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Does the social restriction policy in handling COVID-19 have an impact on the stock market and financial decisions?: Lessons learned from Indonesia

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Abstract

This research aims to determine the impact of the COVID-19 case on stock prices and financial decisions when implementing the Indonesian government's policy phases in dealing with COVID-19. This study used secondary data from *idx.co.id* along with a sample of companies listed on the Indonesian Stock Exchange. The total observations are 59,987 surveillance instances, using a regression model with panel data. This research shows that COVID-19 cases during 2020 and 2021 have had both positive and negative impacts on stock returns and company financial decisions, depending on whether the social restriction policy period issued by the government was long and the strictness in implementing the policy. According to the government and investors, early and measurable preventive measures and proactive reactions are crucial. The government must be aggressive, such as extending the policy period and being stricter in terms of policy implementation, to suppress the virus outbreak and increase investor confidence. Currently, there are varied studies examining the impact of COVID-19 on the stock market, but they were only based on studies with a one-event period. Meanwhile, this study is based on the number of confirmed COVID-19 cases over a long period, considering different phases of the Indonesian government's policy compared to other countries, and uses one dependent variable that has never been measured based on the number of confirmed COVID-19 cases, namely financial decisions.

Keywords: COVID-19, Developing country (SDGs), Financial decisions, Stock market.

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1. Introduction

Johns Hopkins University reported that as of 3/6/2021, global COVID-19 cases had reached 183,089,842, with a death toll of 3,964,052 [1]. According to this data, Indonesia is in 17th place in the world. Meanwhile, according to *World of Meter*, Indonesia is the country with the 4th most COVID-19 cases in Asia, after India, Turkey, and Iran. Indonesia is in first place among ASEAN countries with the most COVID-19 infections, numbering 2,228,938 [2, 3]. The large number of cases infected with COVID-19 will affect the world stock market [4-7]. This can also be seen from research results, which state that there is a strong and negative influence on the performance of various stock markets throughout the world [6-11]. Likewise, Indonesia is likely to have an impact on various sectors, including the stock market, where it is riskier, and many people are hesitant to invest in shares [12, 13]. Many industries have been affected by COVID-19 since March 2020. The Indonesian Stock Exchange's Composite Stock Price Index (IHSG) has decreased because many investors have sold the shares they own [12]. This is supported by the fact that any crisis will affect stock prices in the world [14, 15].

The COVID-19 pandemic is also a new issue that increases risk and uncertainty for investors [7]. The existence of a pandemic or outbreak like COVID-19 can influence people's decisions, as found by Ichev and Marinč [16] who describe it in the case of Ebola in West Africa, where information in the form of media coverage influenced people's feelings, causing anxiety and fear which influenced investor decisions and behavior. risk aversion, and pessimism. The emergence of COVID-19 could cause a behavioral fever for investors due to their uncertainty and anxiety, leading to new risks, although stock price movements based on economic expectations are reasonable [17]. Therefore, investors must be careful with a holistic and diverse investment portfolio since stock markets around the world are experiencing a decline on average [18].

Most researchers stated that if there is a crisis, the research will only focus on the impact on the stock market [19-21]. However, [22] argued that there should be a study to demonstrate that it is feasible to define a theory whereby equity investment valuation techniques will be affected in the same way regardless of the nature of the factors propagating the financial crisis. Furthermore, [22] stated that his study provided several clues about the influence of the current crisis on decision-making processes and trading strategies used by investors. Then, his study provided some clues about the influence of the current crisis on decision-making processes and trading strategies used by investors. According to Parveen et al. [23], structural equation modeling results reveal that the COVID-19 pandemic affects investor behavior, investment decisions, and trading volume.

Several studies have been conducted regarding the effect of COVID-19 on the stock market, but only a few studies have used confirmed COVID-19 data as variable data [24]. In addition, most research on the impact of COVID-19 is only related to stock prices on the Stock Exchange, but no one has linked the COVID-19 figures to financial decisions made by companies. Therefore, this study empirically tests the impact of COVID-19 numbers and calculations on stock prices with financial decisions. This study will examine increases or changes in stock prices based on the phases of government policies in dealing with COVID-19, such as Large-scale Social Restrictions (known as: *Pembatasan Sosial Berskala Besar*), the transition of Large-scale Social Restrictions, and Emergency Community Activities Restrictions Enforcement (known as: *Pemberlakuan Pembatasan Kegiatan Masyarakat*) to four attractive levels during the pandemic in Indonesia. Up to today, no one has conducted research based on these policy phases. Furthermore, previous studies only used a short period when COVID-19 began to spread. Meanwhile, this research will cover a fairly long period of one year. Therefore, the movement of stock prices on the Indonesia Stock Exchange is an important aspect to consider from the time of the COVID-19 outbreak around March to December 2020 [25].

Each of these contributions produces a certain novelty in the associated results. First, there is little prior financial literature on pandemics linking epidemiological data to stock returns [4] or market volatility [7] within a certain period, this study aims to integrate the two impacts to provide a comprehensive representation of the phenomenon in the long term. Second, this research also examines changes in stock prices based on the government's policy phases in dealing with COVID-19, as stated in the previous paragraph, where no one has conducted research based on these policy phases, even though existing studies are only based on the phases before the lockdown and during *the* lockdown. Third, to the best of the researchers' knowledge, there has been no research linking COVID-19 data with company financial decisions. Fourth, policymakers and market players could benefit from these empirical findings if a similar epidemic occurs. Apart from that, the period used by previous studies was only a short period when COVID-19 started to exist, while this research will use a fairly long period, namely more than one year. Therefore, share price movements on the Indonesian Stock Exchange are important to pay attention to from the time of the COVID-19 outbreak around March to December 2020 and January to August 2021.

This article is presented in five parts. The next section of this article presents related literature; Section 3 describes the data, preliminary analysis, and empirical model building using the market linkage model; Section 4 offers results and discussion; and Section 5 concludes the article with a conclusion.

2. Literature Review: Impact of Covid -19 on Stock Market and Financial Decisions

We classified the review literature into two categories, namely, the impact of COVID-19 on the stock market and corporate financial decisions, and several policies issued by the government during the occurrence of COVID-19 in 2020 and 2021.

Previous studies have investigated the impact of different epidemics on stock performance in the 21st century. These studies confirmed that fluctuations in the stock market were caused by investor concerns and pessimism about future earnings, as the epidemic has brought significant economic losses to the market [26, 27]. For example, Nippani and Washer [28] discovered the negative impact of the SARS outbreak in China and the Vietnamese stock market. Chen et al. [15] explored the effect of the SARS epidemic on the Taiwan stock market and revealed the negative relationship between the disease

outbreak and stock returns in the hotel, tourism, wholesale, and retail sectors. In contrast, the biotechnology industry showed a positive and significant relationship with stock returns in Taiwan during the epidemic. In China, [26] assessed the relationship between the outbreak of the H7N9 influenza virus and the performance of Chinese stocks. They found that the number of daily cases increased significantly and negatively impacted stock prices in the overall market index as well as relevant sectors, including traditional Chinese medicine, biologics production, and the biomedical sector.

During the COVID-19 pandemic, the negative impact of the disease outbreak on stock markets around the world has been documented in numerous studies. Al-Awadhi et al. [4] showed that the daily increase in the number of confirmed cases and deaths has a negative impact on the stock returns of all companies in China. Ashraf [29] investigated the effect of the pandemic on stock market performance in 64 countries and found an inverse relationship between the increasing number of confirmed cases and stock returns. Zhang et al. [7] confirmed the negative consequences of COVID-19 on the stock markets of ten countries with the highest number of confirmed cases in March 2020 on the stock markets of Japan, Korea and Singapore. According to Zhang et al. [7] China's stock market exhibited the largest standard deviation in February and the smallest in March. The US stock market experienced the sharpest increase in standard deviation among the countries investigated during the study period [13] evaluated the results of COVID-19 on the stock markets of several countries and found negative impact of pandemic on stock returns. He et al. [27] also presented the spreading effect among Asian, European and American countries of the pandemic.

Despite impacting the stock market, Covid-19 also affected investors' desire to invest in the company. Excessive price fluctuations and stock indexes are not fully explained by traditional finance [30]. Traditional finance focuses on rational behavior and efficient markets, whereas the current COVID-19 pandemic has demonstrated the irrational behavior and inefficiency of market participants in stock markets globally [31]. This pandemic has created an uncertainty and fear situation in making financial or investment decisions. Such irrational behavior in uncertain situations is well explained by the field of behavioral finance, which states that people do not always follow logic and make decisions systematically [32]. Humans are unpredictable, and so is their behavior even in the same situation at different points in time. People have exhibited such irrational behavior, which can be observed in their decision-making during COVID-19 [31].

3. Data and Methodology

3.1. Data

This study analyzes the impact of the COVID-19 pandemic based on daily stock returns and company financial decisions during the social restriction policies implemented by the Indonesian government to overcome COVID-19. The following is a description of the data that has been collected.

Table 1.
Description of Observation Data.

No	Restriction Name	Period	Number of observations
1	Large-scale Social Restrictions	10 - 23 April 2020	5.967
2	The transition of Large-scale Social Restrictions	12 - 25 October 2020	5.940
3	Community Activities Restrictions Enforcement	11 January - 8 February 2021	13.420
4	Micro Community Activities Restrictions Enforcement	9 February - 8 March 2021	13.521
5	Emergency Community Activities Restrictions Enforcement	3 - 25 July 2021	9.240
6	Community Activities Restrictions Enforcement Level 3 dan 4	26 July - 23 August 2021	11.898
	Total observations		59.987

These data are taken from daily shares and quarterly financial reports of each company listed on the Indonesia Stock Exchange via the website: www.idx.co.id, which is adjusted to the date of the limited restrictions imposed by the Indonesian government.

3.2. Methodology

This study uses daily confirmed COVID-19 cases (DCC) according to Ashraf [29] to see the impact of COVID-19. COVID-19 data collected from the Merdeka.com site. Ashraf [29] explained that the peak of the pandemic is not the starting date, but the disease outbreak lasts for a longer period of time (several months) than a certain point in time. Likewise, the statement from Anh and Gan [24] the peak of COVID-19 was once when the government implemented a lockdown policy. Therefore, this study took COVID-19 data based on the phases of government policy in dealing with COVID-19. This study adopted a panel data regression approach. This research follows a panel data regression model adopted from Ashraf [29] to evaluate the influence of the number of confirmed COVID-19 cases on daily stock returns on the IDX. The independent variables consist of daily market capitalization, market-to-book ratio, return on equity, and industry factors that significantly influence stock returns in studies by Ashraf [29].

The Panel Regression Model consists of:

Models 1 to 6 to test the impact of COVID-19 on stock returns on each policy.

$$RSPSBB_{i,t} = \alpha_{01} + \alpha_{02}Cov_{i,t-1} + \alpha_{03}CAP_{i,t-1} + \alpha_{04}MBR_{i,t-1} + \alpha_{05}RS1_{i,t-1} + \varepsilon_{0i,t} \quad (1)$$

$$RSPSBBtrans_{i,t} = \alpha_{11} + \alpha_{12}Cov_{i,t-1} + \alpha_{13}CAP_{i,t-1} + \alpha_{14}MBR_{i,t-1} + \alpha_{15}RS1_{i,t-1} + \varepsilon_{1i,t} \quad (2)$$

$$RSPPKM_{i,t} = \alpha_{21} + \alpha_{22}Cov_{i,t-1} + \alpha_{23}CAP_{i,t-1} + \alpha_{24}MBR_{i,t-1} + \alpha_{25}RS1_{i,t-1} + \varepsilon_{2i,t} \quad (3)$$

$$RSPPKMmik_{i,t} = \alpha_{31} + \alpha_{32}Cov_{i,t-1} + \alpha_{33}CAP_{i,t-1} + \alpha_{34}MBR_{i,t-1} + \alpha_{35}RS1_{i,t-1} + \varepsilon_{3i,t} \quad (4)$$

$$RSPPKMdar_{i,t} = \alpha_{41} + \alpha_{42}Cov_{i,t-1} + \alpha_{43}CAP_{i,t-1} + \alpha_{44}MBR_{i,t-1} + \alpha_{45}RS1_{i,t-1} + \varepsilon_{4i,t} \quad (5)$$

$$RSPPKM34_{i,t} = \alpha_{51} + \alpha_{52}Cov_{i,t-1} + \alpha_{53}CAP_{i,t-1} + \alpha_{54}MBR_{i,t-1} + \alpha_{55}RS1_{i,t-1} + \varepsilon_{5i,t} \quad (6)$$

Models 7 to 12 to examine the impact of COVID-19 on financial decisions on each policy.

$$PERPSBB_{i,t} = \alpha_{01} + \alpha_{02}Cov_{i,t-1} + \alpha_{03}CAP_{i,t-1} + \alpha_{04}MBR_{i,t-1} + \alpha_{05}PER1_{i,t-1} + \varepsilon_{0i,t} \quad (7)$$

$$PERSBBtrans_{i,t} = \alpha_{11} + \alpha_{12}Cov_{i,t-1} + \alpha_{13}CAP_{i,t-1} + \alpha_{14}MBR_{i,t-1} + \alpha_{15}PER1_{i,t-1} + \varepsilon_{1i,t} \quad (8)$$

$$PERPPKM_{i,t} = \alpha_{21} + \alpha_{22}Cov_{i,t-1} + \alpha_{23}CAP_{i,t-1} + \alpha_{24}MBR_{i,t-1} + \alpha_{25}PER1_{i,t-1} + \varepsilon_{2i,t} \quad (9)$$

$$PERPPKMmik_{i,t} = \alpha_{31} + \alpha_{32}Cov_{i,t-1} + \alpha_{33}CAP_{i,t-1} + \alpha_{34}MBR_{i,t-1} + \alpha_{35}PER1_{i,t-1} + \quad (10)$$

$$PERPPKMdar_{i,t} = \alpha_{41} + \alpha_{42}Cov_{i,t-1} + \alpha_{43}CAP_{i,t-1} + \alpha_{44}MBR_{i,t-1} + \alpha_{45}PER1_{i,t-1} + \varepsilon_{4i,t} \quad (11)$$

$$PERPPKM34_{i,t} = \alpha_{51} + \alpha_{52}Cov_{i,t-1} + \alpha_{53}CAP_{i,t-1} + \alpha_{54}MBR_{i,t-1} + \alpha_{55}PER1_{i,t-1} + \varepsilon_{5i,t} \quad (12)$$

Notes:
$RS_{i,t}$ is the return on stock i on day t.
$PER_{i,t}$ is the price-earnings ratio or investment decision.
$Cov_{i,t-1}$ is the increase in the number of confirmed cases of COVID-19 on day t-1.
$CAP_{i,t-1}$ is the natural logarithm of the daily market capitalization of firm i on day t-1.
$BMR_{i,t-1}$ is the book market ratio of firm i on day t-1.

4. Empirical Result

4.1. Descriptive Statistics

Before presenting the results of the descriptive statistics, a daily confirmed graph of the impact of COVID-19 on each policy phase is first presented. Figure 1 shows daily active COVID-19 cases confirmed during the PSBB policy. Consequently, Figures 2 to 6 show daily active confirmed COVID-19 cases during the Transitional PSBB, PPKM, Micro Policy, etc. These figures show that daily active confirmed cases caused by COVID-19 fluctuate, sometimes rising, dropping, so it will be difficult to predict whether each policy issued has a significant impact or not on the stock market and financial decisions; therefore, researchers will empirically test each policy. These figures imply that daily active confirmed cases caused by COVID-19 fluctuate since sometimes going up and down. Thus, it will be difficult to predict whether each policy issued has a major impact or not on the stock market and financial decisions; therefore, the researchers will empirically test each of these policies.

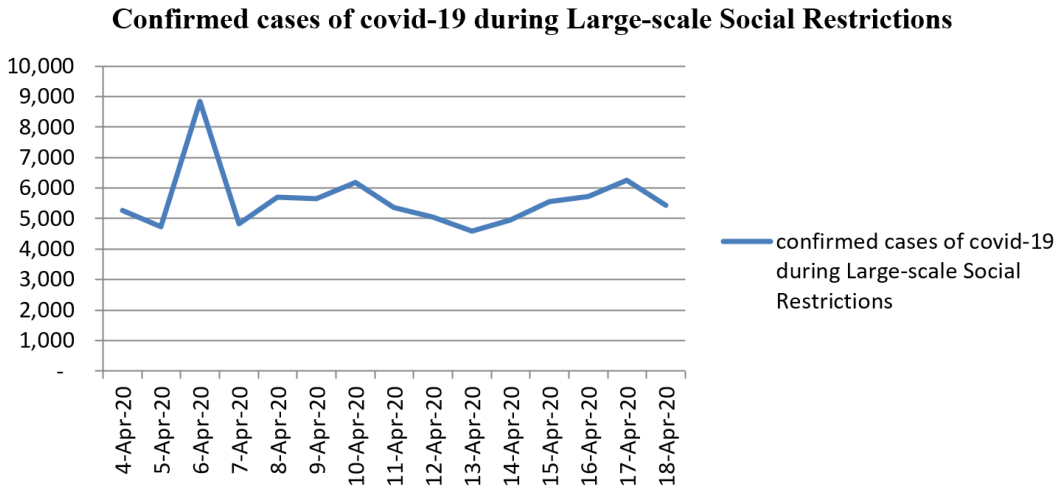

Figure 1.
Daily active confirmed COVID-19 cases during Large-scale Social Restrictions.

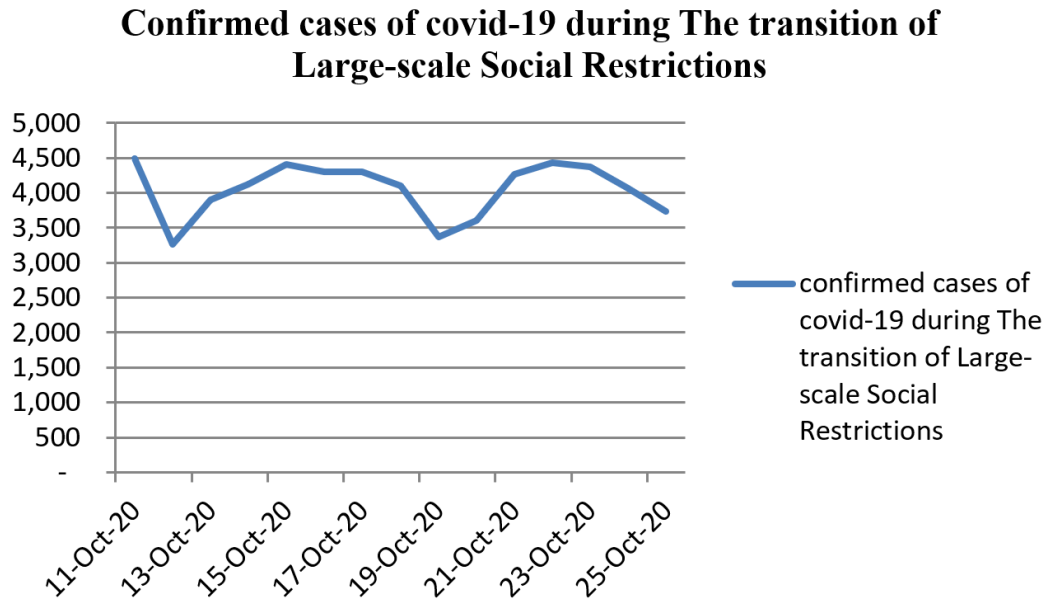

Figure 2.
Daily active confirmed COVID-19 cases during the transition of Large-scale Social Restrictions.

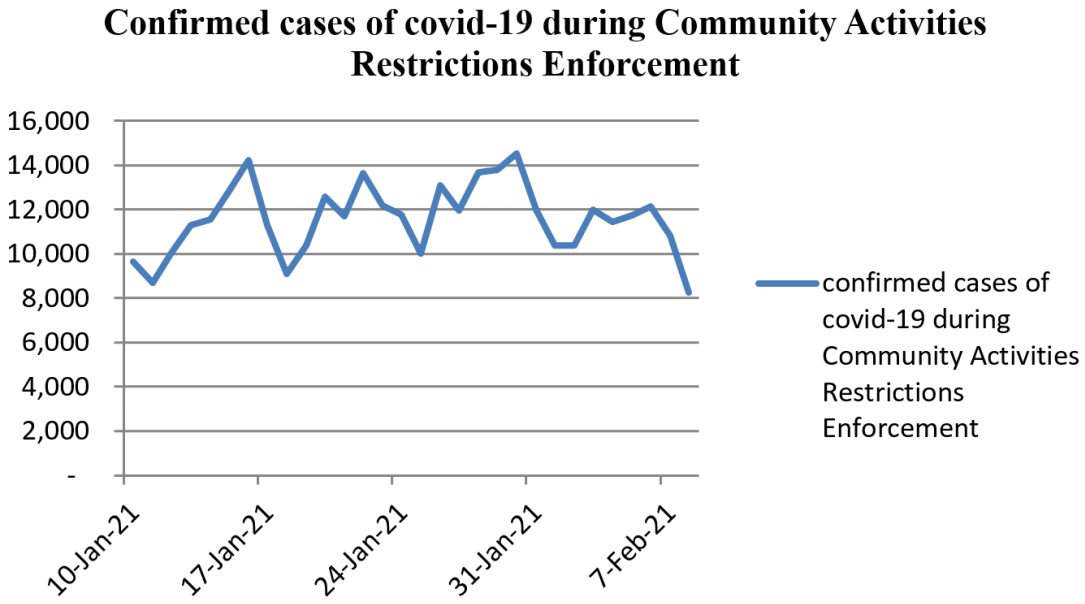

Figure 3.
Daily active confirmed COVID-19 cases during Community Activities Restrictions Enforcement.

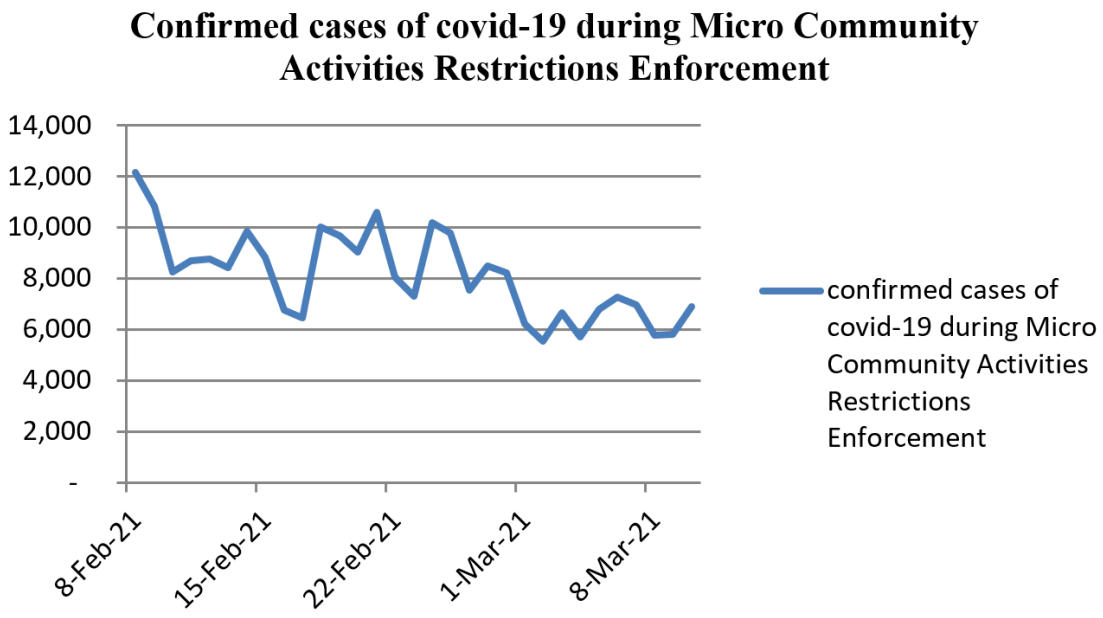

Figure 4.
Daily active confirmed COVID-19 cases during Micro Community Activities Restrictions Enforcement.

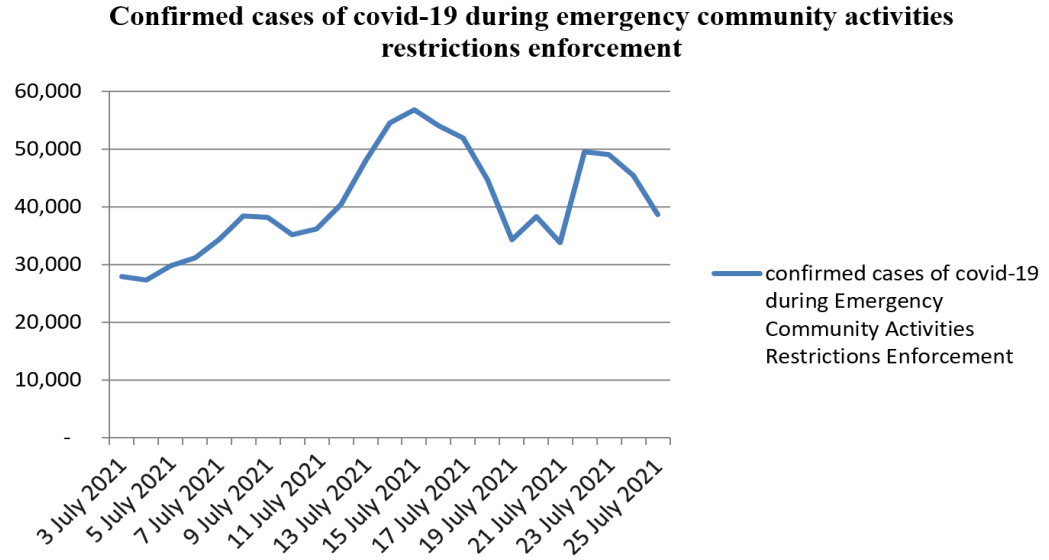

Figure 5.
Daily active confirmed COVID-19 cases during Emergency Community Activities Restrictions Enforcement.

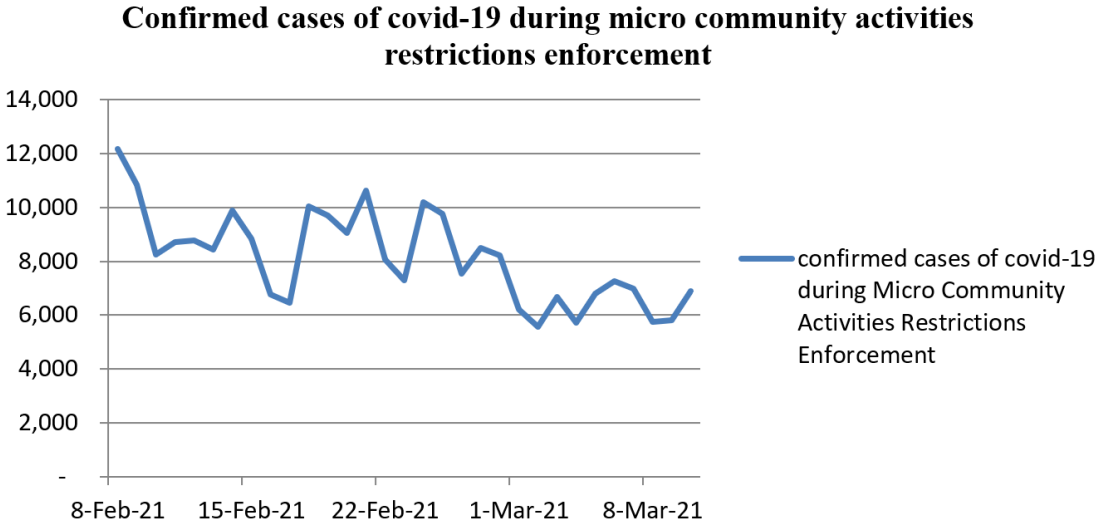

Figure 6.
Daily active confirmed COVID-19 cases during Micro Community Activities Restrictions Enforcement.

Table 2 presents descriptive statistics of companies listed on the Indonesia Stock Exchange during the government's policy from 2020 to 2021. The average returns of all stocks in the half are negative and positive markets during the study period. The average companies' financial decisions fluctuated during COVID-19, and there were several policies experiencing increases and decreases. The average number of confirmed COVID-19 cases is 2% to 6%. However, it decreased by 0.4% when the government applied Community Activities Restrictions Enforcement levels 3 & 4. The average market-to-book value of companies listed on the Indonesia Stock Exchange (IDX) is constant. Meanwhile, the average capitalization of shares listed on the Indonesia Stock Exchange during the policy is fixed.

Table 2.
Descriptive statistics for each year's social restriction policy 2020 s.d.2021.

Variable	Community Social Restriction Policy					
	Large-scale Social Restrictions		The transition of Large-scale Social Restrictions		Community Activities Restrictions Enforcement	
	Mean	Std.Dev.	Mean	Std.Dev.	Mean	Std.Dev.
RE	-0.00073	0.04247	-0.00094	0.03186	-0.00059	0.04497
PER	10457.81	726979.7	34376.31	635385.4	89118.19	1603101.0
COV	0.02073	0.10483	0.04386	0.10631	0.032673	0.14422
MB	1855.065	38368.82	1659.492	32514.26	1641.767	30456.08
CAP	27.70219	1.87319	27.7864	1.89350	27.94096	1.940583

Table 3.
Continue.

Variable	Community Social Restriction Policy					
	Micro Community Activities Restrictions Enforcement		Emergency Community Activities Restrictions Enforcement		Community Activities Restrictions Enforcement in Level 3 & 4	
	Mean	Std.Dev.	Mean	Std.Dev.	Mean	Std.Dev.
RE	0.00311	0.04356	0.00113	0.04111	0.00151	0.04268
PER	89697.41	1631699	24652.34	431282.8	24490.27	429722.5
COV	0.05238	0.18904	0.06353	0.15481	-0.00407	0.28528
MB	1615.18	29144.8	1662.249	30232.07	1631.109	29376.45
CAP	27.94558	1.94505	28.01646	1.89309	28.03445	1.90069

Table 3 is the result of the data correlation matrix, showing that daily stock returns and financial decisions are negatively correlated with the growth in total confirmed cases of COVID-19 under the Large-scale Social Restrictions policy. Table 4 indicates that daily stock returns and financial decisions are positively correlated with the growth in total confirmed cases of COVID-19 during the transition of the Large-scale Social Restrictions policy. Tables 5 and 6 imply the similarity that at the initial Community Activities Restrictions Enforcement and Community Activities Restrictions Enforcement policies levels 3 & 4, daily stock returns are negatively correlated, and financial decisions are positively correlated with the growth in total confirmed cases of COVID-19. Tables 7 and 8 show that similarities, micro PPKM policies, and delayed daily stock returns are positively correlated, and that financial decisions are negatively correlated with the growth in total confirmed cases of COVID-19. Additionally, it demonstrates the correlation between variables in the regression model, which is less than 0.5, indicating that there is no strong correlation between the variables.

Table 3.
Correlation matrix of the Large-scale Social Restrictions policy.

Variable	RS	PER	COV	MT	CAP
RS	1.0000				
PER	0.0093	1.0000			
COV	-0.0189	-0.0003	1.0000		
MB	0.0009	0.7254	0.0001	1.0000	
CAP	-0.0003	0.0574	0.0011	0.0866	1.0000

Table 4.
Correlation Matrix of the transition of the Large-scale Social Restrictions policy.

Variable	RS	PER	COV	MT	CAP
RS	1.0000				
PER	0.0008	1.0000			
COV	0.0065	0.0001	1.0000		
MB	-0.0007	0.7034	0.0000	1.0000	
CAP	0.0561	0.0657	0.0000	0.0891	1.0000

Table 5.
Correlation matrix of Community Activities Restrictions Enforcement policy.

Variable	RS	PER	COV	MT	CAP
RS	1.0000				
PER	-0.0049	1.0000			
COV	-0.0775	0.0004	1.0000		
MB	-0.0047	0.8545	0.0007	1.0000	
CAP	-0.0067	0.0661	0.0033	0.0833	1.0000

Table 6.
Correlation matrix of Micro Community Activities Restrictions Enforcement policy

Variable	RS	PER	COV	MT	CAP
RS	1.0000				
PER	0.0008	1.0000			
COV	0.0072	-0.0004	1.0000		
MB	-0.0019	0.8514	-0.0002	1.0000	
CAP	-0.0313	0.0632	-0.0003	0.0817	1.0000

Table 7.
Correlation matrix of Emergency Community Activities Restrictions Enforcement policy

Variable	RS	PER	COV	MT	CAP
RS	1.0000				
PER	-0.0021	1.0000			
COV	0.0359	-0.0001	1.0000		
MB	-0.0025	0.9218	-0.0001	1.0000	
CAP	0.0001	0.0740	0.0006	0.0835	1.0000

Table 8.
Correlation matrix of Community Activities Restrictions Enforcement level 3 and 4 policy

Variable	RS	PER	COV	MT	CAP
RS	1.0000				
PER	-0.0042	1.0000			
COV	-0.0078	0.0002	1.0000		
MB	-0.0046	0.9196	0.0003	1.0000	
CAP	-0.0161	0.0717	0.0002	0.0891	1.0000

4.2. The Impact of COVID-19 on the Stock Market on Various Government Policies

Table 9 is the result of testing models 1 to 6 using fixed-effect panel data regression. During the Community Activities Restrictions Enforcement and emergency Community Activities Restrictions Enforcement policies, the daily increase in the number of confirmed COVID-19 cases was significantly positively related to stock returns on the Indonesia Stock Exchange (IDX). It means both policies build positive or effective results in returning shares on the IDX. It is caused by the Community Activities Restrictions Enforcement policy period being the longest period compared to other restriction policies' periods. Furthermore, the emergency Community Activities Restrictions Enforcement policy period is the strictest policy period compared to other policies. Thus, long and strict rules produce something effective for the stock market, especially stock returns. Moreover, the transition of the Large-scale Social Restrictions period and micro–Community Activities Restrictions Enforcement also had a positive but not significant impact on the numbers of confirmed cases of COVID-19 and stock returns. So it can be concluded that certain policies during the COVID-19 pandemic significantly improved stock market performance. Thus, those restriction policies are considered as effective ones.

This result is in accordance with the research by He et al. [6] that the COVID-19 pandemic has had a positive impact on share prices on the Shenzhen Stock Exchange. Anh and Gan [24] also stated that return on equity (ROE) had a significant positive effect of 1% on Vietnam's stock performance during the pandemic. According to them, the lockdown period also had a significant positive effect on stock performance across markets and various business sectors in Vietnam. Narayan et al. [33] argued that stock prices in most countries reacted negatively during the early stages of COVID-19. However, when the country reached a certain number of infections and deaths, the market reaction was positive by 50% and indicated a possible market correction. According to Jamaani [10] , a financial policy intervention by the government during COVID-19 will produce more positive stock returns. Based on Harjoto and Rossi's [34] research, the positive impact of the COVID-19 pandemic on healthcare and telecommunications services for emerging markets and information technology for developed markets was supported by the results. Mushafiq [35] stated that COVID-19 has had a positive effect on stock prices and the pharmaceutical, food, and personal care product industries. Likewise, Rahman and Serletis [36] it was said that expansive monetary policy (such as the policy during the pandemic) is not conventionally effective in stimulating the stock market because this policy has a positive and statistically significant impact on stock returns.

Unlike the case with the Large-scale Social Restrictions and Community Activities Restrictions Enforcement Level 3 and 4 policies, the daily increase in the number of confirmed COVID-19 cases is significantly negatively related to stock

returns on the Indonesia Stock Exchange (IDX). It means those policies did not improve stock returns or were ineffective. Thus, it can be concluded that certain policies during the COVID-19 pandemic have not been able to overcome the failure of stock market performance or the decline in stock returns. These results corroborate the research carried out by Anh and Gan [24] Found that COVID-19 had a strong and significant negative effect on the performance of various stock markets around the world. In addition, research by He et al. [27] stressed the number of cases infected with COVID-19 will affect the world stock market.

Table 9.
Regression results for models 1 to d. 6 for the impact of COVID-19 on the stock market.

Variable RS	Community Social Restriction Policy					
	Large-scale Social Restrictions	**The transition of Large-scale Social Restrictions**	**Community Activities Restrictions Enforcement**	**Micro Community Activities Restrictions Enforcement**	**Emergency Community Activities Restrictions Enforcement**	**Community Activities Restrictions Enforcement Level 3 and 4**
COV	-0.864	0.578	0.000	0.457	0.000	-0.463
RS1	-0.965	0.645	0.428	-0.688	0.849	0.638
MB	0.637	-0.598	-0.953	-0.753	-0.721	-0.470
CAP	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
CONS	0.000	0.000	0.000	0.000	0.000	0.000
Using a 5% significance rate						

4.3. The Impact of COVID-19 on Financial Decisions on Various Government Policies

Table 10 is the result of testing models 7 to 12 using fixed-effect panel data regression. The transition of Large-scale Social Restrictions and Community Activities Restrictions Enforcement levels 3 and 4 policies indicates that the daily increase in the number of confirmed cases of COVID-19 is not significantly positively related to the financial decisions of companies listed on the Indonesia Stock Exchange (IDX). It means both policies provided good results for financial decisions for companies, although they are not significant. This is because the Community Activities Restrictions Enforcement levels 3 and 4 policy was the longest policy, and the transition of Large-scale Social Restrictions was a policy of returning to normal, but still tightening. Thus, it has a good impact. This study result is in line with the research by Mezghani et al. [37] discovered dual causality between investor sentiment and financial market indices in optimistic or pessimistic situations, indicating that positive and negative financial market returns may influence Chinese investor sentiment. Therefore, it can be concluded that certain policies during the COVID-19 pandemic have significantly facilitated the financial decisions of companies on the IDX, especially in sectors experiencing rapid development, such as the health sector.

In Micro Community Activities Restrictions Enforcement, the daily increase in the number of confirmed cases of COVID-19 is significantly negatively related to the financial decisions of companies listed on the Indonesia Stock Exchange (IDX). Additionally, the daily increase in the number of confirmed cases of COVID-19 during Large-scale Social Restrictions, Community Activities Restrictions Enforcement, and emergency Community Activities Restrictions Enforcement policies was not significantly negatively related to the financial decisions of companies listed on the Indonesia Stock Exchange (IDX). This indicates that the companies' financial decisions were not highly influenced by the policies imposed by the government. These results corroborate the research conducted by Shaikh [11]. The number of new cases and deaths recorded every day due to COVID-19 has disrupted investor sentiment globally, and the market is experiencing unparalleled negative returns. As well as Jamaani [10] found that investors reacted negatively to the number of reported COVID-19 cases and that GFI policies did strengthen investors' expectations of policymakers' dedication. In addition, Mezghani et al. [37] found a dual causality between investor sentiment and financial market indices in an optimistic or pessimistic situation, indicating that positive and negative financial market returns have an effect on Chinese investor sentiment. Kakinuma [38] showed the movement of Bitcoin and Singaporean and Thai stocks during the crisis, where risk-averse investors should ensure that gold makes up a significant proportion of their portfolio. Al-Qudah and Houcine [39] also confirmed that fear among investors turned out to be a transmission channel for the impact of the COVID-19 outbreak on the stock market. Therefore, the conclusion is that certain policies during the COVID-19 pandemic significantly or not significantly interfered with the financial decisions of companies on the IDX.

Table 10.
Regression results for models 7 to d. 12 for the impact of covid-19 on financial decisions.

Variable PER	Community Social Restriction Policy					
	Large-scale Social Restrictions	The transition of Large-scale Social Restrictions	Community Activities Restrictions Enforcement	Micro Community Activities Restrictions Enforcement	Emergency Community Activities Restrictions Enforcement	Community Activities Restrictions Enforcement level 3 and 4
COV	-0.760	0.122	-0.176	-0.039	-0.572	0.926
PER1	0.000	0.000	0.000	0.000	0.000	0.000
MB	-0.000	-0.000	0.000	-0.000	0.000	0.000
CAP	0.860	-0.911	0.893	0.979	-0.950	0.940
CONS	-0.989	0.570	0.987	0.833	0.677	0.657
Using a 5% significance rate						

5. Concluding

This study examines the impact of COVID-19 during the government's social restrictions policy on daily stock returns and financial decisions from 59,987 observations across companies listed on the Indonesia Stock Exchange during the policy period from 2020 to 2021. Using a fixed effect data regression model panel, this study confirms that the daily increase in the number of confirmed COVID-19 cases has a positive impact on daily stock returns in several social distancing policies such as the transition of Large-scale Social Restrictions, Community Activities Restrictions Enforcement, Micro Community Activities Restrictions Enforcement, and Emergency Community Activities Restrictions Enforcement. Although there are policies such as Large-scale Social Restrictions and Community Activities Restrictions, Enforcement levels 3 and 4 had negative but not significant impacts. Likewise, at the time of financial decisions, the transition of Large-scale Social Restrictions and Community Activities Restrictions Enforcement levels 3 and 4 showed positive effects on the company's financial decisions, but there were four policies that disrupted the company's financial decisions even though they were not significant, such as Large-scale Social Restrictions, Community Activities Restrictions Enforcement, and Emergency Community Activities Restrictions Enforcement. Also, one micro PPKM policy was significantly negative. Therefore, it can be concluded that a fairly long and strict policy period in implementing community social restrictions is necessary for stock returns and financial decisions of companies listed on the IDX to be effective or, in other words, to increase, meaning that each policy has a different impact in terms of stock price returns and financial decisions. The underlying reason for this finding is that the existence of a social restriction policy can at least help the performance of the stock market in returning shares and the company's interest in making corporate financial decisions. Therefore, to help the stock market overcome the COVID-19 crisis and recover sustainably, the government must be aggressive, such as extending the policy period and being stricter in terms of policy implementation to suppress the virus outbreak and increase investor confidence. Future research can conduct similar studies by adding interaction variables to bridge inconsistent results.

References

[1] H. Johns, "Forecasting the dynamics of cumulative COVID-19 cases (confirmed, recovered and deaths) for top-16 countries using statistical machine learning models: Auto-regressive integrated moving average (arima) and seasonal auto-regressive integrated moving average (SARIMA)," *Applied Soft Computing*, vol. 103, p. 107161, 2021.

[2] Wordometers, "The analysis of national health insurance for hospital daily patient visits during covid-19 in mother-child hospital"Putri" Surabaya, Indonesia," *Advancement in Management and Technology*, vol. 3, no. 1, pp. 33-37, 2022.

[3] S. S. Sangadji and T. Handriana, "The effect of consumption value on consumer changes behavior in usage of food delivery applications in the era of society 5.0," *International Journal of Data and Network Science*, vol. 7, no. 2, pp. 729-736, 2023. https://doi.org/10.5267/j.ijdns.2023.2.005

[4] A. M. Al-Awadhi, K. Alsaifi, A. Al-Awadhi, and S. Alhammadi, "Death and contagious infectious diseases: Impact of the COVID-19 virus on stock market returns," *Journal of behavioral and experimental finance*, vol. 27, p. 100326, 2020. https://doi.org/10.1016/j.jbef.2020.100326

[5] L. Alfaro, A. Chari, A. N. Greenland, and P. K. Schott, "Aggregate and firm-level stock returns during pandemics, in real time," National Bureau of Economic Research. https://doi.org/10.2139/ssrn.3562034, 2020.

[6] P. He, Y. Sun, Y. Zhang, and T. Li, "COVID–19's impact on stock prices across different sectors—an event study based on the chinese stock market," *Emerg. Mark. Financ. Trade*, vol. 56, no. 10, pp. 2198–2212, 2020. https://doi.org/10.1080/1540496X.2020.1785865

[7] D. Zhang, M. Hu, and Q. Ji, "Financial markets under the global pandemic of COVID-19," *Finance research letters*, vol. 36, p. 101528, 2020. https://doi.org/10.1016/j.frl.2020.101528

[8] A. H. Nguyen, D. T. Doan, and L. H. Nguyen, "Corporate governance and agency cost: Empirical evidence from Vietnam," *Journal of Risk and Financial Management*, vol. 13, no. 5, pp. 1-15, 2020. https://doi.org/10.3390/ijfs8020022

[9] A. L. Camba and A. C. Camba Jr, "The effect of Covid-19 pandemic on the Philippine stock Exchange, Peso-Dollar rate and retail price of diesel," *The Journal of Asian Finance, Economics and Business*, vol. 7, no. 10, pp. 543-553, 2020. https://doi.org/10.13106/jafeb.2020.vol7.no10.543.15

[10] F. Jamaani, "The single and joint effects of financial intervention policies introduced by governments and power distance culture on returns of equity markets during the COVID-19," *Cross Cultural & Strategic Management*, vol. 28, no. 4, pp. 918-955, 2021. https://doi.org/10.1108/CCSM-02-2021-0022

[11] I. Shaikh, "Impact of COVID-19 pandemic disease outbreak on the global equity markets," *Economic Research-Ekonomska Istraživanja,* vol. 34, no. 1, pp. 2317-2336, 2021. https://doi.org/10.1080/1331677X.2020.1863245

[12] A. Herwany, E. Febrian, M. Anwar, and A. Gunardi, "The influence of the COVID-19 pandemic on stock market returns in Indonesia stock exchange," *The Journal of Asian Finance, Economics and Business,* vol. 8, no. 3, pp. 39-47, 2021. https://doi.org/10.13106/jafeb.2021.vol8.no3.0039

[13] H. Liu, A. Manzoor, C. Wang, L. Zhang, and Z. Manzoor, "The COVID-19 outbreak and affected countries stock markets response," *International journal of environmental research and public health,* vol. 17, no. 8, p. 2800, 2020. https://doi.org/10.3390/ijerph17082800

[14] S. A. Al-Rjoub and H. Azzam, "Financial crises, stock returns and volatility in an emerging stock market: the case of Jordan," *Journal of economic studies,* vol. 39, no. 2, pp. 178-211, 2012. https://doi.org/10.1108/01443581211222653

[15] M.-H. Chen, S. S. Jang, and W. G. Kim, "The impact of the SARS outbreak on Taiwanese hotel stock performance: An event-study approach," *International journal of hospitality management,* vol. 26, no. 1, pp. 200-212, 2007. https://doi.org/10.1016/j.ijhm.2005.11.004

[16] R. Ichev and M. Marinč, "Stock prices and geographic proximity of information: Evidence from the Ebola outbreak," *International Review of Financial Analysis,* vol. 56, pp. 153-166, 2018. https://doi.org/10.1016/j.irfa.2017.12.004

[17] A. F. Wagner, "What the stock market tells us about the post-COVID-19 world," *Nature Human Behaviour,* vol. 4, no. 5, pp. 440-440, 2020. https://doi.org/10.1038/s41562-020-0869-y

[18] C. C. Ngwakwe, "Effect of COVID-19 pandemic on global stock market values: a differential analysis," *Acta Universitatis Danubius. Œconomica,* vol. 16, no. 2, pp. 255-269, 2020.

[19] G. L. Kaminsky and C. M. Reinhart, *The center and the periphery: The globalization of financial turmoil*. Cambridge, Mass., USA: National Bureau of Economic Research 2003.

[20] A. Pavlova and R. Rigobon, "Asset prices and exchange rates," *The Review of Financial Studies,* vol. 20, no. 4, pp. 1139-1180, 2007.

[21] F. Allen and A. Babus, "Networks in finance in network challenge: strategy, profit and risk in interlinked world," *Network-Based Strateg Competencies,* p. 20, 2009.

[22] L. Prorokowski, "Trading strategies of individual investors in times of financial crisis: An example from the Central European emerging stock market of Poland," *Qualitative Research in Financial Markets,* vol. 3, no. 1, pp. 34-50, 2011. https://doi.org/10.1108/17554171111124603

[23] S. Parveen, Z. W. Satti, Q. A. Subhan, N. Riaz, S. F. Baber, and T. Bashir, "Examining investors' sentiments, behavioral biases and investment decisions during COVID-19 in the emerging stock market: a case of Pakistan stock market," *Journal of Economic and Administrative Sciences,* vol. 39, no. 3, pp. 549-570, 2021. https://doi.org/10.1108/jeas-08-2020-0153

[24] D. L. T. Anh and C. Gan, "The impact of the COVID-19 lockdown on stock market performance: evidence from Vietnam," *Journal of Economic studies,* vol. 48, no. 4, pp. 836-851, 2021. https://doi.org/10.1108/JES-06-2020-0312

[25] R. P. Utama, "Capital market reaction to the Covid-19 pandemic (case study on LQ45 index companies on the Indonesian Stock Exchange)," *Reaksi Pasar Modal Terhadap Pandemi Covid-19 (Studi Kasus Pada Perusahaan Indeks LQ45 di Bursa Efek Indonesia),* vol. 1, no. 1, pp. 43-53, 2021. https://doi.org/10.62394/projmb.v1i1.11.16

[26] Y. Jiang *et al.*, "H7N9 not only endanger human health but also hit stock marketing," *Advances in disease control and prevention,* vol. 2, no. 1, p. 1, 2017. https://doi.org/10.25196/adcp201711

[27] Q. He, J. Liu, S. Wang, and J. Yu, "The impact of COVID-19 on stock markets," *Economic and political studies,* vol. 8, no. 3, pp. 275-288, 2020. https://doi.org/10.1080/20954816.2020.1757570

[28] S. Nippani and K. M. Washer, "SARS: a non-event for affected countries' stock markets?," *Applied Financial Economics,* vol. 14, no. 15, pp. 1105-1110, 2004. https://doi.org/10.1080/0960310042000310579

[29] B. N. Ashraf, "Stock markets' reaction to COVID-19: Cases or fatalities?," *Research in international business and finance,* vol. 54, p. 101249, 2020. https://doi.org/10.1016/j.ribaf.2020.101249

[30] F. Aslam, Y. T. Mohmand, P. Ferreira, B. A. Memon, M. Khan, and M. Khan, "Network analysis of global stock markets at the beginning of the coronavirus disease (Covid-19) outbreak," *Borsa Istanbul Review,* vol. 20, pp. S49-S61, 2020. https://doi.org/10.1016/j.bir.2020.09.003

[31] T. Bansal, "Behavioral finance and COVID-19: cognitive errors that determine the financial future," *Available at SSRN 3595749,* 2020.

[32] M. Statman, S. Thorley, and K. Vorkink, "Investor overconfidence and trading volume," *The Review of Financial Studies,* vol. 19, no. 4, pp. 1531-1565, 2006. https://doi.org/10.1093/rfs/hhj032

[33] P. K. Narayan, D. H. B. Phan, and G. Liu, "COVID-19 lockdowns, stimulus packages, travel bans, and stock returns," *Finance research letters,* vol. 38, p. 101732, 2021. https://doi.org/10.1016/J.FRL.2020.101732

[34] M. A. Harjoto and F. Rossi, "Market reaction to the COVID-19 pandemic: evidence from emerging markets," *International Journal of Emerging Markets,* vol. 18, no. 1, pp. 173-199, 2023. https://doi.org/10.1108/IJOEM-05-2020-0545

[35] M. Mushafiq, "Industry-level analysis of COVID-19's impact in emerging markets–evidence from Pakistan," *International Journal of Emerging Markets,* vol. 18, no. 10, pp. 3437-3461, 2023. https://doi.org/10.1108/IJOEM-11-2020-1417

[36] S. Rahman and A. Serletis, "Unconventional monetary policy and the stock market," *Journal of Economics and Finance,* vol. 47, no. 3, pp. 707-722, 2023. https://doi.org/10.1007/s12197-023-09624-z

[37] T. Mezghani, M. Boujelbène, and M. Elbayar, "Impact of COVID-19 pandemic on risk transmission between googling investor's sentiment, the Chinese stock and bond markets," *China Finance Review International,* vol. 11, no. 3, pp. 322-348, 2021. https://doi.org/10.1108/CFRI-08-2020-0120

[38] Y. Kakinuma, "Nexus between Southeast Asian stock markets, bitcoin and gold: Spillover effect before and during the COVID-19 pandemic," *Journal of Asia Business Studies,* vol. 16, no. 4, pp. 693-711, 2022. https://doi.org/10.1108/JABS-02-2021-0050

[39] A. A. Al-Qudah and A. Houcine, "Stock markets' reaction to COVID-19: Evidence from the six WHO regions," *Journal of Economic Studies,* vol. 49, no. 2, pp. 274-289, 2021. https://doi.org/10.1108/JES-09-2020-0477