Analysis of Factors Affecting Stock Return in the Middle of the Covid-19 Pandemic

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Abstract:

Purpose: *Covid is an infectious disease that was originally discovered in late 2019 in China and was discovered on March 2, 2020 in Indonesia. These infectious diseases are very difficult to control and have a bad impact on all sectors of the economy, especially the capital market.*

Design/Methodology/Approach: *Therefore, researchers are interested in examining the relationship between Covid cases and stock returns. The variables tested include daily Positive Confirmation, Death Confirmation, LMCAP (Natural Log Market Capitalization) and BTM (Book To Market). This research method uses quantitative methods sourced from secondary data obtained from IDX.*

Findings: *From the results of tests that have been carried out, the daily positive confirmation variables, Covid deaths, and recovery confirmations have a significant negative effect, while the LMCAP and BTM variables have a significant positive effect.*

Practical Implications: *The impact of Covid-19 cannot be denied, it also has an impact on the decline in stock prices, especially cyclical stocks or issuers that are vulnerable to business cycles and are closely tied to economic conditions.*

Originality/Value: *Confirmed cases of Covid-19 have a significant detrimental effect on stock returns. The results of the increase in confirmed cases and deaths experienced a significant decline.*

Keywords: *Covid deaths, recovery confirmations, LMCAP, BTM.*

JEL Classification: *G10, G14, G19.*

Paper type: *Research article.*

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1. Introduction

At the end of 2019 it was a bad year for the world with the Covid 19 pandemic announced by WHO (World Health Organization). Covid-19 was first discovered at an animal market in Wuhan, China. According to WHO (2020), COVID-19 spreads from person to person through tiny droplets from the nose or mouth that are spread when a person coughs or exhales.

These droplets then fall onto objects touched by others. The person then touches the eyes, nose, or mouth. The initial symptoms of Covid-19 are accompanied by flu, cough, to pneumonia. Covid-19 is a serious infectious disease that is still hotly discussed because the transmission process is so fast that anyone can be infected, especially the elderly.

The Covid-19 pandemic brought the worst economic crisis in 2020 to date, the economic injury due to the global crisis was worse than expected, because the Covid-19 pandemic was very complicated with large-scale social restrictions (PSBB) and caused all activities to stop.

This is due to the number of companies going bankrupt, employees being laid off, mall outlets being closed. As a result, the world economy is getting worse. According to the IMF (2020) in the WEO (World Economic Outlook) monetary data projects that the global economy will shrink by 3% in 2020, the worst since the great depression of the 1930s. The bad economy occurred in various countries, especially developed countries such as the United States, South Korea, Germany, and China.

The latest projections of the World Trade Organization (WTO) reveal that global trade volumes have fallen. Worse, the supply chain was damaged when factories were closed, workers were quarantined, consumption and spending levels dimmed.

For Indonesia, the current economic situation is not healthy. This is evidenced by the BPS (Central Statistics Agency) which recorded that economic growth in the first quarter (January-March) 2020 only grew 2.97%. Which means that this figure shows a slowdown from 4.97% in the fourth quarter of 2019. The growth is far below the achievement of the first quarter of 2019 which reached 5.07%. Then in the second quarter of 2020, Indonesia's economic growth rate was minus 5.32%.

The impact of Covid-19 cannot be denied also has an impact on the decline in stock prices, especially cyclical stocks or issuers that are vulnerable to business cycles and are closely tied to economic conditions (kompas.com, Kaleidoskop 2020; Grima *et al.,* 2020; Khan *et al.,* 2020).

Many companies are difficult to survive because of declining performance. Companies that have capital can survive by complying with health protocols, some cannot survive and take shortcuts by laying off a number of employees in order to

save the future of the business. Market participants rely on all information related to the company. Blocking information to prevent stocks from responding to shocks in the economy can increase or decrease demand for stocks (Pham *et al.,* 2022; Thalassinos and Thalassinos, 2006; Thalassinos and Politis, 2011).
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The spread of the virus directly affects public health and finance in various sectors affecting investor confidence (HaiYue Liu *et al.,* 2020). Investor sentiment affects investment decisions and therefore can affect stock prices (Wagner, 2020). Investors feel pessimistic about the prospects of investing in the stock market, so investors choose to sell shares at low prices due to the outbreak of infectious diseases (Baker *et al.,* 2020).

2. Literature Review

In conducting a study, of course, it cannot be separated from references or previous research to support and facilitate data collection. The previous studies used included the Covid-19 phenomenon that occurred in other countries including:

Al-Awadhi (2020) who examined the effect of the Covid 19 pandemic on the stock market in China, namely the Hang Seng Index and the Shanghai Stock Exchange Composite Index during the period 10 January to 16 March 2020 with the results of the Covid-19 pandemic interacting negatively with stock market returns. In particular, stock returns are significantly negatively related to daily growth in total confirmed cases and daily growth in total fatalities.

Ashraf (2020) analyzes the stock market response to the Covid-19 pandemic using daily confirmed Covid-19 case and death data as well as stock market returns data from 64 countries during the period 22 January 2020 to 17 April 2020 with stock market results responding negatively to increases Covid-19, which means stock market returns decrease as the number of confirmed cases increases in a country. Another finding is that the stock market's response is declining to the growth in the number of deaths due to Covid-19.

HaiYue Liu (2020) evaluates the short-term impact of the coronavirus outbreak on 21 leading stocks. Among them are markets in major affected countries including Japan, Korea, Singapore, United States of America, Germany, Italy, and United Kingdom, etc with the result that the Covid-19 outbreak has had a significant negative effect on stock market returns in all affected countries and regions affected.

(1) Two declines in the AAR and CAAR stock markets on the 1st and 24th days occurring inside and outside Asia.

(2) The stock markets of Asian countries reacted more quickly to the outbreak with some of them recovering slightly in the later stages of the pandemic.

(3) Confirmed Covid-19 cases have a significant detrimental effect on the performance of major stock indexes with those in Asia experiencing a larger decline in abnormal returns.

(4) Investors' fearful sentiment has proven to be a mediator and a complete transmission channel for the impact of the Covid-19 outbreak on the stock market.

Al Ali (2020) tested the influence of the World Health Organization (WHO) which declared Covid-19 as a global pandemic on stock market returns of the five largest stock markets in Asia, namely Shanghai SE, Nikkei 225, Bombay SE, Hang Seng Index, and South Korea KOSPI Composite. The index uses event study analysis and the mean-adjusted return method and the market model, the results show that the WHO announcement has a negative effect on market abnormal returns and there is a statistically significant difference between market returns before and after the announcement.

Scott R. Baker (2020) evaluates the effect of previous pandemics on the stock market and compares with the current state of the Covid 19 pandemic with the results that there are more than 1,100 daily stock market movements (up or down) greater than 2.5% from 1900 Until 2019. From the results of the research, researchers compared it with the 2020 pandemic, it turns out that the Spanish Flu in 1918-1919 had a small effect on the US economy.

The influenza pandemic of 1957-1958 left a weak mark on the economy and the 1968 pandemic left no clear trace. Conclusions from comparisons of 1918-1919, 1957-1958, and 1968 show that the stock market reaction was unprecedented like the current Covid-19 pandemic. Even though the death rate from Covid-19 is only 1/14 of the death rate during the Spanish Flu. The influenza pandemics of 1957-1958 and 1968 also involved a higher death rate than Covid-19 to date.

Omair Haroon (2020) analyzes the relationship between the sentiment generated by news related to the coronavirus and the volatility of equity markets with the result that the panic generated by news outlets associated with increased volatility in financial markets around the world has a stronger influence so that financial markets are hit by the pandemic event. this.

Mert Topcu (2020) examines the impact of COVID-19 on the stock markets of 26 emerging markets listed on Morgan Stanley Capital International (MSCI). The emerging markets in the analysis include the following countries: Argentina, Brazil, Chile, China, Colombia, Czech Republic, Egypt, Greece, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Pakistan, Peru, Philippines, Poland, Qatar, Russia , Saudi Arabia, South Africa, Taiwan, Thailand, Turkey and the United Arab Emirates during the period 10 March - 30 April 2020 with the result that the negative impact of the outbreak on emerging market stock markets gradually declined and began to diminish in mid-April.

When these countries are considered with respect to the region, emerging markets in Asia are worst hit while the impact is minimal in Europe. The study also found that the impact of the outbreak was relatively smaller in emerging markets where governments took the necessary actions in a timely manner and announced larger stimulus packages.

Mohsin Ali (2020) investigates the reaction of global financial markets in terms of their downturn and volatility as the Coronavirus epicenter moved from China to Europe and then to the US with results showing that the situation became increasingly panicky and worsened rapidly, namely when the Corona virus moved from epidemic to pandemic. The situation is getting worse as the global spread has transcended geographical and continental boundaries, with even safer commodities like gold turning negative again as Covid-19 spreads to the US.

Ahmed S. Baig (2020) investigates the impact of the COVID-19 pandemic on the microstructure of the US equity market and explains the dynamics of liquidity and volatility through an index that captures the various dimensions of the pandemic with the result that confirmed cases and deaths from the coronavirus have decreased significantly to liquidity and stability. market. Similarly, public fear and the imposition of restrictions and lockdowns appear to contribute to market liquidity and instability.

Dinh Hoang Bach Phan (2020) analyzes how the most active financial indicator i.e., stock prices react in real-time to various stages in the evolution of Covid-19 and observes how each of the country's 25 stock markets (proxied by price returns) reacts to Covid-19 infections and deaths.

According to the researcher, Covid-19 was the single most devastating event on the stock market as most of the market slack was due to the travel ban (lockdown). The results of the research revealed that during the early stages stock prices in most countries reacted negatively with time. because countries reached 100,000 infections and 100 deaths.

3. Research Methods

In a study, of course, there is a relationship between one variable and other variables that have an effect on each other. Interest Variables and Moderating Variables have an influence on the Dependent Variable which is the material for testing estimates and testing the linear regression model of the data.

The researcher connects the dependent variable, namely stock returns. To determine the effect between variables, the interest variable is used. The interest variable focuses on daily growth (daily data confirmation of transmission, death, and recovery from Covid-19), while the control variables are daily market capitalization, and daily book to market.

To get the results of the linear regression test, the moderating variable is used. The moderating variable consists of the covid period, which is the beginning of the occurrence of covid-19 cases in Indonesia until now, when researchers conduct research. If entered into linear form is as follows:

$$R_{i,t} = \beta_0 + \beta_1 \text{ Covid19}_{t-1} + \beta_2 \text{ LMCAP}_{i,t-1} + \beta_4 \text{ BTM}_{i,t-1} + \text{Error}_{i,t} \tag{1}$$

$$R_{i,t} = \beta_0 + \beta_1 \text{ Covid19}_{t-1} + \beta_2 \text{ Covid19}_{t-1}*\text{Bulan} + \beta_3 \text{ LMCAP}_{i,t-1} + \beta_4 \text{ BTM}_{i,t-1} + \text{Error}_{i,t} \tag{2}$$

Where:

$R_{i,t}$: Return of stock i on day t with the formula $R_{i,t}$

Covid-19 t-1 : PCovid-19 t-1, KCovid-19 t-1, or SCovid-19 t-1

PCovid-19 t-1 : Natural log Confirmation of positive cases of Covid-19 in Indonesia on day t-1

KCovid-19 t-1 : Natural log Confirmation of death cases due to Covid-19 in Indonesia

SCovid-19 t-1 : Natural log Confirmation of cases of death due to Covid-19 in Indonesia

Month: Month1, Month2, or Month3

Month1 : Dummy variable which is worth 1 if observation carried out in the first 1 month in the period 2 March 2020 – March 2, 2021.

Month2 : Dummy variable which is worth 1 if observation carried out in the first 2 months of the March 2 period 2020 – March 2, 2021.

Month 3: Dummy variable which is worth 1 if observation carried out in the first 3 months of the March 2 period 2020 – March 2, 2021.

LMCAPi, t-1 : Natura log Market Capitalization of stock i on day t-1

BTMi, t-1 : Book to Market stock i on day t-1 (Table 1).

Table 1. *Variable Description*

No.	Variable	Proxies	Hypothesis
1.	$R_{i,t}$	$R_{i,t}$ The stock price on day T-1 minus the stock price on day T-1 divided by the stock price on day T-1	N/A
2.	Covid-19	*Covid-19 Natural log Daily cases confirmed Covid-19 cases in Indonesia*	*Negative (Growth in number of patients or number of deaths) Positive (Growth of*

			*healing)*kematian)
3.	Covid19$_{t-1}$*Month	Covid19t-1*Month Interaction between Daily natural log cases confirming Covid-19 cases with Dummy for the first 1, 2, or 3 months in the period 2 March 2020 – 2 March 2021	Negative
4.	LMCAP	*Daily natural log market capitalization*	Negative
5.	BTM	*Daily book to market*	Negative

Source: *Own study.*

4. Results and Discussion

This study uses the multiple linear regression analysis method to determine the relationship between the variables of daily positive Covid confirmation, daily confirmation of death cases, Natural log Market Capitalization and Book To Market on stock returns.

In this study which H1: serves to find out how the effect of the interaction of Confirmed Cases, both Positive Cases, Death Cases, Recovery on stock returns, H2: serves to find out how the effect of Confirmed Cases, both Positive Cases, Death Cases, Recovery on stock returns, especially in the first 1,2, and 3 months when the Covid-19 occurred in Indonesia. The parameters of the hypothesis test are described as follows:

H1 → $R_{i,t} = \beta_0 + \beta_1 \text{ Covid19}_{t-1} + \beta_2 \text{ LMCAP}_{i,t-1} + \beta_4 \text{ BTM}_{i,t-1} + \text{Error}_{i,t}$

H2 → $R_{i,t} = \beta_0 + \beta_1 \text{ Covid19}_{t-1} + \beta_2 \text{ Covid19}_{t-1}*\text{Bulan} + \beta_3 \text{ LMCAP}_{i,t-1} + \beta_4 \text{ BTM}_{i,t-1} + \text{Error}_{i,t}$

The hypothesis testing using regression analysis is presented in Table 2.

Table 2. *Hypothesis Testing Regression Analysis 1*

Variabel	Daily Positive Case	Daily Death Case	Daily Healing Case
PCovid19$_{t-1}$	-0,3285749 (0,000)	-	-
KCovid19$_{t-1}$	-	- 0,4058528 (0,000)	-
SCovid19$_{t-1}$	-	-	-0,2020491 (0,000)
LMCAP$_{i,t-1}$	0,9276105 (0,000)	0,9723552 (0,000)	0,9720906 (0,000)
BTM$_{i,t-1}$	0,2997164 (0,000)	0,2999094 (0,000)	0,300188 (0,000)
Constant	-30,09198 (0,000)	-30,84984 (0,000)	-31,13265 (0,000)
F-Stat	0,0000	0,0000	0,0000
Adj. R^2	0,0127	0,000	0,0125

Source: *Own study.*

4.1 Positive Case Variable Regression Test due to Covid-19

In this study, researchers conducted a regression test by running the hypothesis twice because positive confirmation cases, death cases, and confirmed cases of recovered victims could not be run simultaneously because there was multicollinearity where the value of vif exceeded 5.00. Here's the regression equation:

$R_{i,t} = -30,09198 + -0,3285749_{t-1} + 0,9726105_{i,t-1} + 0,2997164_{i,t-1} + Error_{i,t}$

In the regression equation above, it shows that the Covid or PCovid19 confirmation variable has a negative coefficient of -0.3285749 with a probability of 0.000, which means that there is a negative and significant relationship. This shows that it is true that the positive confirmation of Covid has a negative impact on stock returns.

In accordance with the findings of Al-Awadhi (2020) the level of stock returns is significantly negatively related to daily growth in the total confirmed cases and daily growth and other journals. Furthermore, the LMCAP variable in this study has a coefficient value of 0.9726105 with a probability of 0.000 which means that the variable has a positive and significant coefficient that is not in accordance with the desired hypothesis, where LMCAP should have a negative coefficient value.

Then the BTM variable has a coefficient value of 0.2997164 with a probability of 0.000 which means it has a positive and significant coefficient value which is also not in accordance with expectations. That means, the LMCAP and BTM variables here do not prove a negative influence on stock returns during the covid-19 pandemic. This happened because of the possibility that not all stocks in the COVID-19 pandemic crisis experienced a decline in several sectors such as the pharmaceutical and technology sectors, which actually rose during the pandemic.

4.2 Variable Regression Test for Death Cases due to Covid-19

Furthermore, the regression test for confirmation of death cases caused by Covid-19 or KCovid-19 based on Table 2 the regression equation is as follows:

$R_{i,t} = \mathbf{-30,84984} + \mathbf{-0,4058528}_{t-1} + 0,9723552_{i,t-1} + 0,2999094_{i,t-1} + Error_{i,t}$

The linear regression equation above shows that the confirmation of death cases or KCovid19 has a negative coefficient of -0.4058528 with a probability of 0.000 which means that there is a negative and significant relationship.

LMCAP variable with a coefficient value of 0.9723552 and a probability value of 0.000 which means it has a positive and significant coefficient value. The BTM variable with a value of 0.2999094 and a probability value of 0.000 which means it has a positive and significant coefficient value. Judging from the KCovid19 variable, it is proven that this variable proves that cases of confirmation of death caused by

Covid-19 do have a negative influence on stock returns in Indonesia, this is in accordance with Al-Awadhi's findings (2020) that confirmation of death caused by COVID-19 have a negative impact on stock returns. Then for the LMCAP and BTM variables, there is no evidence that these two variables have a negative effect on stock returns.

4.3 Variable Regression Test for Healing from Covid19

Furthermore, the confirmation regression test for victims who recovered from covid-19 or SCovid19 based on Table 2 the regression equation is as follows:

$$R_{i,t} = -31,13265, + -0,2020491_{t-1} + 0,9720906_{i,t-1} + 0,300188_{i,t-1} + \text{Error}_{i,t}$$

The regression equation above shows that the confirmation of victims who recovered from Covid or SCovid19 has a negative coefficient of -0.2020491 with a probability of 0.000 which means that there is a negative and significant relationship. LMCAP variable with a coefficient value of 0.9720906 with a probability of 0.000 which means it has a positive and significant coefficient value.

In addition, the BTM variable has a coefficient value of 0.300188 with a probability of 0.000 which means it has a positive and significant coefficient value. Judging from the SCovid19 variable, it shows that overall confirmed cases of recovered victims still have a negative impact on stock returns. Then for the LMCAP and BTM variables, there is no evidence that these two variables have a negative effect on stock returns.

In the regression analysis of the 2nd hypothesis test, the researcher separated the periods to find out how the influence of the variables on stock returns in each period including Month 1, Month 2, and Month 3 throughout the period March 2020 - March 2021.

Researchers do several runs separately, for the confirmed case of covid itself, it cannot be run simultaneously due to multicollinearity. Therefore, the researchers carried out running one by one the confirmed cases of Covid. The regression model is described as follows:

1st month: H2 → $R_{i,t} = \beta_0 + \beta_1 \text{Covid19}_{t-1} + \beta_2 \text{Covid19}_{t-1} * \text{Bulan1} + \beta_3 \text{LMCAP}_{i,t-1} + \beta_4 \text{BTM}_{i,t-1} + \text{Error}_{i,t}$

Variabel	Daily Positive Case	Daily Death Case	Daily Healing Case
PCovid19 $_{t-1}$	-0,3659223 (0,00)	-	-
KCovid19 $_{t-1}$	-	0,4333911 (0,00)	-
SCovid19 $_{t-1}$	-	-	0,240782 (0,000)
PCovid19 $_{t-1}$*Month1	-0,117603 (0,107)	-	-
KCovid19 $_{t-1}$*Month1	-	-0,2667546 (0,052)	-
SCovid19 $_{t-1}$*Month1	-	-	-0,7590914 (0,000)
LMCAP $_{i,t-1}$	0,9726464 (0,00)	0,9722158 (0,00)	0,972036 (0,00)
BTM $_{i,t-1}$	0,2998154 (0,00)	0,3002498 (0,00)	0,3005152 (0,00)
Constant	-29,78185 (0,00)	-30,70547 (0,00)	-3005152 (0,00)
F-Stat	0,0000	0,0000	0,0000
Adj. R^2	0,0127	0,0126	0,0127

Source: *Own study.*

1st Month Positive Case Regression Analysis:

In the regression equation above, the positive case variable has a negative coefficient value of -0.3659223 with a probability of 0.000 which means it has a negative and insignificant coefficient value. The Positive First Month Covid variable has a coefficient value of -0.117603 with a probability of 0.107, which means it has a negative and insignificant value.

The LMCAP variable has a coefficient value of 0.9726464 with a probability of 0.000. Which means it has a positive and significant coefficient value. Then the BTM variable with a coefficient of 0.2998154 and a probability of 0.000 which means it has a positive and significant coefficient value.

1st Month Death Case Regression Analysis:

In the regression equation above, the Death Case variable has a negative coefficient value of -0.4333911 with a probability of 0.000 which means it has a negative and significant coefficient value. The second month Death Case variable has a coefficient value of -0.0340215 with a probability of 0.000 which means it has a negative coefficient value with a significant probability.

The LMCAP variable has a coefficient value of 0.9702228 with a probability of 0.000. Which means it has a positive and significant coefficient value. Then the BTM variable with a coefficient of 0.3029414 and a probability of 0.000 which means it has a positive and significant coefficient value.

1st Month Healing Regression Analysis:

In the regression equation above, the Healing variable has a negative coefficient value of -0.240782 with a probability of 0.000 which means it has a negative and significant coefficient value. The second month healing variable has a coefficient value of -0.7590914 with a probability of 0.000 which means it has a negative coefficient value with a significant probability. The LMCAP variable has a

coefficient value of 0.9720367 with a probability of 0.000. Which means it has a positive and significant coefficient value. Then the BTM variable with a coefficient of 0.3005152 and a probability value of 0.000 which means it has a positive and significant coefficient value.

2nd Month Hypothesis Regression:

H2 → $R_{i,t} = \beta_0 + \beta_1 Covid19_{t-1} + \beta_2 Covid19_{t-1}*Bulan2 + \beta_3 LMCAP_{i,t-1} + \beta_4 BTM_{i,t-1} + Error_{i,t}$

Variabel	Daily Positive Case	Daily Death Case	Daily Healing Case
$PCovid19_{t-1}$	-0,45923 (0,000)	-	-
$KCovid19_{t-1}$	-	-0,500547 (0,000)	-
$SCovid19_{t-1}$	-	-	-0,240782 (0,000)
$PCovid19_{t-1}*Bulan2$	-0,2374169 (0,000)	-	-
$KCovid19_{t-1}*Bulan2$	-	-0,3750685 (0,000)	-
$SCovid19_{t-1}*Bulan2$	-	-	0,7590914 (0,00)
$LMCAP_{i,t-1}$	0,9722747 (0,000)	0,9717684 (0,000)	0,9720367 (0,000)
$BTM_{i,t-1}$	0,300701 (0,000)	0,3010884 (0,000)	0,3005152 (0,000)
Constant	-28,9435 (0,000)	-30,32174 (0,000)	-30,81625 (0,000)
F-Stat	0,0000	0,0000	0,0000
Adj. R^2	0,0129	0,0127	0,012

Source: *Own study.*

2nd Month Positive Case Regression Analysis:

In the regression equation above, the positive case variable has a negative coefficient value of -0.459423 with a probability of 0.000 which means it has a negative coefficient value with a significant probability. The Third Month Positive Covid variable has a coefficient value of -0.2374169 with a probability of 0.782 which means it has a negative coefficient value with an insignificant probability.

The LMCAP variable has a coefficient value of 0.9722747 with a probability of 0.000. Which means it has a positive and significant coefficient value. Then the BTM variable with a coefficient of 0.300701 and a probability of 0.000 which means it has a positive and significant coefficient value.

2nd Month Death Case Regression Analysis:

In the regression equation above, the Death Case variable has a negative coefficient value of -0.50547 with a probability of 0.000 which means it has a negative and significant coefficient value. The third month Death Case Period variable has a coefficient value of -0.3750686 with a probability of 0.000 which means it has a negative coefficient value with a significant probability.

The LMCAP variable has a coefficient value of 0.9717684 with a probability of 0.000. Which means it has a positive and significant coefficient value. Then the BTM variable with a coefficient of 0.3010884 and a probability of 0.000 which means it has a positive and significant coefficient value.

2nd Month Healing Regression Analysis:

In the regression equation above, the positive case variable has a coefficient value of -0.2756688 with a probability of 0.000 which means it has a negative and significant coefficient value. The third month healing variable has a coefficient value of 0.3831605 with a probability of 0.000 which means it has a positive coefficient value with an insignificant probability. The LMCAP variable has a coefficient value of 0.9717306 with a probability of 0.000. Which means it has a positive and significant coefficient value. Then the BTM variable with a coefficient of 0.3010807 and a probability value of 0.000 which means it has a positive and significant coefficient value.

3rd Period Hypothesis Regression:

H2 → $R_{i,t} = \beta_0 + \beta_1 \text{Covid19}_{t-1} + \beta_2 \text{Covid19}_{t-1} * \text{Bulan3} + \beta_3 \text{LMCAP}_{i,t-1} + \beta_4 \text{BTM}_{i,t-1} + \text{Error}_{i,t}$

Variable	Daily Positive Case	Daily Death Case	Daily Healing Case
PCovid19$_{t-1}$	-0,453726(0,00)	-	-
KCovid19$_{t-1}$	-	-0,5074609(0,00)	-
SCovid19$_{t-1}$	-	-	-0,2523849 (0,000)
PCovid19$_{t-1}$*Bulan3	-0,171534(0,00)	-	-
KCovid19$_{t-1}$*Bulan3	-	-0,2710418 (0,00)	-
SCovid19$_{t-1}$*Bulan3	-	-	0,1752772 (0,00)
LMCAP$_{i,t-1}$	0,971774(0,000)	0,9715101 (0,000)	0,9714224 (0,000)
BTM$_{i,t-1}$	0,3015664(0,00)	0,3015738 (0,000)	0,3015322 (0,000)
Constant	-28,94032 (0,00)	-30,26142 (0,000)	-30,64224 (0,00)
F-Stat	0,0000	0,0000	0,0000
Adj. R^2	0,0128	0,0127	0,0126

Source: *Own study.*

3rd Month Positive Case Regression Analysis:

In the regression equation above, the positive case variable has a negative coefficient value of -0.4537266 with a probability of 0.000 which means it has a negative coefficient value with a significant probability. The Third Month Positive Covid variable has a coefficient value of -0.1715347 with a probability of 0.782 which means it has a negative coefficient value with an insignificant probability.

The LMCAP variable has a coefficient value of 0.971774 with a probability of 0.000. Which means it has a positive and significant coefficient value. Then the BTM variable with a coefficient of 0.3015664 and a probability of 0.000 which means it has a positive and significant coefficient value.

3rd Month Death Case Regression Analysis:

In the regression equation above, the Death Case variable has a negative coefficient value of -0.5074609 with a probability of 0.000 which means it has a negative and significant coefficient value. The third month Death Case Period variable has a coefficient value of -0.2710418 with a probability of 0.000 which means it has a negative coefficient value with a significant probability.

The LMCAP variable has a coefficient value of 0.9715101 with a probability of 0.000. Which means it has a positive and significant coefficient value. Then the BTM variable with a coefficient of 0.3015738 and a probability of 0.000 which means it has a positive and significant coefficient value.

3rd Month Healing Regression Analysis:

In the regression equation above, the positive case variable has a coefficient value of -0.2523849 with a probability of 0.000 which means it has a negative and significant coefficient value. The third month healing variable has a coefficient value of 0.1752772 with a probability of 0.000 which means it has a positive coefficient value with an insignificant probability.

The LMCAP variable has a coefficient value of 0.9714224 with a probability of 0.000. Which means it has a positive and significant coefficient value. Then the BTM variable with a coefficient of 0.3015322 and a probability value of 0.000 which means it has a positive and significant coefficient value.

Overall, the three variables, namely Positive Confirmation Case, Death Confirmation, and Confirmation of Healed Victims have a negative influence on stock returns.

Then for the Positive Confirmation Period Variable in the first month it gave an insignificant negative effect where the probability value exceeded the tolerance value, namely 0.107, but in the 2 and 3 month periods it experienced a significant effect where the probability value was below the tolerance value, namely 0.000.

Then Confirmation of Death has a significant negative effect on months 1,2 and 3, and the researcher finds that Confirmation of Healing still has a significant negative effect on stock returns for both months 1, 2, and 3 because the probability value is less than the tolerance value, which is 0.000.

This research is in line with Al-Ali's research (2020) that the WHO announcement has a negative effect on stock returns. Then this research is in line with Al-Awadhi (2020) that the early period of covid brought a more significant negative effect. Confirmed cases of Covid-19 have a significant detrimental effect on stock returns (Hai Yue Liu, 2020). The results of the increase in confirmed cases and deaths experienced a significant decline (Ahmed S. Baiq, 2020).

Market returns respond negatively to an increase in Covid cases, which means that stock market returns decrease as the number of confirmed cases increases in a country (Scott Baker, 2020). This is because there was a travel ban at the beginning of the COVID-19 outbreak or also called a lockdown, which could destroy the market due to leniency (Din Hoang Bach Phan, 2020).

5. Conclusion

Based on the results of the analysis and discussion above, the researchers obtained conclusions through research regarding the Analysis of Factors Affecting Stock Returns in the Middle of the Covid-19 Pandemic as follows:

The variable of the Daily Positive Confirmation caused by Covid-19 or PCovid-19 shows a negative and significant effect on stock returns. This means that the increase in daily positive cases caused by COVID-19 causes stock returns to decline. The variable of the Daily Death Confirmation caused by Covid-19 or KCovid-19 shows a negative and significant effect on stock returns.

This means that the increase in Death Cases caused by Covid-19 causes stock returns to decrease. The variable of the Daily Healing Confirmation caused by Covid-19 or SCovid-19 shows a negative and significant effect on stock returns. This means that the increase in Covid-19 Healing Confirmations still has a decreasing impact on stock returns.

Confirmation of Covid-19 from the First, Second, and Third Months shows that there is a negative and significant effect on stock returns. This means that the Positive Confirmation Cases, Daily Death Cases, until the Confirmation of Healing until the third month turned out to have a greater negative impact on stock returns. Variables from the Natural log Market Capitalization or LMCAP show a positive and significant effect.

This means that most of them experienced a crisis on stock returns during the pandemic. However, there are several sectors that did not experience a crisis during the pandemic. Variables from Book to Market or BTM showed positive and significant results. This means that most of them experienced a crisis on stock returns during the pandemic. However, there are some sectors that have not experienced a crisis during the pandemic.

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