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The Market Reaction to the Announcement of Large-Scale Social Restrictions

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Abstract

The Indonesian government implements the PSBB policy, namely large-scale social restrictions. Thus, each industry may experience varying responsiveness depending on how restrictions affect the company and its sector. The sample is 625 companies and the data analysis technique uses one sample t-test and one-sample Wilcoxon sign-test. The results of the analysis show that there was a negative market reaction to the PSBB announcement in all sectors and the information was known to the public before it was announced. PSBB can hamper the business cycle, including hampered supply which results in production delays, low public purchasing power due to decreased sources of income due to activity restrictions. Investors can observe the government's steps in making policies to avoid the risks that may occur. Future research is expected to be able to conduct research using the IDX-IC sector classification.

Keywords
market reaction; abnormal return; PSBB; sector

I. Introduction

The COVID-19 pandemic, apart from having a negative impact on human life, can also be a systemic risk that creates uncertainty in global economic activity. The long-term impact is mass unemployment and business failure (Baker et al., 2020; Topcu & Gal, 2020; Zhang et al., 2020). The stock market as part of the economy is also affected. The pandemic had an impact on the Hangseng Index and caused tremendous volatility in the United States. (Al-Awadhi et al., 2020; Baker et al., 2020; Yan, 2020). Indonesia announced a case of COVID-19 and its impact on the stock market (Amaroh, 2020; Sitanggang & Utami, 2020). Covid 19 pandemic caused all efforts not to be as maximal as expected (Sihombing and Nasib, 2020).

This research is important because the restriction policy (PSBB) that occurs in Indonesia is different from the policies adopted in other countries that adopt more lockdown restrictions. Different reactions in each industrial sector provide benefits for investors in making investment decisions to minimize risks due to the PSBB, and as an evaluation for the government regarding the impact of policies taken in order to overcome the pandemic. Research by Dilla et al., (2020) uses estimates with one sample of companies with the largest market capitalization in each sector, while this study will use a wider sample of companies. The purpose of this study was to determine the market reaction to the PSBB announcement in sectors listed on the IDX.

In particular, different sectors are affected by the pandemic to varying degrees, and responsiveness also varies depending on how restrictive and control measures affect companies and their sectors (He et al., 2020). This is supported by Adriatama & Rahadi (2021); Bouri et al. (2021); Dilla et al. (2020); He et al. (2020); Shen & Zhang (2021) concluded that in each sector and industry there were different reactions to the announcement of the restriction policy.

H1a: There is a market reaction to the announcement of large-scale social restrictions in various industrial sectors
H1b: There is a market reaction to the announcement of large-scale social restrictions in the agricultural sector.
H1c: There is a market reaction to the announcement of large-scale social restrictions in the mining sector.
H1d: There is a market reaction to the announcement of large-scale social restrictions in the consumer goods industry sector.
H1e: There is a market reaction to the announcement of large-scale social restrictions in the basic and chemical industry sectors.
H1f: There is a market reaction to the announcement of large-scale social restrictions in the infrastructure, utilities and transportation sectors.
H1g: There is a market reaction to the announcement of large-scale social restrictions in the property, real estate and building construction sectors.
H1h: There is a market reaction to the announcement of large-scale social restrictions in the financial sector
H1i: There is a market reaction to the announcement of large-scale social restrictions in the trade, services and investment sectors.

II. Research Method

Event studies are used in this study. The event that will be tested and researched is the announcement of large-scale social restrictions (PSBB). This PSBB was first conveyed by the President of Indonesia in a limited meeting with the ministers on Monday, March 30, 2020. The length of the event window is determined to be 5 days (-2,+2), the short event window was chosen because the impact of the announcement can be directly transmitted and also avoids Confounding events that can cause bias in testing The normal return model used is the market adjusted model, meaning that the best estimation period is the market index return at that time.

The population in this study were all companies listed on the IDX, which amounted to 642 issuers. Samples were taken from the population based on a non-probability approach using a purposive sampling technique with the criteria that the company did not take corporate action during the study period and did not experience suspension.

Based on the research sampling procedure, 625 companies were obtained as research samples in the event window period.

The variable to be studied is the market reaction. The market reaction of an event is proxied by abnormal returns. Testing the information content of an announcement involves the abnormal return factor. Abnormal return is the excess of the actual return to normal return. The normal return is the expected return. Thus, abnormal return is the difference between the actual return and the expected return.

$ARi,t = Ri,t – E(Ri,t)$

Notation:
,t = abnormal return of stock i during period t
,t = realized return of stock i during period t
E(Ri,t)= expected return i during period
CAR(t1,tp)i = _(t=t1)^tp▒ARi,t

Notation:
CAR(t1,tp)i= accumulation of abnormal returns of securities I on day t, which is accumulated from abnormal returns of securities to I starting on the first day of the event period (t1) until day -tp
ARi,t = abnormal return for the i-th security on the t-th day

Collecting research data using non-participant observation methods, namely observations made without involving themselves and only as independent observers. Descriptive statistics are used to provide an overview of the sample data profile. Descriptive analysis is the most basic analysis to describe the general state of the data. Parametric statistical tests require the data used to be normally distributed. Normality test was carried out by Kolmogorov Smirnov test. The Kolgomorov Smirnov test uses the basis for making decisions, namely if the value of Sig. greater than 0.05 then the data is normally distributed. If the value of Sig. less or equal to 0.05 then the data is not normally distributed. If the data is normally distributed, the parametric test is used, namely the one sample t-test to test whether there is a market reaction to the PSBB announcement in each sector listed on the IDX. If the significance level = 5%. Sig > 0.05, then H1 is rejected, Sig< 0.05, then H1 is accepted. If there is data that is not normally distributed, then a nonparametric test is used, namely the one sample Wilcoxon signed-rank test with a significance of = 5%.

III. Results and Discussion

Table 1. Descriptive Statistical Results

Sector	N	Mean				
		t-2	t-1	t 0	t+1	t+2
Various Industries	45	-1,071	-1,305	-0,305	-1,175	-0,175
Agriculture	21	-0,413	-1,022	-0,933	-1,030	-1,021
Mining	45	-0,937	-1,253	-1,090	-1,395	-1,044
Consumer Goods Industry	50	-0,676	-0,945	-0,532	-0,761	-0,408
Basic and Chemical Industry	73	-0,783	-1,039	-0,783	-0,942	-0,485
Infrastructure, Utilities and Transportation	75	-0,806	-1,265	-0,864	-1,315	-1,020
Property, real estate and construction	84	-0,903	-1,411	-1,148	-1,287	-1,166
Financial	83	-1,053	-1,547	-1,518	-1,661	-1,461
Trade, Services and Investment	148	-1,123	-1,640	-1,175	-1,503	-1,261

The average value of all sectors from period t-2 to period t+2 shows a negative average value of CAR indicating an indication that the market reaction is negative to the PSBB announcement event in all sectors listed on the IDX.

Before carrying out statistical testing, it must be known whether the data is normally distributed or not by performing a normality test. The purpose of the normality test is to determine the type of hypothesis testing, whether to use parametric statistics if the data is known to be normally distributed or vice versa using nonparametric statistics if it is known that the data is not normally distributed.

Table 2 is the result of the normality test from the cumulative abnormal return data for 9 sectors listed on the IDX. When sig. greater than 0.05 then the data is normally distributed. If the value of sig. less or equal to 0.05 then the data is not normally distributed.

Table 2. Normality Test Results

Sector	Sig.				
	t-2	t-1	t 0	t+1	t+2
Various Industries	0,004	0,015	0,542	0,268	0,585
Agriculture	0,029	0,294	0,416	0,554	0,090
Mining	0,004	0,015	0,030	0,048	0,029
Consumer Goods Industry	0,404	0,378	0,370	0,578	0,508
Basic and Chemical Industry	0,005	0,051	0,016	0,025	0,305
Infrastructure, Utilities and Transportation	0,000	0,000	0,003	0,011	0,003
Property, real estate and construction	0,000	0,000	0,000	0,000	0,000
Financial	0,000	0,001	0,002	0,069	0,066
Trade, Services and Investment	0,000	0,000	0,001	0,000	0,001

The various industrial sectors in the t-2 and t-1 periods have a Sig value that is less than 0.05, this indicates an abnormal distribution of data and the test uses nonparametric tests. Meanwhile, Periods t0, t+1, and t+2 have Sig values greater than 0.05, this indicates a normal data distribution and hypothesis testing using parametric testing.

The agricultural sector in period t-2 has a value of Sig. which is smaller than 0.05, it shows that the data distribution is not normal and hypothesis testing will use nonparametric testing. Meanwhile, the periods t-1, t0, t+1, and t+2 have a Sig value greater than 0.05, this shows a normal data distribution and the test uses parametric testing.

The mining sector in period t-2 to period t+2 has a Sig value. which is smaller than 0.05, it shows that the data distribution is not normal and hypothesis testing is continued by using nonparametric testing.

The consumer goods industry sector in the period t-2 to period t+2 has a Sig value greater than 0.05, this shows that the data distribution is normal and hypothesis testing is continued by using parametric testing.

The basic and chemical industry sectors in the period t-2, t0, and t+1 have Sig values. which is smaller than 0.05, then the distribution of the data in that period is not normal and hypothesis testing is continued by using nonparametric statistical testing. Meanwhile, the periods t-1 and t+2 have a Sig value. which is greater than 0.05, then the distribution of the data in that period is normal and hypothesis testing is continued by using parametric statistical testing.

The infrastructure, utilities, and transportation sectors in period t-2 to period t+2 have a Sig value. which is smaller than 0.05, it shows that the data distribution is not normal and hypothesis testing is continued by using nonparametric testing. The property, real estate, and building construction sectors in the period t-2 to period t+2 have a Sig value. which is smaller than 0.05, it shows that the data distribution is not normal and hypothesis testing is continued by using nonparametric testing.

The financial sector in the period t-2 to period t0 Sig value is less than 0.05, then the data distribution in that period is not normal and hypothesis testing is continued by using nonparametric statistical testing. Meanwhile, the period t+1 and t+2 obtained a Sig value which is smaller than the value 0.05, then the data distribution in that period is normal and hypothesis testing is continued by using parametric statistical testing.

The trade, services, and investment sectors in period t-2 to period t+2 have a value of Sig. which is smaller than 0.05, it shows that the data distribution is not normal and hypothesis testing is continued by using nonparametric testing.

Table 3. Hypothesis Test Results

Sector		t-2	t-1	t 0	t+1	t+2
Various Industries						
		-7,190	-5,278	-0,673	-2,352	-0,245
	ig.	(0,000)	(0,000)	(0,504)	(0,023)	(0,808)
Agriculture						
		-1,897	-3,156	-2,899	-2,474	-2,397
	ig.	(0,072)	(0,005)	(0,009)	(0,022)	(0,026)
Mining						
		-4,659	-4,223	-4,235	-4,390	-3,416
	ig.	(0,000)	(0,000)	(0,000)	(0,000)	(0,001)
Consumer Goods Industry						
		-4,783	-4,211	-2,804	-2,833	-1,375
	ig.	(0,000)	(0,000)	(0,007)	(0,007)	(0,175)
Basic and Chemical Industry						
		-5,389	-5,360	-4,289	-4,244	-1,799
	ig.	(0,000)	(0,000)	(0,000)	(0,000)	(0,076)
Infrastructure, Utilities and Transportation		-5,472	-5,430	-4,773	-5,157	-4,162
	ig.	(0,000)	(0,000)	(0,000)	(0,000)	(0,001)
Property, real estate and construction		-6,174	-6,498	-5,336	-5,202	-5,476
	ig.	(0,000)	(0,000)	(0,000)	(0,000)	(0,000)
Financial						
		-6,523	-6,225	-6,444	-7,357	-6,738
	ig.	(0,000)	(0,000)	(0,000)	(0,000)	(0,000)
Trade, Services and Investment						
		-8,627	-9,105	-7,778	-7,594	-7,329
	ig.	(0,000)	(0,000)	(0,000)	(0,000)	(0,000)

The various industrial sectors obtained a probability value in the t-2 period of 0.000, which value is smaller than the value of = 0.05. The t-1 period obtained a probability value of 0.000 which is smaller than the value of = 0.05. Period t0 obtained a probability value of 0.504 which is greater than = 0.05. The t+1 period shows a probability value of 0.023 which is smaller than = 0.05. The period t+2 has a probability value of 0.808, which value is greater than = 0.05. Hypothesis H1a states that there is a market reaction to the PSBB announcement in various industrial sectors. Based on the test results, the hypothesis H1a is accepted in the periods t-2, t-1, and t+1. Thus, during this period it can be stated that there was a market reaction to the PSBB announcement in various industrial sectors. Then, Hypothesis H1a was rejected in periods t0 and t1. Thus, during this period it can be stated that there was no market reaction to the PSBB announcement in various industrial sectors.

The agricultural sector in period t-2 obtained a probability value of 0.072, which value is greater than = 0.05. The t-1 period obtained a probability value of 0.005, which value is smaller than = 0.05. Period t 0 obtained a probability value of 0.009 where the value is smaller than the value smaller than = 0.05. The t+1 period shows a probability value of 0.022, which value is smaller than = 0.05. Then, period t+2 has a probability value of 0.026 which is smaller than = 0.05. Hypothesis H1b states that there is a market reaction to the PSBB announcement in the agricultural sector. Based on these results, the hypothesis H1b is accepted in the period t-1 to period t+2. Thus, during this period it can be stated that there was a market reaction to the PSBB announcement in the agricultural sector. Then, hypothesis H1b is rejected in period t-2. Thus, during this period it can be stated that there was no market reaction to the PSBB announcement in the agricultural sector.

The mining sector in period t-2 obtained a probability value of 0.000, which value is smaller than the value of = 0.05. The t-1 period obtained a probability value of 0.000 which is smaller than the value of = 0.05 period t0 obtained a probability value of 0.000 which value is smaller than the value of = 0.05 period t + 1 obtained a probability value of 0.000 which value is smaller than the value of = 0.05 period t+2 obtained a probability value of 0.001 which is smaller than the value of = 0.05 Hypothesis H1c states that there is a market reaction to the PSBB announcement in the mining sector. Based on the test results, Hypothesis H1c is accepted in period t-2 to period t+2. Thus, throughout this period it can be stated that there was a market reaction to the PSBB announcement in the mining sector.

The consumer goods industry sector in period t-2 shows the acquisition of a probability value of 0.000, which value is smaller than the value of = 0.05. The t-1 period shows the acquisition of a probability value of 0.000 which is smaller than the value of = 0.05. Period t0 has a probability value of 0.007 which is smaller than the value of = 0.05. The t+1 period has a probability value of 0.007 which is smaller than the value of = 0.05. The t+2 period shows a probability value of 0.175 which is greater than the value of = 0.05. Hypothesis H1d states that there is a market reaction to the PSBB announcement in the consumer goods industry sector. Based on the test results, the hypothesis H1d is accepted in the period t-2 to period t+1. So, in that period, the results of the study can be stated that there was a market reaction to the PSBB announcement in the consumer goods industrial sector. However, hypothesis H1d is rejected in period t+2. Thus, during this period it can be stated that there was no market reaction to the PSBB announcement in the consumer goods industrial sector.

The basic and chemical industry sector in period t-2 obtained a probability value of 0.000, which is smaller than the value of = 0.05. The t-1 period has a probability value of 0.000 which is smaller than the value of = 0.05. Period t0 obtained a probability value of

0.000 which is smaller than the value of = 0.05. period t+1 has a probability value of 0.000 which is smaller than the value of = 0.05. The t+2 period obtained a probability value of 0.076 which is greater than the value of = 0.05. Hypothesis H1e states that there is a market reaction to the PSBB announcement in the basic and chemical industrial sectors. Based on the results of testing accordingly, the hypothesis H1e is accepted in the period t-2 to t+1. Thus, in that period, the results of the research can be stated that there was no market reaction to the PSBB announcement in the basic and chemical industrial sectors. However, hypothesis H1e is rejected in period t+2. So, in that period, the results of the study can be stated that there was no market reaction to the PSBB announcement in the basic and chemical industrial sectors.

The infrastructure, utilities, and transportation sectors in the t-2 period obtained a probability value of 0.000 which is smaller than the value of = 0.05. The t-1 period obtained a probability value of 0.000 which is smaller than the value of = 0.05. The t0 period shows a probability value of 0.000 which is smaller than the value of = 0.05. The t+1 period has a probability value of 0.000 which is smaller than the value of = 0.05. The period t+2 has a probability value of 0.001 which is smaller than = 0.05. Hypothesis H1f states that there is a market reaction to the PSBB announcement in the infrastructure, utilities, and transportation sectors. Based on the test results, Hypothesis H1f is accepted in the period t-2 to period t+2. Thus, the results of the study can be stated that there is a market reaction to the PSBB announcement in the infrastructure, utilities, and transportation sectors.

The property, real estate, and building construction sectors in period t-2 obtained a probability value of 0.000 and a probability value of 0.000 was obtained. The probability value is less than the value of = 0.05. The t-1 period has a probability value of 0.000 which is smaller than the value of = 0.05. Period t0 has a probability value of 0.000 which is smaller than the value of = 0.05. The t+1 period obtained a probability value of 0.000, which value is smaller than the value of = 0.05. The period t+2 shows a probability value of 0.000 which is smaller than the value of = 0.05. Hypothesis H1g states that there is a market reaction to the PSBB announcement in the property, real estate, and building construction sectors. Based on the test results above, the hypothesis H1g is accepted in the period t-2 to period t +2. Thus, the results of the study can be stated that there is a market reaction to the PSBB announcement in the property, real estate, and building construction sectors.

The financial sector in period t-2 obtained a probability value of 0.000 which is smaller than the value of = 0.05. The t-1 period has a probability value of 0.000 which is smaller than the value of = 0.05. Period t0 obtained a probability value of 0.000 which is smaller than the value of = 0.05. The t+1 period has a probability value of 0.000 which is smaller than the value of = 0.05. The t+2 period obtained a probability value of 0.000 which is smaller than the value of = 0.05. Hypothesis H1h states that there is a market reaction to the PSBB announcement in the financial sector. Based on the test results, the hypothesis H1h is accepted in the period t-2 to period t+2. Thus, the results of the study can be stated that there is a market reaction to the PSBB announcement in the financial sector.

The trade, services, and investment sectors in period t-2 obtained a probability value of 0.000, which is smaller than the value of = 0.05. The t-1 period has a probability value of 0.000 which is smaller than the value of = 0.05. Period t0 has a probability value of 0.000 which is smaller than the value of = 0.05. The t+1 period has a probability value of 0.000 which is smaller than the value of = 0.05. The period t+2 has a probability value of 0.000 which is smaller than the value of = 0.05. Hypothesis H1i states that there is a

market reaction to the PSBB announcement in the trade, services, and investment sectors. Based on the test results, the hypothesis H1i is accepted in the period t-2 to period t+2. So that the results of the study can be stated that there is a market reaction to the PSBB announcement in the trade, services, and investment sectors.

The reaction means that the PSBB announcement is information for investors that can affect the value of the company. This is in line with the half-strong form of the efficient market hypothesis (EMH) proposed by Fama (1970) that security prices fully reflect available information. Then, investors can accurately expect the price of the security in question as indicated by the market reaction.

The market reaction of the various industrial sectors has reacted in the t-2 period, which means that information related to PSBB is already known to the public or investors before it is announced publicly official, namely in period t0. The information contained in the PSBB announcement in the various industrial sectors is negative information or the information can reduce the economic value of the company. The PSBB event can be a signal for investors that will show the bottleneck of supply chains, production, and consumption due to limited mobility and declining demand due to low purchasing power of the people. This is in line with the research of Aharon & Siev (2021) and Singh et al. (2021) which states that due to the lockdown or restrictions on the supply of production materials, it can hamper the performance of the manufacturing industry, in addition to declining demand.

The market reaction in the agricultural sector occurred in the t-1 period, which means that the information on the PSBB announcement was known by the public before the announcement period, namely t0. The information contained in the PSBB announcement on the agricultural sector is negative information. PSBB can be a negative signal for investors in the agricultural sector because the PSBB can hinder the distribution of supporting materials such as fertilizers due to restrictions on mobility both domestically and abroad, restrictions on the number of employees who work can slow down production, coupled with declining people's purchasing power. This is in line with Singh et al. (2021) related to the food distribution system that can be affected by restrictions because it causes difficulties in transportation and the availability of workers. He et al. (2020) assesses that restrictions can stop gathering activities on a large scale, which can have an impact on agricultural sector activities and can cause losses to the economy in the agricultural sector. The existence of restrictions on public activities especially has an impact on traditional and modern markets.

The mining sector began to show a market reaction in the t-1 period, which means that the information on the PSBB announcement was known to the public before the announcement period, namely t0. The information contained in the PSBB announcement on the mining sector is negative information. PSBB can give a negative signal to investors in the mining sector because of restrictions on worker mobility and hampering planned projects. He et al. (2020) also explained that the mining sector has been most impacted by the pandemic, because mining activities are highly dependent on logistics and transportation. The existence of a pandemic and restrictions make it hampered.

The consumer goods industry sector began to show a market reaction in period t-2 which means that information on the PSBB announcement was known to the public before the announcement period, namely t0. The information contained in the PSBB announcement on the consumer goods industrial sector is negative information. The consumer goods industry sector is one of the sectors included in the manufacturing industry. The PSBB event can be a signal for investors that will show the bottleneck of supply chains, production, and consumption due to limited mobility and declining demand

due to low purchasing power of the people. This is in line with the research of Aharon & Siev (2021) and Singh et al. (2021) which states that due to the lockdown or restrictions on the supply of production materials, it can hamper the performance of the manufacturing industry, in addition to declining demand.

The basic and chemical industry sectors began to appear with market reactions in the t-2 period, which means that the information on the PSBB announcement was known by the public before the announcement period, namely t0. The information contained in the PSBB announcement on the basic and chemical industrial sectors is negative information. The basic and chemical industry sector is one of the sectors included in the manufacturing industry. The PSBB event can be a signal for investors in the basic and chemical industrial sectors which will show the supply chain, production and consumption are hampered due to limited mobility and declining demand due to low purchasing power of the people. This is in line with the research of Aharon & Siev (2021) and Singh et al. (2021) which states that due to the lockdown or restrictions on the transportation mobility of the supply of production materials, it can hamper the performance of the manufacturing industry, in addition to declining demand.

The infrastructure, utilities and transportation sectors began to show a market reaction in period t-2 which means that information on the PSBB announcement was known to the public before the announcement period, namely t0. The information contained in the PSBB announcement on the infrastructure, utilities, and transportation sectors is negative information. PSBB can be a negative signal for investors in the infrastructure, utilities, and transportation sectors because the main thing is PSBB is a mobility restriction that will have an impact on the transportation sector, both land, sea and air. He et al. (2020) states that the sector most affected by the pandemic is transportation.

The property, real estate, and building construction sectors began to show market reactions in the t-2 period, which means that the information on the PSBB announcement was known to the public before the announcement period, namely t0. The information contained in the PSBB announcement on the property, real estate and building construction sectors is negative information. PSBB can be a negative signal for investors in the property, real estate, and building construction sectors because the PSBB can reduce people's purchasing power so that the impact will occur in the property and real estate sector and delays in project plans and the slowdown in the development process in the construction sector due to restrictions on activities carried out limit workers. He et al. (2020) categorizes the property, real estate, and building construction sectors into sectors that are negatively affected.

The financial sector began to appear with market reactions in the t-2 period, which means that the information on the PSBB announcement was known to the public before the announcement period, namely t0. The information contained in the PSBB announcement on the financial sector is negative information. PSBB can be a negative signal for investors in the financial sector due to a decrease in people's purchasing power which can lead to an increase in bad loans. Anh & Gan (2020) stated that the financial sector was the sector most affected when restrictions were imposed, because the financial sector was considered vulnerable in the event of an economic slowdown with the possibility of bad loans and mass withdrawals of savings.

The trade, services, and investment sectors began to appear with market reactions in period t-2 which means that information on the PSBB announcement was known by the public before the announcement period, namely t0. The information contained in the PSBB announcement on the trade, services and investment sectors is negative information. These measures signal that there will be not only a decline in real economic activity, but also a

decline in future household cash flows and future economic growth (Chen et al., 2011). Negative signals in the trade, services, and investment sectors due to restrictions on public activities and prohibitions on crowding will make the restaurant, hotel and tourism industries have to adjust their business models. Wholesale and retail trade was affected by the decline in people's purchasing power and restrictions on public activities made retail trade such as malls and supermarkets reduce the level of visits and restrictions on operating hours.

IV. Conclusion

The announcement of large-scale social restrictions (PSBB) announced on March 30, 2020 in nine sectors listed on the IDX, it can be concluded that there was a market reaction to the announcement of the PSBB on the nine sectors listed on the IDX. The reaction contained negative information due to restrictions on community activities and the declining purchasing power of the people. Suggestions for investors to observe and study government policies in dealing with times of crisis that can have an impact on the economy both macro and micro. The limitation of this research is using the JASICA-based sectoral index classification which has now been updated with IDX-IC, so suggestions for further research are to be able to conduct sectoral research using the latest classification, namely IDX-IC.

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