ABNORMAL RETURNS ON INDONESIA STOCK EXCHANGE DURING COVID-19 PANDEMIC

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ABSTRACT

COVID-19 Pandemic in Indonesia is Corona Virus Disease 2019 (COVID-19) in the World which is caused acute respiration Corona Virus-2 (SARS-COV-2). It had been separating in Indonesia since 2nd March 2020. COVID-19 influences abnormal stock return in Indonesia Stock Exchange (IDX). The study aims to calculate abnormal stock return in IDX before and after the COVID-19 pandemic. We use the sample of 31 firms listed in IDX with a random sampling method in February-May 2020. The study uses to compare the test to analyze data with the Abnormal return method from Fama (1979). We Found that the market-adjusted model can influence abnormal stock return before and after COVID-19 and Social distancing policy in April-May 2020. The benefit of this study is to make investment policy in the stock market when event study of COVID-19 and to calculate investor behavior in the stock market so that can control stock market when event study of diseases pandemic.

Keywords: Abnormal Return, Efficient Market Hypothesis, COVID-19

A. INTRODUCTION

The pandemic of Covid-19encourages society to become safe behavior. They must be interested in health than the economy. In The first pandemic, an outbreak in March 2020 Covid-19 strengthen lockdown activities. A lockdown activity created different behavior dan reduce income.

The pandemic of COVID-19 and social distancing contain the information needed for investors and stock traders to trade on the capital market. They may change investors' behaviors and thus affect stock prices significantly. Significant movement in stock prices causes abnormal returns. Studies that examine abnormal return are called event studies (Fama, 1991), in which an efficient market obtains the available information in the capital market through current stock prices. There are three hypothesis theories of an efficient market: strong, moderate, and weak. Abnormal return is categorized as a moderate efficient market hypothesis because the market responds quickly to the information reflected in current stock prices.

Behavioral finance theory examines investors' behavior in the capital market. This theory is related to event study because it investigates investors' behavior on information that is reflected in abnormal returns. Overconfident investors have lower stock returns in the bad news of stock trading experiments (Trinugroho, 2011). The investor who ignores bad news confirms the lower stock return. Overconfidence investors tend to have higher trading activity than the low confident investor. Based on a previous study, Overconfidence investors can create abnormal return stock. Overconfidence investor concern in high activity trading that its impact in abnormal return.

The COVID-19 pandemic has also affected the stock markets of several countries, causing investors to react to the capital market. Asian stock movements showed a negative abnormal return compared to other countries during the pandemic due to the investors' pessimism and sentiment towards future returns and fear of uncertainty(Liu, 2020). Stock shares in the health and information and communication technology sectors were resistant during the pandemic on the Shanghai Stock Exchange(Liew, 2020). The market was sentiment towards financial and commodity markets. Thus, COVID-19 and the 2008 global financial crisis brought strong pressure on the US (Harvey, 2020). Furthermore, experts and journalists consider COVID-19 as a global war on the response of dramatic news from China.

The differences in stock returns due to the pandemic have been investigated by several previous studies. A significant positive abnormal return for pharmaceutical stocks and tourism stocks in China during COVID-19(Chang, 2010) The previous results also found that there were differences in abnormal returns before and after the appearance of COVID-19 in the retail company PT. Ramayana Lestari Sentosa Tbk (Nurmasari, 2020). Garuda's share price fell during the COVID-19 because people reduced their travel activities. The study also found that Garuda's share price today was influenced by the stock price of the previous trade using the ARIMA method(Pratama, 2020).

Based on these results, the present study investigated the impact of COVID-19 on the abnormal return on the Indonesia Stock Exchange. Specifically, the study examines the empirical proof from the announcement of social distancing policy on

abnormal stock return based on the theory of event studies and the model of abnormal stock return.

The observation period of this study started with the announcement of Minister of Health Regulation No. 9 of 2020 concerning Large-Scale Social Limitation Guidelines in the Context of Accelerating the Handling of Corona Virus Disease 2019 (COVID-19) on April 3, 2020. Therefore, this study involved the data from the daily stock prices in April and May 2020 and estimation data in March 2020. For this reason, the observation period of this study uses daily stock price data in April and May 2020 and uses estimation data in March 2020. Therefore, in Indonesia, the impact of COVID-19 also affects the capital market, where stock prices tend to fall and share volumes experience improvement after the COVID-19 announcement.

The novelty of this study contains examining the announcement of social distancing policy as event studies that impact the model of abnormal stock return such as mean adjusted model, market model, and market-adjusted model.

The objective of this study was to empirically examine abnormal stock return using the mean adjusted model, market model, and market-adjusted model on the Indonesia Stock Exchange during the pandemic.

This study provided an insight into investor behaviors during the pandemic as consideration for companies in preserving the value of the company, for investors in determining the direction of investment, and for the government in controlling the information available in the capital market that might impact business performance.

This study organized as follows. In the first section, we collect different empirical studies in the Covid-19 pandemic outbreak. In the second section, we make a line abnormal return stock method, and how it can influence efficient market hypothesis, then how it can apply to empirical studies. We follow with a description of our methodology, and then discussion our findings. We subsequently interpret our case findings in terms of abnormal return stock during the Covid-19 pandemic and strengthen on existing theories.

B. LITERATURE REVIEW

The Pandemic Of Covid-19

The COVID-19 pandemic contains a virus outbreak that has spread rapidly throughout the world, including Indonesia. COVID-19 is a virus that is contagious to humans and can cause death. COVID-19 was first detected appearing in China, precisely in Wuhan City at the end of 2019. This virus suddenly became a terrible terror for the world, especially after claiming thousands of human lives in a relatively short time. Nearly 200 countries have been infected by the coronavirus, including Indonesia. COVID-19 is caused by SARS-CoV-2. Mainly, this virus spreads among people during close contact, most often through small droplets when coughing, sneezing, and talking. These droplets usually fall to the ground or surface instead of floating in the air over great distances. It was so rare for people to be infected by touching a contaminated surface and then touching their faces. This virus becomes very contagious during the first three days after the onset of the

symptoms, although its spread occurs before symptoms appear especially from asymptomatic people.

COVID-19 symptoms generally include fever, coughing, fatigue, shortness of breath, and loss of sense of smell. Meanwhile, most cases resulted in mild symptoms, and only some of them develop into viral pneumonia and multi-organ failure. Complications may include pneumonia and acute respiratory syndrome. The period from exposure to the onset of the symptoms is usually around five days, but it can range from two to fourteen days. The World Health Organization (WHO) established the global pandemic status of COVID-19 after this dangerous virus spread to most of the countries in the world. The number of people infected and the death rate continue to increase, while the vaccine has not been found yet.

Stock Market Reaction During Covid-19

The stock market reaction has caused differences in the number of countries affected by Covid-19. Covid-19 has led to changes in people's behavior from lockdown and social distancing to an era of a new life order known as the new normal. Likewise in the stock market responded to the economic behavior of the people during Covid-19. Covid-19 strengthens decreasing global financial market in short-term disruption, not destruction. Decreasing IHSG index in 13,44% which been the lowest three years (Setiawan, 2020). Covid-19 creates uncertainty business so that investor selling a risky asset such as stock securities. Covid-19 encourages high asset valuation from a long-term perspective that reflects the optimism of US stock investors. The expected income was greater than government debt is the key to why investors continue to trust the stock market (Monache & Petrella, 2020). The stock market moved up during the emergence of the Covid-19 pandemic in mid-February 2020 and along with its volatility (Blanchard, 2020). In April 2020 shareholders bounced back around the world from the health crisis. Country characteristics have little effect on the stock market.

Furthermore, Covid-19 had a direct and indirect impact on stock price volatility. European stock movements tend to be stronger and give positive pressure on stock returns(Papadamou, Fassas, & Kenourgious, 2020). There was an increase in corporate debt which causes an increase in share prices as a result of Covid-19(Colin, 2020).

Indonesian Capital Market

A capital market is a place for transactions of securities with a span of more than a year, such as stocks and bonds. It is also a place for companies to obtain external funding sources, both domestic and foreign. Capital market members are companies that have gone public.

The capital market has an important role in the national economy due to its function to improve economic efficiency by linking funds from productive parties to unproductive ones. It is a meeting spot for parties with excess funds and those that need funds through trading securities(Tandelilin, 2008). The capital market is one of the national economic potentials, which has an important role in developing the national economy(Hermuningsih, 2019). Besides, a capital market is efficient if the price of securities reflects all relevant information. If the market occurs very

quickly and results in price changes in the future or produces unpredictable investments, it is very difficult for investors who will get abnormal returns(Alan Ziobrowski, 2011).

Signaling Theory

Signal Theory confirms that stock return reflected information for the market(Ross, 1977). Some Information contains firm performance, management policy, and macroeconomics in industries. High returns confirm that firms have positive performance and negative return conduct in negative performance. Shareholders and management have an important role in providing information to the capital market.

Asymmetric Information

Asymmetry information confirms that management has more access to firm performance information than shareholders(Meckling, 1976) Asymmetric information strengthens shareholder action in valuing stock securities. Stock returns confirm the firm value and firm performance. Performance information may be pushing minimum asymmetry information. Asymmetric information requires agency cost to tight control management action.

Abnormal Return

Abnormal returns contain a significantly fluctuating movement of the stock price. Abnormal return is a market response to an event that occurs unexpectedly, which has important impacts on company performance.

Abnormal returns contain a surplus of normal return or known as an excess return. The abnormal return occurs when investors obtain expected returns. The difference becomes a positive return if it is greater than what is expected or calculated. Meanwhile, it becomes negative if it is lower than what is expected or calculated. Abnormal return is a difference between actual return and expected return that may occur after official information is published or leaked before it is published (Jogiyanto, 2015). Event studies on the analysis of abnormal returns might be conducted around the announcement of an event (Muthe, 2016). There are several types of abnormal returns:

1. Abnormal Return (AR) occurs every day on each type of stock and is a difference between an actual return and expected return calculated daily. AR calculated every day in a window period to identify the highest or lowest abnormal return and on what day the strongest reaction occurs in each type of stock.
2. Average Abnormal Return (AAR) of all types of stocks analyzed daily. AAR can show the strongest reactions, both positive and negative, of all types of stocks on certain days during the window period.
3. Cumulative Abnormal Return (CAR) is arranged from the first day to the following days for each type of stock. The CAR from the period before an event will be compared to the CAR of the period after it.

4. Cumulative Average Abnormal Return (CAAR) is arranged by the daily cumulative AAR starting from the first day until the following days.

Abnormal returns contain a difference between actual return and expected return. Abnormal returns are used as a basis for testing market efficiency.

Abnormal Return Formula as:

$$AR_t = R_i - E[R_i]$$

Which AR_t as Abnormal return, R_i as the Actual Return and $E(R_i)$ as an Expected return. Actual Return as known as:

$$R_i = \frac{Ri_t - R_{i_{t-1}}}{Ri_{t-1}}$$

Which Ri_t as the Present Actual Return and Ri_{t-1} as the Previous Actual Return. Market Return as known as:

$$R_m = \frac{IHSG_t - IHSG_{t-1}}{IHSG_{t-1}}$$

Which R_m as Market Return, $IHSG_t$ as Present IHSG and $IHSG_{t-1}$ as Previous IHSG.

There are 3 models to calculate expected return (Tandelilin, 2008):

a) Mean Adjusted Model

$$E(R_i) = \sum \frac{R_i}{T}$$

Which $E(R_i)$ as expected return, $\sum$ as sum, R_i as Stock Return in estimation period and T as Number of estimated periods. Abnormal stock return with mean adjusted model is formulated as:

$$AR_t = Ri - \left(\sum \frac{R_i}{T}\right)$$

Which AR_t as abnormal return, R_i as stock return and $\sum \frac{Ri}{T}$ as expected return in mean adjusted model.

b) Market Model

$$\varepsilon(R_i) = \alpha + \beta \,.\, \mathrm{R_m}$$

Which $\varepsilon(R_i)$ as expected return in Market Model**,** α as Market intercept return and stock return estimation period**,** β as Market slope return and stock return estimation period and R_m as market return. Market Model abnormal return model is formulated as:

$$\mathrm{AR_t} = \mathrm{Ri} - (\alpha + \beta.\mathrm{R_m})$$

Which AR_t as abnormal return in Market Model, R_i as stock return, $\alpha + \beta . R_m$ as expected return in market model.

c) Market Adjusted Model

$$\varepsilon(\mathrm{Ri}) = \mathrm{R_m}$$

Which $\varepsilon(R_i)$ as expected return in market adjusted model and R_m as market model. Market adjusted abnormal return model is formulated as:

$$\mathrm{AR_t} = \mathrm{Ri} - \mathrm{R_m}$$

Which R_i as stock return and R_m as market return.

Previous Studies

Empirical Studies of abnormal stock return have mixed findings from previous studies. The study conducted a table of previous studies to have guidance making hypothesis and development variables in abnormal stock return. Table 1 show previous studies of abnormal stock return.

Table 1
Previous Studies of Abnormal Stock Return

NO	AUTHOR	HYPOTHESIS	FINDING	VARIABLE
1	(Rizvi, 2020)	Abnormal Stock return during pandemic contains Sentiment index, Panic Index, and Media coverage.	Media news of Covid-19 strengthens panic in public that it improve volatility industries in the financial market and become the strongest effect in the pandemic.	COVID-19: Media coverage and financial markets behavior
2	(Awadhi, 2020)	1. High market capitalization has a higher negative impact than the low market capitalization during Covid-19. 2. Foreign investors have a negative return than Chinese citizens.	The improvement of death cases in Covid-19 daily become a negative impact on stock returns.	The effect of death because of Covid-19 on stock return
3	(Goodell, 2020)	Pandemic has an impact on the economy.	The direct and indirect effect of the financial market on Covid-19	Covid-19 And future Finance
4	(Kusnandar, 2020)	Hypothesis using difference test between before and after event study abnormal stock return	There was a different abnormal return before and after stock trading of Covid-19 in IDX.	The comparison of *Abnormal Return* Covid-19
5	(Akhtaruzaman, 2020)	Covid-19 have an impact on export	Akhtaruzzaman (2020) found that the New Zealand export and import sector could withstand pressure due to	Export And Import In

NO	AUTHOR	HYPOTHESIS	FINDING	VARIABLE
		and import in New Zealand.	Covid-19. However, further performance is determined by Government policies in the economic sector towards trading partners.	Covid-19 outbreak.
6	(Tambunan, 2020)	Hypothesis statement that decreasing stock return during Covid-19.	Tambunan (2020) found that during Covid-19 investors still got profitability on stocks with good fundamentals and diversified.	Covid-19 And Fundamental Securities.
7	(Haryanto, 2020)	The hypothesis stated Covid-19 impact on IHSG and Macroeconomics	Haryanto (2020) claims that there is a 1% increase in Covid-19, which has an impact on the depreciation of the rupiah exchange rate by 0.02%, CSPI has experienced a 0.03% correction for the period March 2 - April 30, 2020, daily stock data.	Covid-19 And Exchange Rate
8	(Benny, 2020)	India has impacted from Covid-19 because of a trading agreement between Cina and India.	Benny (2020) found that China's GDP is 19.71% in the world which can control the international purchasing power. The international GDP affected by Covid-19 is 0.5%. China is the largest exporter in the world and the second-largest importer in the world so that the world is affected by supply and demand from China. China enforces 13% export tariff and 11% import tariff.	Covid-19 and International GDP

Source: Scientific Journal

Hypothesis Development

Stock Return During Covid-19

Research has found the results of stock price movements during the COVID-19 pandemic. Based on the COVID-19 robustness test, it has a significant impact on US stocks due to outcome disruption. Volatility in oil prices is under pressure, affecting shares of oil exploration companies, the transportation industry, and the health industry. US investors regard COVID-19 as a systematic risk to the US stock market which increases the uncertainty of US economic policy. These results are consistent with the World Economic Forum outcome survey in March 2020 (Sharif, 2020). Other researchers revealed that stock prices tended to fall due to the impact of COVID-19. The stock market responds to COVID-19 news as bad news (Baker

S, 2020). Theory of event studies by Fama found that an important event that occurred at this time affected abnormal stock returns (Tandelilin, 2008).

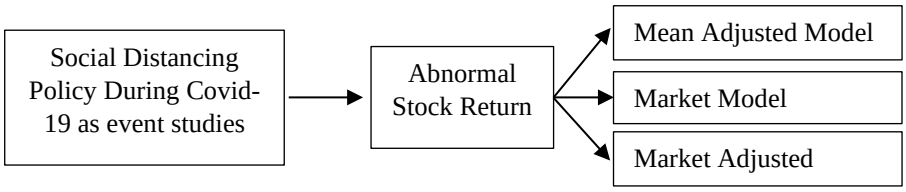
Based on theory and previous studies, we develop a hypothesis in the following:

H_1 : Social Distancing Policy During Covid-19 has a significant influence on abnormal return of Mean Adjusted Model

H_2 : Social Distancing Policy During Covid-19 has a significant influence on abnormal return of The market model

H_3 : Social Distancing Policy During Covid-19 has a significant influence on abnormal return of Market Adjusted Model

Research Framework



Source (Fama, 1991)
Figure 1. Research Framework

C. RESEARCH METHODOLOGY

This quantitative study involved corporate financial data collected through random sampling because the study used data stock price return and choosed firms sample randomly. The samples were pharmaceutical, telecommunications, banking, and consumer goods companies. The Data Sample collected 31 firms that contains 4 firms in Bank, 3 Firms in Telecommunication, 7 firms in consumer goods, 5 firms in Farmacy, 6 firms in Property, 6 firms in Miscellaneous industries. The data were collected from the companies' financial statements on Yahoo finance. The data included panel data because provide cross section with several firms and time series (Sekaran, 2006). This study was conducted from March-May 2020. The data were analyzed using the abnormal return method (Fama, 1991) and differential paired sample T-Tests using SPSS IBM 20. Paired sample T-Test computed the comparation paired test that provide the difference of two paired before and after abnormal return period in social distancing policy announcement. The time period of observation as follows: The Estimation Period are between February 20th to April 2nd 2020. Observation Period between April 3rd to May 29th 2020. Social Distancing Announcement at April 3rd 2020 and whole Period research between February 20th to May 29th 2020.

D. RESULTS AND DISCUSSION

Results

Table 1 indicated the value of abnormal stock returns in April-May 2020. This study collected 31 firms of Telecommunication, Bank, Consumer goods, pharmacy, property, and miscellaneous industries on the Indonesia Stock Exchange from yahoo finance.

In the Mean Adjusted Model, the minimum value of the abnormal returns was -0.00435, the maximum value 0.04122, and the average value 0.008. In the Market Model, the minimum value was -0.668725, the maximum value 0.02402, and the average value -0.149417. In the Market Adjusted Model, the minimum value was -0.0259, the maximum value 0.028, and the average value of 0.0048868.

Table1.
Descriptive Statistics

	N	MIN	MAX	MEAN	STD. DEVIATION
Meanadj_3ap	31	-.08476	.22285	.0136048	.06564507
Meanadj_all	31	-.00435	.04122	.0081532	.01158440
Market_3ap	31	-.67062	.17077	-.1472242	.23878154
Market_all	31	-.68725	.02402	-.1494170	.24244149
Markadj_3ap	31	-.07836	.14131	.0086330	.04786104
Markadj_all	31	-.02590	.02873	.0048868	.01122966
Valid N (listwise)	31				

Sources: processed data (2020)

The study deliver some findings about the average abnormal returns of the stock samples from the Indonesia Stock Exchange. Our samples contain Telecommunication, Bank, Consumer good and Farmacy, miscellaneous industry and property industries during April-May 2020 and estimation period in February and March 2020. Abnormal Stock return by mean adjusted model and market-adjusted model in Consumer goods dan pharmacy, miscellaneous industry, and property industries was negative significant and Telecommunication and Bank industries were positively significant. Furthermore, the market model investigates negative insignificant in Bank and telecommunication industries and positive insignificant in Consumer goods and Farmacy, miscellaneous industry and property industries. Bank and telecommunication get stronger than other industries because of increasing demand in digital behavior and funding since social distancing and Covid-19 outbreak. Besides that, social distancing can not influence economic behavior changes that it impact in stock securities of Consumer good and Farmacy, miscellaneous industry and property industries. This study provide in line with Setiawan (2020) that was a negative IHSG Index because of Covid-19.

Thus, the study also revealed the average daily abnormal returns in April and May 2020 in the Mean Adjusted Model, the Market Model, and the Market Adjusted Model. Based on the Average abnormal return value (AAR) the Mean adjusted model and Market adjusted model investigate significantly at 5% dan 10% but the market model insignificant. Daily Stock return during April and may 2020

create positive market sentiment significantly with a market-adjusted model. Thus, the Mean adjusted model investigate negative significance in April and positive significance in May 2020. Then, the market model investigates negative insignificant.

The differences in abnormal return in the Mean Adjusted Model, the Market Model, and the Market Adjusted Model in April and May 2020 provide in Table 2.

Table 2
Paired Samples Statistics

		MEAN	N	STD. DEVIATION	STD. ERROR MEAN
Pair 1	AAR mean_May	.012558	15	.0147471	.0038077
	AAR mean_ap	.010280	15	.0260847	.0067350
Pair 2	AAR market_May	-.151381	15	.0070616	.0018233
	AAR market_ap	-.151639	15	.0095214	.0024584
Pair 3	AAR marketAdj_Mei	.002977	15	.0021483	.0005547
	AAR marketadj_ap	.000552	15	.0020812	.0005374

Source: processed data (2020)

Table 3
Paired Samples Correlations

		N	CORRELATION	SIG.
Pair 1	AARmean_May&AARmean_ap	15	-.188	.502
Pair 2	AARmarket_May&AARmarket_ap	15	-.150	.594
Pair 3	AARmarketAdj_Mei&AARmarketadj_ap	15	.547	.035

Source: processed data (2020)

Table 3 indicated that the mean of abnormal return in the Mean Adjusted Model, the Market Model, and the Market Adjusted Model did not correlate significantly.

Based on Table 4, The Mean Adjusted Model had a significance value greater than 0.05 (significance of 0.789), so there was no difference in the results of abnormal returns in April and May. The Market Model had a significance value of 0.938, which means that there was no significant difference in results between April and May. The Market Adjusted Model had a significance value of 0,000, indicating that there were differences in the results of abnormal returns in the period April and May.

Table 4
Paired Samples Test of April-May

		PAIRED DIFFERENCES							
					95% CONFIDENCE INTERVAL OF THE DIFFERENCE				
		MEAN	STD. DEV	STD. ERROR MEAN	LOWER	UPPER	T	DF	SIG. (2-TAILED)
Pair 1	AARmean_May - AARmean_ap	.0022778	.0322878	.0083367	-.0156026	.0201582	.273	14	.789
Pair 2	AARmarket_may - AARmarket_ap	.0002587	.0126747	.0032726	-.0067603	.0072777	.079	14	.938
Pair 3	AARmarketadj_may - AARmarketadj_april	.0024253	.0020143	.0005201	.0013098	.0035408	4.663	14	.000

Source: processed data (2020)

Table 5
Paired Samples Statistics of 3rd April

		MEAN	N	STD. DEVIATION	STD. ERROR MEAN
Pair 1	Meanadj_3ap	.0136048	31	.06564507	.01179020
	Meanadj_all	.0081532	31	.01158440	.00208062
Pair 2	Market_3ap	-.1472242	31	.23878154	.04288643
	Market_all	-.1494170	31	.24244149	.04354378
Pair 3	Markadj_3ap	.0086330	31	.04786104	.00859610
	Markadj_all	.0048868	31	.01122966	.00201691

Source: processed data (2020)

Table 6
Paired Samples Correlations

		N	CORRELATION	SIG.
Pair 1	Meanadj_3ap &Meanadj_all	31	.652	.000
Pair 2	Market_3ap &Market_all	31	.975	.000
Pair 3	Markadj_3ap &Markadj_all	31	.232	.209

Source: processed data (2020)

Table 6 showed that Mean Adjusted Model on April 3 and in the April-May period had a significant correlation (significance value of 0,000), the Market Model on April 3 and in the April-May period had a significant correlation (significance value of 0,000), and Market Adjusted Model on April 3 and in the April-May period had an insignificant correlation (significance value 0.209).

Table 7
Paired Sample Test

		PAIRED DIFFERENCES							
					95% CONFIDENCE INTERVAL OF THE DIFFERENCE				
		MEAN	STD. DEV.	STD. ERROR MEAN	LOWER	UPPER	T	DF	SIG. (2-TAILED)
Pair 1	Meanadj_3ap - Meanadj_all	.00545165	.05875437	.01055260	-.01609963	.02700292	.517	30	.609
Pair 2	Market_3ap - Market_all	.00219280	.05374803	.00965343	-.01752214	.02190774	.227	30	.822
Pair 3	Markadj_3ap - Markadj_all	.00374621	.04655384	.00836132	-.01332987	.02082230	.448	30	.657

Source: Processed data (2020)

Table 7 showed that abnormal return models consisting of the Mean Adjusted Model, Market Model, and Market Adjusted Model had insignificant results. This indicated that the three models did not detect any differences in the results of abnormal returns on April 3 and the April-May period. The announcement of the decree of the Minister of Health regarding social distancing guidelines or large-scale social restrictions did not significantly affect stock price movements.

Discussion

Covid-19 creates a difference in interests between health and the economy, which is called zero-sum, which means negating each other(Meissner, 2020). Covid-19 led to the idea of a transition to online and strong social ties(Rebecca, 2020). Covid-19 had an impact on the banking industry, including low credit, low deposits in March-April 2020, ROA increased at the beginning of the year but decreased in the first quarter of 2020, while Covid-19 had an impact on small and medium enterprises where small businesses and medium enterprises have survived since Covid-19 in Indonesia even though they depend on external funding(Trinugroho, Covid-19 and Financial Sector , 2020).

Our study confirms that Telecommunication and Bank industries have a positive abnormal return during Covid-19, then Consumer goods, Farmacy, Property, and miscellaneous industries have a negative insignificant abnormal return. Telecommunications and Bank strengthen Government policy in the economic and digital community. Telecommunications and Bank industries better than Consumer good, Farmacy, Property and miscellaneous industries in Covid-19 pandemic outbreak.

The movement of abnormal stock returns using the market-adjusted method is significant during the Covid-19 social distancing period April-May 2020. Based on these results, it can be seen that the movement of IHSG index shares responds to changes in market performance or changes in investor behavior in buying and selling stock. The market response event to information available in the public is called the semi-strong efficient market hypothesis (Tandelilin, 2008). The market responds to positive sentiment on social distancing so that stock movements move abnormally positively.

Covid-19 settlement triggered a new normality order called the new normal where everyone is required to have safety action with a mask. In June 2020 President Jokowi discussed a new normal order(Winanti, 2020). The economists argue that the settlement of Covid-19 will take a nationalist and self-sufficiency approach.

On the other hand, the abnormal return method uses the market model and the mean adjusted model is insignificant during April-May 2020 when social distancing is applied. The market risk beta method and stock return (Market model) cannot detect abnormal stock returns during social distancing. The method of estimating the average stock return (mean adjusted model) in February-March was unable to detect the abnormal return of stocks in April-May 2020. Based on the market model and the mean adjusted, there were no abnormal stock movements during the social distancing in April-May 2020. Share prices tend to move naturally from the previous period day. Social distancing is not a difference between threats or opportunities for stock trading activities.

Table 8
Result of Hypothesis

HYPOTHESIS	SIGNIFIKAN	DECISION
Mean Adjusted	0,789	Reject
Market Model	0,938	Reject
Market Adjusted	0,000	Accepted

Source: data processed (2020)

E. CONCLUSIONS

The study provide some findings thus conclude as following:

1. Market Adjusted Model influenced the differences in abnormal returns of Telecommunication, Bank, Consumer good, Farmacy, Property, and miscellaneous industries significantly in April and May 2020.
2. Bank and Telecommunication industries confirm positive abnormal return because of social distancing pandemic in April-May 2020. Thus, Consumer goods, Farmacy, Property, and miscellaneous industries confirm that negative significance.
3. Bank and Telecommunication industries have the main role in economic and digital behavior because of social distancing.
4. There was Economic behavior changes of society in Consumer good, Farmacy, Property, and miscellaneous industries that it give impact in stock securities.
5. The study confirms abnormal stock return during the social distancing period April-May 2020 that market response event to information available in the public, which is called the semi-strong efficient market hypothesis.
6. Market prefer interest in the economy to health during Covid-19 with safety procedure with the mask. So that, stock trading tends to positive movement.
7. Market Model and Mean Adjusted Model did not influence the differences in the results of abnormal returns in April and May 2020.

8. Market Model, Market Adjusted Model, and Mean Adjusted Model did not influence the differences in the abnormal returns on April 3 when the Ministry of Health announced the social distancing order and the abnormal returns in the April-May period. Thus, the decree of the Ministry of Health did not affect the abnormal returns.

Beside that the study provide attention with stakeholder in abnormal stock return as following:

1. Prospective investors need to pay attention to the corresponding information on stock market conditions so that there will be no mistakes in making investment decisions.
2. Prospective investors need to monitor the movement of the stock market index in making investment decisions.
3. Telecommunications and Bank industries have a positive return during social distancing or digital behavior.
4. Uncertainty in stock return of Consumer good, Farmacy, Property, and miscellaneous industries during Covid-19 because Social distancing and digital behavior have nothing impact in Consumer good, Farmacy, Property and miscellaneous industries.
5. Future scientists concern with several findings in the determinant of abnormal return of securities in industries that it has an indirect impact on consumer behavior.

REFERENCES

Akhtaruzaman, M. (2020). Analysis of The impact of Covid-19 on New Zealand's external sector. *www.ssrn.com*.

Alan Ziobrowski, W. P. (2011). Abnormal Return From The Common Stock Investment of Members of The U.S. House of Representatives. *Business And Politics, 13*(1).

Awadhi, A. M.-A. (2020). Death and Contagoius infectious diases : Impact of the covid-19 virus on stock market return. *Journal of Behavioural and experimental finance, 27*.

Baker S, B. N. (2020). Covid-19 Induced economic uncertainty. *www.policyuncertainty.com*.

Benny, V. (2020). Impact of chinese Coronavirus on Indian Economy. *NEST research paper, 1*(1).

Blanchard, G. C. (2020). The Stock Market and The Economy : Insights From The Covid-19 Crisis . *www.voxeu.org*.

Chang, T. L. (2010). Portfolio Management During Epidemics : The Case of SARS in China. *SSRN Paper*.

Colin, D. (2020). Stock Returns, Leverage & Pandemic Covid-19. *SSRN*.

Fama, E. (1991). Efficient Capital Market : II. *The Journal of Finance, 56*.

Goodell, J. W. (2020). Covid-19 and Finance : Agendas for future research. *Finance Research Letters*.

Harvey, A. (2020). The Economic and Financial Implications of COVID-19 (3rd April 2020). *The Mayo Center for Asset Management at The University of Virginia Darden School of Business and The Financial Management Association International Virtual Seminar Series*.

Haryanto. (2020). Dampak Covid-19 terhadap pergerakan Nilai Tukar Rupiah dan Indeks Harga Saham Gabungan (IHSG). *The Indonesia Journal Of Development Planning, 4*(2).

Hermuningsih, S. (2019). *Pasar Modal Indonesia.* Yogyakarta: STIM YKPN.

Jogiyanto, H. (2015). *Teori Portofolio Dan Analisis Investasi* (10 ed., Vol. 1). Yogyakarta: BPFE.

Kusnandar, D. &. (2020). Perbandingan Abnormal Return Saham sebelum dan Sesudah Perubahan waktu perdagangan selama Pandemi Covid-19. *Jurnal Pasar Modal dan Bisnis, 2*(2).

Liew, V. K. (2020). Chinese Stock Market Sector indices performance in the Time of Novel Corona virus Pandemic. *Universiti Sarawak Malaysia* .

Liu, B. X. (2020). Public Information content and Market information efficiency : A Comparison between China and the U.S. *China Economic Review, 60*.

Meckling, M. J. (1976). The Theory of the firm : Managerial Behaviour, Agency cost and theory ownership structure. *Journal of Financial Economics, 3*, 305-360.

Meissner, L. Z. (2020). Health is Wealth? Public Health Policies and the economy during Covid-19. *NBER Working Paper*(27099).

Monache, D. D., & Petrella, I. &. (2020). Covid-19 and the Stock Market : Long Term Valuations. *www.voxeu.org*.

Muthe, K. (2016). Perbandingan Abnormal Return dan Likuiditas Saham Sebelum dan Sesudah Stock Split: Studi Pada Perusahaan yang terdaftar di Bursa Efek Indonesia. *Jurnal Akuntansi, 20*(2).

Nurmasari, I. (2020). Dampak Covid-19 Terhadap Perubahan Harga Saham Dan Volume Transaksi (Studi Kasus pada PT.Ramayana Lestari Sentosa Tbk). *Jurnal Sekuritas, 3*(3).

Papadamou, S., Fassas, A., & Kenourgious, D. &. (2020). Direct and Indirect Effects Of Covid-19 Pandemic on Implied Stock Market Volatility : Evidence From Panel Data Analysis. *www.ideas.repec.org/mpra*.

Pratama, W. Y. (2020). Prediksi Harga Saham Garuda Indonesia Di Tengah Pandemi Covid-19 menggunakan Metode Arima Square. *Journal Of Mathematic and Mathematic Education, 2*(1), 73-81.

Rebecca, R. D. (2020). Rethinking Minority and Mainstream in India : Pandemic Solidarity Mutual Aid During Covid-19 Crisis. *Pluto Press*, 90-102.

Rizvi, H. &. (2020). *Journal of Behavioral and Experimental Finance, 27*.

Ross, S. (1977). The Determination of Financial Structure : The incentive-signaling Approach. *Journal of Economics, 8*(1), 209-43.

Sekaran, U. (2006). *Metodologi Penelitian Bisnis.* Bandung: Salemba Empat.

Setiawan, K. (2020). Covid-19 : Discruption, Not Destruction. *Chief Economist & Investment Strategist Manulife Investment Indonesia*.

Sharif, A. (2020). Covid-19 Pandemic, oil prices, stock market, geopolitical risk, and policy uncertainty nexus in the US Economy. *International Review of Financial Analysis, 70*.

Tambunan, D. (2020). Investasi Saham di Masa Pandemi Covid-19. *Widya Cipta : Jurnal Sekretaris dan Manajemen, 4*(2).

Tandelilin, E. (2008). *Analisis Investasi Dan Manajemen Portofolio.* Yogyakarta: BPFE.

Trinugroho, I. (2011). Overconfidence and Excessive Trading Behaviour : An Experimental Study. *International Journal of Business and Management, 6*(7).

Trinugroho, I. (2020). Covid-19 and Financial Sector . *Fintech Center of Sebelas Maret University* .

Winanti, M. W. (2020). *Tata kelola Penanganan Covid-19 di Indonesia : Kajian Awal.* Yogyakarta: Gajahmada University Press.

APPENDIX

Table AP 1
Abnormal Return Models

NO	NAME	AVERAGE ABNORMAL RETURN					
		MEAN ADJUSTED		MARKET MODEL		MARKET ADJUSTED	
		3 APRIL	APR-MAY	3 APRIL	APR-MAY	3 APR	APR-MAY
1	INAF	-0.0202441	-0.00374	-0.077044566	-0.04496	-0.02486	-0.00224
2	JPFA	-0.0150628	-0.00277	-0.021111128	-0.00158	0.019526	0.013085
3	CPIN	-0.0284241	0.004137	-0.041771813	0.000103	0.001926	0.01575
4	KBLF	-0.0474815	0.001808	-0.059064852	-0.00668	-0.02526	0.005293
5	ADES	-0.0847602	0.005139	-0.086896921	0.001163	-0.05017	0.02099
6	BMRI	0.03765063	-0.00251	0.031749141	0.000196	0.058341	-0.00056
7	ASII	-0.0278777	0.00471	-0.031525386	0.007227	0.007478	0.021329
8	GJTL	0.0597559	0.004546	0.051139084	0.005401	0.095259	0.021312
9	INDS	-0.0802441	-0.00059	0.023596426	0.015414	0.059907	0.028735
10	DIVA	-0.0802441	-0.00059	-0.043305748	0.024019	-0.03245	0.028465
11	MERK	-0.0468398	0.003141	-0.062690258	-0.00546	-0.02238	0.008863
12	KAEF	-0.0163979	-0.00435	-0.065962105	-0.04188	-0.01921	-0.0259
13	BNGA	0.02893622	0.000669	0.031694096	0.003312	0.060877	0.013872
14	PEHA	-0.0098814	3.35E-05	-0.026129434	-0.01309	0.007553	-0.00127
15	AUTO	0.03870968	0.000565	0.018465574	0.000528	-0.005	-0.00014
16	MDLN	0.02914118	0.031195	-0.020244103	-0.00058	0.025954	0.000742
17	SMRA	0.22285319	0.041219	0.170767133	0.004879	0.141305	0.004037
18	BSDE	0.11953315	0.019529	0.080531091	0.002301	0.008938	0.000255
19	ASRI	0.0652236	0.019126	0.027374944	0.000782	-0.00258	-7.4E-05
20	LPCK	0.04816117	0.031246	0.009670427	0.000276	0.003857	0.00011
21	LCKR	0.01771198	0.027015	-0.020244103	-0.00058	0.009104	0.00026
22	DLTA	-0.0506521	0.003949	-0.416781047	-0.36229	-0.07836	-0.00502
23	ULTJ	-0.013768	0.006861	-0.396196181	-0.3757	-0.03817	0.001201
24	INDF	-0.0239662	0.001089	-0.547966982	-0.52307	-0.04966	-0.00586
25	UNVR	-0.0169472	0.002691	-0.512810738	-0.49334	-0.03755	0.000831
26	SIDO	0.06188763	0.003613	-0.541651981	-0.60006	0.039585	4.74E-05
27	ISAT	0.12919288	0.013779	-0.363256749	-0.47877	0.100793	0.004117
28	axiata	0.05587276	0.014927	-0.363080222	-0.40414	0.028536	0.006328
29	TLKM	0.02654788	0.004815	-0.638563976	-0.6604	0.00212	-0.00088
30	BBCA	0.02172173	0.00518	-0.670619746	-0.68725	-0.00453	-0.00234

NO	NAME	AVERAGE ABNORMAL RETURN					
		MEAN ADJUSTED		MARKET MODEL		MARKET ADJUSTED	
		3 APRIL	APR-MAY	3 APRIL	APR-MAY	3 APR	APR-MAY
31	BBRI	0.02164178	0.016326	-0.002020827	0.002302	-0.01328	0.000146

Source: (processed data, 2020) www.yahoofinance.com

Table AP 2
Average Abnormal Return-AAR

DATE	MEAN ADJUSTED MODEL		MARKET MODEL		MARKET ADJUSTED	
Date	AAR	CAAR	AAR	CAAR	AAR	CAAR
29-May-20	0.023798	0.023798	-0.14109	-0.14109	0.009096	0.009096
28-May-20	0.02631	0.050108	-0.14597	-0.28706	0.006401	0.015497
27-May-20	0.027199	0.077307	-0.14358	-0.43064	0.002715	0.018212
26-May-20	0.04077	0.118078	-0.14409	-0.57474	0.002821	0.021034
20-May-20	0.001311	0.119389	-0.16033	-0.73507	0.001783	0.022816
19-May-20	0.025057	0.144445	-0.14753	-0.8826	0.001763	0.024579
18-May-20	0.006368	0.150814	-0.15452	-1.03712	0.001326	0.025905
15-May-20	0.00831	0.159124	-0.15043	-1.18755	0.002501	0.028406
14-May-20	-0.00434	0.15478	-0.1607	-1.34824	0.003131	0.031537
13-May-20	0.003279	0.158059	-0.15397	-1.50221	0.00434	0.035877
12-May-20	-0.01578	0.142281	-0.1651	-1.66731	0.001791	0.037668
11-May-20	0.021218	0.163499	-0.14815	-1.81546	0.001429	0.039097
8-May-20	0.011001	0.1745	-0.14681	-1.96228	0.001731	0.040828
6-May-20	0.001255	0.175755	-0.15687	-2.11914	0.001877	0.042705
5-May-20	0.012615	0.18837	-0.15157	-2.27072	0.00195	0.044656
4-May-20	-0.01561	0.172765	-0.15669	-2.42741	0.003011	0.047667
30-Apr-20	0.042682	0.215447	-0.14655	-2.57396	0.004491	0.052158
29-Apr-20	0.02776	0.243207	-0.14233	-2.71629	0.002671	0.054829
28-Apr-20	0.017982	0.261189	-0.14802	-2.86431	0.000806	0.055635
27-Apr-20	0.024669	0.285858	-0.14504	-3.00936	-0.00083	0.054808
24-Apr-20	-0.01734	0.268521	-0.16267	-3.17203	-0.00255	0.052255
23-Apr-20	0.014777	0.283298	-0.15187	-3.3239	-0.00223	0.050021
22-Apr-20	0.032657	0.315954	-0.13776	-3.46166	-0.00204	0.047977
21-Apr-20	-0.02329	0.292663	-0.16432	-3.62598	-0.0013	0.046673
20-Apr-20	-0.00519	0.28747	-0.15648	-3.78245	0.0003	0.046972
17-Apr-20	0.045596	0.333066	-0.14494	-3.9274	0.000346	0.047318
16-Apr-20	-0.03318	0.299883	-0.16837	-4.09577	0.001956	0.049274
15-Apr-20	-0.00852	0.29136	-0.16069	-4.25645	0.00181	0.051084

DATE	MEAN ADJUSTED MODEL		MARKET MODEL		MARKET ADJUSTED	
Date	**AAR**	**CAAR**	**AAR**	**CAAR**	**AAR**	**CAAR**
14-Apr-20	0.043275	0.334635	-0.13872	-4.39518	0.001684	0.052767
13-Apr-20	0.007936	0.342571	-0.15014	-4.54532	0.000151	0.052918
9-Apr-20	0.020171	0.362742	-0.15189	-4.69721	0.001331	0.05425
8-Apr-20	-0.02647	0.336273	-0.15745	-4.85465	0.000319	0.054569
7-Apr-20	-0.00011	0.336164	-0.15739	-5.01204	0.001452	0.056021
6-Apr-20	0.08043	0.416594	-0.14114	-5.15318	0.002284	0.058304
3-Apr-20	0.030637	0.447231	-0.15496	-5.30814	-0.00067	0.057629

Source: processed data (2020)