.

2.6 Return Share

Stock returns, or what is commonly referred to as returns, are payments received for ownership rights plus changes in market prices divided by the initial price. Returns or the rate of return can also be defined as the difference between the amount received and the amount invested. Stock returns are the level of profit obtained by investors from their investments. Stock returns or the rate of return refers to the level return for common stock and is the cash payment received as a result of ownership of a stock plus changes in the market price of the stock divided by the stock price at the time of the initial investment.

According to Umam and Sutanto (2017), the factors that influence the return share are as follows:

1. The macro factor, that is, factor which is at on outside company, that is:
 - (a) Macroeconomic factors include general domestic interest rates, inflation rates, foreign exchange rates and international economic conditions; and
 - (b) Non-economic factors include domestic political events, foreign political events, war, demonstrations, masses, and environmental issues.
2. Factor micro is a factor that is at in company, that is:
 - (a) Profit clean per share;
 - (b) Mark book per share;
 - (c) Ratio debt to equity; And
 - (d) Ratio finance other

Return is the profit obtained by companies, individuals, and institutions from the investment policies implemented (Umam & Sutanto, 2017). The return can be formulated as follows:

$$Return\ Share = \frac{P_t - P_{t-1}}{P_{t-1}} \quad (1)$$

Information :

- P_t = Price market share Now
- P_{t-1} = Price market share period previously

Based on periodization which chosen in study this and on description previously so the theoretical framework of this research is described as follows:

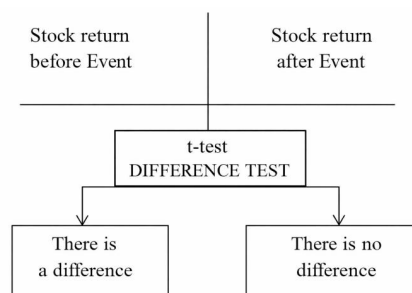


Figure 4. Framework Thinking

Based on Figure 4, the process involves comparing stock returns before and after an event using a t-test. The test determines if there is a significant difference in returns, with two possible outcomes: either there is a difference, or there is no difference.

2.7 Hypothesis Development

Based on the theoretical basis and previous research that has been described, the hypothesis in this study is formulated as follows:

- H_1 : There was a significant difference in stock returns before and after the announcement of the entry of the Covid-19 virus in Indonesia on March 2, 2020.

H_2 : There is a difference in return share which is significant at the moment before and after the announcement of the *PSBB* policy was implemented on April 10, 2020.

H_3 : There was a significant difference in stock returns before and after the announcement of the reopening of transportation modes on May 7, 2020.

3. Methodology

The population in this study comprised companies listed on the Indonesia Stock Exchange in the telecommunications, consumer goods, and tourism sectors. Sampling was conducted using purposive sampling methods. This technique selects specific target groups to obtain the required information. The sample was determined for certain types of groups that can provide the required information because the group is the only party that has the information or because the group fits the criteria set by the researcher.

The event study technique was used for data analysis. [Jogiyanto \(2017\)](#) states that event studies can be used to test the information content of an announcement and also to test semi-strong market efficiency. If an announcement contains information, the market is expected to react when the announcement is received. Market reaction is indicated by a change in the price of a security. The method for event studies generally follows the following procedure (as cited by Elton and Gruber in [Selvita et al. \(2024\)](#)):

1. Gather sample companies that have experienced incidents that need to be researched.
2. The appropriate day or date of announcement was determined and designated as day 0.
3. Determine period study or event window, 5 day after And before date announcement,
4. For every sample company, return and activity volume trading are seen on each period unit (day).
5. Count abnormal return from return Which Already obtained for every company.

4. Results and Discussion

Before proceeding with the analysis, the instrument was tested for normality, yielding normal results, and for multicollinearity, which yielded good results with no multicollinearity issues. The instrument also met the requirements based on the heteroscedasticity tests. The results of the subsequent analyses are presented below.

4.1 Test Comparison (Paired Samples Test)

		Paired Samples Test							
		Paired Differences			95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper			
Pair 1	ES2_Sebelum - ES2_Sesudah	,00453	,01860	,00232	-,00011	,00918	1,949	63	,056

Figure 5. Paired Samples Test Event Study 2

Source: Source: Data Processed, (2020)

Figure 5 show a T-count result of 1.160 with a Sig. 0.056 > 0.05, which means there is no significant influence between return share before and after the enforcement of Large-Scale Social Restrictions. The test results prove that stock returns did not change significantly after the PSBB implementation. The absence of a significant impact on stock returns since the implementation of PSBB can be caused by several other factors outside public sentiment, which have not been considered in this study. The condition

of the composite stock index (IHSG) in Indonesia has begun to improve. experienced a significant decline since the onset of the COVID-19 pandemic. Several incidents occurred before the announcement of the PSBB implementation. is already capable of influencing public sentiment. The public Already saw indecisiveness and a lack of government transparency in dealing with the pandemic COVID-19 This so negative sentiment had already formed long before the announcement of the implementation of the PSBB. Internal company factors can also influence the stock returns. [Muhammad et al. \(2016\)](#) and [Rahmawati and Hidayati \(2016\)](#) found that return on equity significantly influences a company's stock returns. [Khairunnisa \(2015\)](#) and [Lestari \(2020\)](#) showed a significant influence of book value, return on equity, return on assets, and earnings per share on stock returns.

4.2 Event Study 3

Event Study 3 was conducted before and after the announcement of the reopening of transportation modes on May 7, 2020. The Stock Table and Graph before and after the announcement of the reopening of transportation modes are as follows:

Table 1. Stock Return Before and After Event Study 3

Date	Period	Industry & Consumer	Tourism	Telecommunications
29-Apr-20	$t - 5$	0,01	0,00	0,02
30-Apr-20	$t - 4$	0,00	0,00	0,00
04-May-20	$t - 3$	-0,01	0,00	-0,03
05-May-20	$t - 2$	0,00	0,00	-0,02
06-May-20	$t - 1$	0,01	0,00	-0,03
07-May-20	t_0	0,00	0,00	0,00
08-May-20	$t + 1$	0,00	0,01	-0,01
11-May-20	$t + 2$	-0,01	0,00	0,00
12-May-20	$t + 3$	0,00	-0,01	-0,03
13-May-20	$t + 4$	0,00	0,00	0,06
14-May-20	$t + 4$	0,00	-0,01	0,04

Source : Data Proccesed, (2021)

Based on Table 1, the stock returns before and after the event show minimal fluctuation across all industries. The stock returns for the periods from April 29, 2020, to May 14, 2020, for Industry Consumer, Tourism, and Telecommunications sectors are mostly close to zero, indicating no significant changes in stock performance following the event. This suggests that the event had a limited impact on the stock returns of these industries.

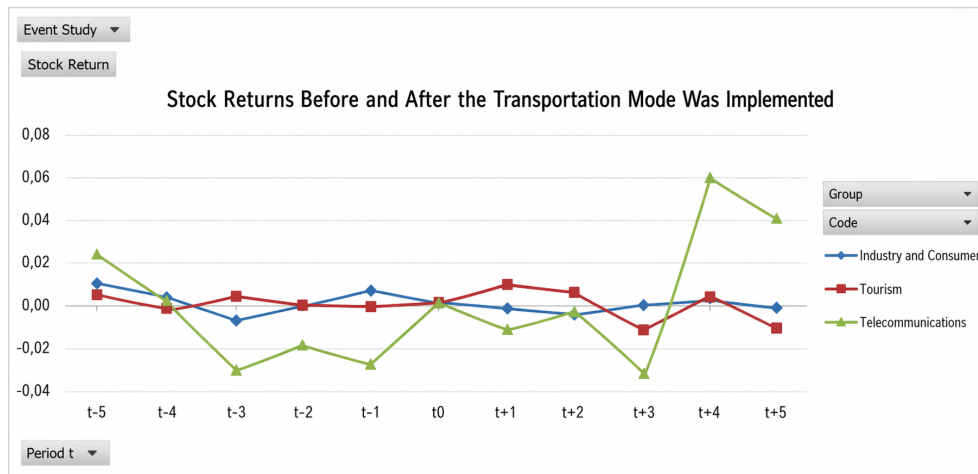


Figure 6. Return Share Before And After Event Study 3

Source: Source: Data Processed, (2020)

Based on Figure 6, the graphical representation of stock returns before and after the transportation mode implementation further supports the findings from Table 1. The chart reveals small variations in the stock returns across different periods, with the trends for the Industry & Consumer, Tourism, and Telecommunications sectors showing similar patterns. This visual confirms that the transportation mode implementation did not have a notable influence on stock returns, as the fluctuations remain relatively insignificant.

Table 2. Stock Return Before and After Event Study 3

Date	Period	Industry & Consumer	Tourism	Telecommunications
29-Apr-20	t - 5	3,325	743	1,415
30-Apr-20	t - 4	3,325	743	1,415
04-May-20	t - 3	3,274	738	1,368
05-May-20	t - 2	3,278	737	1,361
06-May-20	t - 1	3,246	734	1,321
07-May-20	t0	3,246	734	1,321
08-May-20	t+1	3,221	738	1,313
11-May-20	t+2	3,215	736	1,330
12-May-20	t+3	3,218	730	1,281
13-May-20	t+4	3,226	730	1,305
14-May-20	t+4	3,282	726	1,281

Source : Data Proccesed, (2021)

Based on Table 2, which presents the stock returns before and after the event (Study 3), the data for the Industry & Consumer, Tourism, and Telecommunications sectors show consistent values across different periods from April 29, 2020, to May 14, 2020. The stock returns in all periods remain relatively stable, suggesting that the event had no significant effect on the stock prices in these industries.

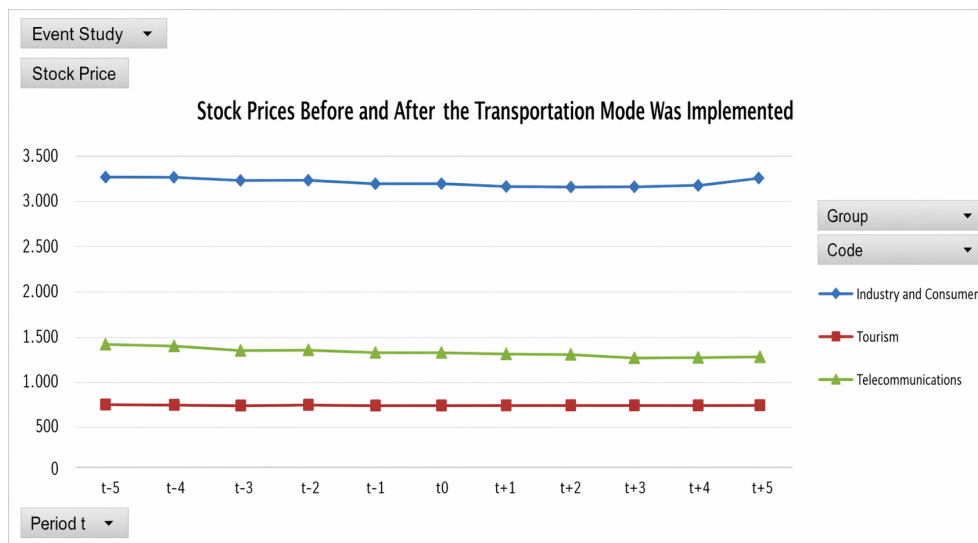


Figure 7. Price Share Before And After Event Study 3

Based on Figure 7, which visualizes the stock prices before and after the transportation mode implementation, the trends for the Industry & Consumer, Tourism, and Telecommunications sectors align with the findings in Table 2. The graph shows consistent behavior across these groups, with no substantial fluctuations in the stock prices. This reinforces the conclusion that the transportation mode implementation did not significantly impact the stock prices, as indicated by the stable patterns in both the table and the graph.

4.3 Test Normality Data

		Tests of Normality					
		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Industry	Statistic	df	Sig.	Statistic	df	Sig.
ES3_Before	Industry	,259	41	,000	,903	41	,002
	Tourism	,330	17	,000	,771	17	,001
	Telecommunications	,307	6	,080	,823	6	,094
ES3_After	Industry	,340	41	,000	,813	41	,000
	Tourism	,248	17	,007	,891	17	,048
	Telecommunications	,422	6	,001	,654	6	,002

a. Lilliefors Significance Correction

Figure 8. Test Normality Data Event Study 3

Source : Data Processed, (2020)

Based on Figure 8, the requirement before conducting an independent sample t-test is that the data used must be normally distributed. Normality testing was performed using the Kolmogorov-Smirnov test, and the Shapiro-Wilk test, which aims to determine whether the data for the t-test are normally distributed. The criteria used in the Kolmogorov-Smirnov and Shapiro-Wilk tests were that if each variable produced a significant. If the value is > 0.05 , then it can be concluded that the data on the studied

variables are normally distributed. Based on the results of the normality test in the table above, the results of the Kolmogorov-Smirnov and Shapiro-Wilk tests show that the data for the consumer goods and tourism industry sectors are not normally distributed, both before and after the event study. In the telecommunications sector, the data are normally distributed both before and after the event study, as can be seen from the sig. value > 0.05 .

4.4 Test Comparison (Paired Samples t-test)

Paired Samples Test									
Pair	Paired Samples	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
					Lower	Upper			
					Paired Differences				
Pair 1	ES3_Before - ES3_After	-,00156	,02425	,00303	-,00762	,00449	-,515	63	,608

Figure 9. Paired Samples Test Event Study 3

Source : Data Processed, (2020)

Based on Figure 9, showed a t-count of 0.306 with a Sig. $0.760 > 0.05$, which means there is no significant effect between stock returns before and after the transportation mode was implemented. This proves that the stock return value does not change significantly after the mode of transportation was implemented, just as before and after the implementation of PSBB, the public has seen the government's indecisiveness and intransparency in dealing with the COVID-19 pandemic so that negative sentiment has formed. Another factor contributing to the lack of a significant difference in stock returns before and after the introduction of new transportation modes is that issuers were already aware of the ongoing issues and had received government support in the form of stimulus measures to help businesses survive the pandemic. Furthermore, several companies have made adjustments to the pandemic, resulting in a less severe impact than in March, when the COVID-19 outbreak first emerged in Indonesia.

5. Conclusions

Based on the results of statistical tests on stock returns in companies listed on the Indonesia Stock Exchange in the telecommunications, consumer goods, and tourism sectors before and after the announcement date, the following conclusions can be drawn:

1. There was a significant difference in stock returns before and after the announcement of the entry of the Covid-19 virus in Indonesia on March 2, 2020.
2. No there is difference return share Which significant on moment before And after announcement the PSBB policy was implemented on April 10, 2020.
3. No there is difference return share Which significant on moment before And after announcement of the reopening of transportation modes on May 7, 2020.

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Author Contributions

DA contributed to the conceptualization, supervision, and review and editing of the manuscript, served as the corresponding author, methodology, data curation, formal analysis, drafting of the original manuscript, data collection, investigation, validation, data analysis support, visualization, and provision of technical resources for the study.

Conflicts of Interest

The authors declare that there is no conflict of interest regarding the publication of this study. This research was conducted independently, and no financial or personal relationships influenced the results or interpretation of the findings.

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