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Effect of the Covid-19 Pandemic on Stock Market Return with Macro Indicators as Control Variable in Indonesia and Malaysia

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Abstract

This research aims to examine the positive COVID-19 variable, the COVID-19 death variable, the COVID-19 vaccination variable, and the currency exchange rate variable as a control variable for stock market returns in Indonesia and Malaysia. The population in the test is a combination of the main indexes of the Indonesian and Malaysian stock exchanges. Sample selection using a purposive sampling method. The analytical tool used in this study is multiple linear regression analysis with 104 observational data for the period 2021-2022. The test results show that the positive COVID-19 confirmation variable has no significant effect, the COVID-19 death confirmation variable has a significant positive effect, and the COVID-19 vaccination variable has no significant effect on stock market returns.

Keywords
positive confirmation of covid-19; confirmation of covid-19 death; covid-19 vaccination; exchange rate; stock market return

I. Introduction

The economic crisis is something that is feared by all countries in the world. An economic crisis is a condition in which the economy in a country experiences a drastic decline. In general, countries facing this situation will experience a decline in GDP (gross domestic product), falling property and stock prices, as well as price fluctuations due to inflation. This incident was very scary. Because, there will be many parties who will be harmed if there is an economic crisis in a country including Indonesia where Indonesia has historically experienced three economic crises, namely the monetary crisis in 1998 and 2008 and the global crisis in 2020 due to the spread of Coronavirus Disease 2019 (COVID-19). Coronavirus Disease 2019 (COVID-19) first appeared in Wuhan, China, at the end of 2019, before spreading around the world.

COVID-19 also has an impact on the Asia-Pacific region, including countries in the Asian region where the majority of the population is Muslim, including countries in Southeast Asia, namely Indonesia and Malaysia. Indonesia has a Muslim population of 229 million people (87.2%) of a total population of 273,879,750 as of December June 2022, and Malaysia has a Muslim population of 16,318,355 people (61.3%) of a total population of the 32,750,000. people as of June 2022, which illustrates that the population is Indonesia and Malaysia is the country with the largest Muslim majority population in Southeast Asia. The first detection of the positive COVID-19 virus was carried out on January 25, 2020, in Malaysia and on March 2, 2020 in Indonesia.

Various methods were taken by the government and the general public to combat the spread of the epidemic, including the closure of a large number of schools and the formation of religious organizations, the lockdown of several countries, and so on, to prevent the spread of the economic crisis. Preventive policies are effective to reduce newly

confirmed cases in countries that implement the measures with countries that do not implement preventive policies(Alfano and Ercolano 2020)as well as being able to provide positive economic growth for a country by using a mix of international and domestic policies (Conefrey et al. 2021).

The capital market serves as a barometer of a country's economic activity, as well as an indicator of the increasing volume of trade and transactions in the capital market, all of which indicate that business activities in various sectors are running smoothly given the increased return on equity in the securities in question. Similarly, if the activity and volume in the capital market increase, it is a clear indication that business activities in some or all sectors are not running as smoothly as indicated by a decrease in the value of a company's share price in the relevant market index. The results clearly show that the COVID-19 outbreak has resulted in huge losses and during the crisis, period showed increased volatility for all strategic indexes suggesting that the pandemic is having a long-lasting effect and will take time to fade on the Bombay Stock Exchange, India(Gupta, Das, and Gupta 2021).

The impact of the COVID-19 pandemic has also recorded the growth of daily positive confirmations as evidenced by the daily positive confirmation reports announced by each government to know the number of population in the country who are positively infected with the COVID-19 virus and aims as a form of responsibility of the local government to the public and has an impact to the optimism of Stock Market Return. Sihombing (2020) state that Covid-19 pandemic caused everyone to behave beyond normal limits as usual. The outbreak of this virus has an impact especially on the economy of a nation and Globally (Ningrum, 2020). The problems posed by the Covid-19 pandemic which have become a global problem have the potential to trigger a new social order or reconstruction (Bara, 2021). Positive Confirmation Variables have a negative hurt turns oil exploration and production companies, as well as the daily growth in the total number of Confirmed ones caused by COVID-19, has a significant negative effect on stock market returns and liquidity of the financial services sector in Vietnam (Chen, Hu, and Chang 2021; Nguyen, Hai, and Nguyen 2021).

Furthermore, in addition to positive confirmation in the recording, there is also confirmation of death as evidenced by daily death confirmation reports that are announced by each government to see the population impact caused by the number of deaths from COVID-19 and be able to provide an assessment of the progress of the mutation of the COVID-19 virus can signal market concerns over stock market activity in a country due to the number of deaths from the COVID-19 virus and impact the performance of Stock Market Returns due to the emergence of information that makes the market afraid to conduct buying and selling activities on the stock exchange. The death confirmation variable has a negative impahurtsn data from 64 countries where the stock market responds negatively to the increase in COVID-19(Ashraf, 2020). The Death confirmation variable shows that the monthly growth in total infected and total deaths caused by COVID-19 has a significant positive effect on Stock Market Return across digital companies (Ben-Ahmed, Ayadi, and Hamad 2021).

Furthermore, in addition to positive confirmation and confirmation of death, there is also a COVID-19 vaccination where vaccination aims to see the population impact that has been successfully given to the population in a country as evidenced by daily vaccination confirmation reports announced by each government and aims to provide communal immunity in a population where it will provide a signal of optimism and can restore investor confidence in controlling the COVID-19 virus in the country. The variable number of COVID-19 vaccinations has a strong and significant positive effect on the

return of the S&P 500 in most business cycle frequencies with a relationship in-phase (Khalfaoui et al. 2021).

In this study, using weekly COVID-19 confirmation data accumulation indicators in countries in the Southeast Asian region where the countries that will be selected are countries that have stock exchanges in that country with six countries that will become objects, namely: Indonesia and Malaysia where positive confirmation data will be taken from the Ministry of Health or the authorities responsible for handling the COVID-19 pandemic situation.

Second, using weekly closing price data for Stock Market Returns of all issuers in all of which the data to be taken is weekly closing accumulation data from a list of countries that have stock exchanges in that country with six countries that will become objects, namely: Indonesia, and Malaysia. Finally, daily vaccination data from the list of countries with two countries that will be objects, namely: Indonesia, and Malaysia were the last country to confirm the first vaccination will be used as the first database for the beginning of the research until early march 2022 and the data will be processed using the goodness of fit model assessment method, hypothesis testing, and classical assumption testing.

II. Review of Literature

2.1 Signaling Theory

Signaling theory suggests the importance of information released by the market in investing for investors. In simple terms, signals are activities taken by market activities or actions or actions that provide clues to investors about how the conditions or conditions in the market (Eugeune F and Joel F 2010). Signals can be used as a reference taken by investors to provide instructions for how investors view the prospectus or market conditions in a country where the better the market conditions, the stronger the positive signal of market activity in a country, the and stronger investor confidence to invest in the country. However, on the other hand, the lower the signal of market conditions, the weaker the positive signal of market activity in a country, and the more doubtful investors will h of confidence to invest in that country.

2.2 Adaptive Market Hypothesis

In particular, the Adaptive Market is derived from evolutionary principles. Prices reflect as much information as is dictated by a combination of environmental conditions and the number and nature of “species” in the economy or, to use a more precise biological term, ecology. (Lo Andrew 2004). AMH is based on the following basic principles:

1. People are motivated by their self-interest
2. They naturally make mistakes
3. They adapt and learn from these mistakes

AMH argues that most investors are not completely rational. They engage in satisfying behavior rather than maximizing behavior and develop heuristics for market behavior based on some sort of natural selection mechanism in the market (profit and loss). This causes the market to behave in a largely rational manner, under conditions in which the heuristic applies. But when major changes occur in the economy, the evolutionary environment of the market may change; Heuristics that were previously adaptable can turn into maladaptive. This means that towards the end of a period of smooth, stressful, or distorted change, the EMH may be inactive.

2.3 Stock Market Return

What is meant by "return" is the result of a day's investment activity which is intended to increase the amount of money invested on the previous day while reducing the amount of money invested on the previous day. This is done to reduce the amount of money invested in the previous day's investing activity while increasing the amount of money invested in investing activity the previous day. Returns are one of the factors that motivate investors to invest, and also serve as a deterrent for investors who are concerned about the risks associated with their investments (Tandelilin 2001). When an investor makes a successful investment in the stock market, the term "Stock Market returns" is used to describe the amount of money they get in return for their investment return the Stock Market can be found in every stock market in the world.

For the investment to be successful, investors will analyze the stock index on the stock exchange as soon as possible. This analysis will compare the current index price with the previous day's index price, then compare that value with the previous day's index price, to make a profit (return).

2.4 Exchange Rate

Exchange Rates (exchange rate) is the comparison of the value between two different currencies with the same value. A currency swap is the currency exchange rate of one unit of foreign currency for one unit of domestic currency or the currency exchange rate off the domestic currency relative to foreign currencies in the open market. Currency exchange rates are also known as "currency exchange rates"(Suseno 2004) Consequently, the local reference rate is the comparison of the reference rate for the currency of one country to the reference rate for the currency of another country. In addition, the reference rate is a check of the validity of any request or warning regarding local currency or foreign currency based on the reference rate for one trading day. Foreign exchange demand is affected by the following factors (Suseno 2004):

1. Factors that determine the amount of money that can be borrowed. As the prices of goods and services rise, so does the number of people who care about the value of the dollar. As a result, the value of the dollar goes up, and the value of the dollar goes down, the value of the dollar goes down. Similarly, if imports are delayed, the demand for foreign exchange is delayed, resulting in a depreciation of the exchange rate.
2. Capital outflow as a factor. As a result of an increase in the size of the capital outflow, there is also an increase in the size of the foreign exchange demand flow, which will eventually lead to exchange depreciation. Two examples of international trade agreements include the payment of the debt by a foreign government (either a government or a government agency) to a foreign government and the transfer of funds from a foreign government to a foreign government.
3. Speculative activities The increase in the number of currency speculative activities carried out by the financial sector increased the number of requests for information on currency speculative activities, which resulted in a decrease in the number of requests for information on currency speculative activities. This resulted in a decrease in the number of inquiries on currency speculative activity. The supply of foreign exchange is influenced

III. Research Method

In this study, the dependent variable is the stock market return. Based on the independent and dependent variables, the following equation can be arranged (Ghozali 2021):

REGRESSION MODEL 1:

Y1= a + b1X1+ b2X2+ b3X3+ e

This study uses two additional control variables, namely Currency Currency exchange rate(X4) as a comparison, so the following equation can be arranged:

REGRESSION MODEL 2:

Y1= a + b1X1+ b2X2+ b3X3+ b4X4+ e

Information:
Y1 = Stock Market Return
a = Constant
b = Regression coefficient
X1 = Positive Confirmation of COVID-19
X2 = Covid-19 Death Confirmation
X3 = Daily Vaccination for COVID-19
X4 = Currency Exchange Rate
e = standard error

3.1 Descriptive Statistics

Analytical methods were used to provide data in a standardized format during this study, while statistical methods were used to provide data in a randomized format during this study. The variance, maximum, minimum, magnitude (range of values), and kurtosis (shape of distribution) are all used to determine the skewness of the data (slope of distribution). It can be used to analyze large amounts of data, extract information from that data, and then present that information in the desired way for dissemination. This study discusses numerical methods that can be used to carry out the existing tasks (Ghozali 2021).

3.2 Classical Assumption Test

The data that has been collected during this research will be reviewed more thoroughly before hypothesis testing is carried out to eliminate erroneous assumptions. These tests are carried out, among others:

a. Normality Test

A normality test is a method to determine whether the residual distribution is normal or not. A good regression model has a normal residual distribution. This means that instead of looking at each variable, we are looking at the residual value of each variable. There should be normality in the residual values rather than in each individual the regression model. Normality test can be done by histogram test, P Plot normal test, Chi-Square test, Skewness and Kurtosis or Kolmogorov Smirnov test. The statistical test that can be used to

test the normality of the residuals is the Kolmogorov-Smirnov (KS) nonparametric statistical test. If the Kolmogorov-Smirnov results show a significant value above (> 0.05), then the residual data is normally distributed. Meanwhile, if the results of Kolmogorov Smirnov show a significant value (<0,05) (Ghozali 2021).

b. Multicollinearity Test

The multicollinearity test is a method used to determine whether or not there is a relationship between two variables in a linear regression model, known as the Multicollinearity Test. A good regression model will include variables that are not correlated with each other. Multicollinearity methods such as Variance Inflation Factor (VIF) and Variable Acceptance Capacity (VAC) are often used to evaluate multicollinearity (Ghozali 2021).

c. Heteroscedasticity Test

The heteroscedasticity test aims to determine whether the variance of a certain residual is correlated with the variance of other residuals in a regression model (Ghozali 2021). Saying that something is heterogeneous means that a sample of the general population in a given field can be used to construct a non-standardized version of the underlying pattern. These symptoms indicate a shift in the situation that is not predicted by the regression model.

d. Autocorrelation Test

This test was carried out to determine whether or not there is a correlation between users' t-period caloric intake and their t-1-period caloric intake in a given regression line model (Ghozali 2021). As a result of observations that take place over a certain period of time, autocorrelation is formed. This mix is the result of a lack of consistency from one observation to the next. Using a model that is free of autocorrelation is a great way to retrace someone's steps. To perform autocorrelation, the Durbin-Watson (DW) test can be used, which gives results based on the Durbin-Watson (DW) coefficient or the Run Test.

3.3 Hypothesis Test

The analytical multiple linear regression method was used to determine the effect of the COVID-19 pandemic on the controlling variables of Currency Exchange Rates and Interest Rates on Stock Market Returns in Indonesia and Malaysia (H1 to H3). As part of this research, the hypotheses used are F-statistics, t-statistics, and the Determinant Coefficient (F-statistics) (R2 Test).

a. F Statistic Test

F statistical analysis, in the form of simple questions, determines whether all variables included in a particular model have the same or different effects on the dependent and independent variables (Ghozali 2021). To test this hypothesis, we used the F statistic in conjunction with the following criteria to determine whether the experiment was completed or not:

b. T. Statistical Test

Statistical t-test, based on the data presented, shows that a large number of independent variables have unique consequences when the dependent variable is included (Ghozali 2021). The test was launched at a statistical significance level of 0.05 (or 5 percent).

c. Coefficient of Determination Test (R2)

Aiming to improve the model's ability to find the best fit for a variable (goodness of fit) by determining the coefficient of determination, we will see how far we can go in terms of model capability (R2). Consequently, in this context, the coefficient of determination (R2) is used to identify and evaluate the dependent variable by combining many of the most powerful statistical models available (Ghozali 2021). By definition, the coefficient of determination is divided into two categories, namely zero and one. A short R2 indicates that it has the ability to express complex variations of a single variable directly, and it is able to do so with the help of the relationship of the independent variables.

III. Discussion

4.1 Descriptive Statistics

In the previous descriptive statistical test, descriptive statistical tests cannot be used because during the normality test there have been deviations and the data is not normally distributed, then the data is eliminated by 3 outliers for non-variable control data with a sample research value of 101 data samples and 2 outliers for data with control variables with:

Table 1. Descriptive Statistics (Non-Control Variable)

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Market Return(Y)	101	-.41267	.70174	.0155032	.18866885
Positive(X1)	101	-.64654	3.63340	.0918448	.51628634
Death(X2)	101	-.55882	2.31148	.0813571	.47397421
Vaccine(X3)	101	-.39978	56.77361	.6912734	5.64372207
Valid N (listwise)	101				

Table 2. Descriptive Statistics (Control Variable)

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Market Return(Y)	102	-.60007	1.43405	.0333498	.24485571
Positive(X1)	102	-.62395	3.63340	.1376227	.59636097
Death(X2)	102	-.55882	2.31148	.0967896	.48508958
Vaccine(X3)	102	-.57792	56.77361	.7035215	5.61658920
Exchange Rate (X4)	102	-.60460	1.52903	.0330019	.24871037
Valid N (listwise)	102				

1. Table 1 and Table 2 show that the number of samples (N) studied was 101 samples for the non-control variable test and 102 samples for the control variable test for the research object in Indonesia and Malaysia from 2021 to 2022.
2. The average positive value for the non-variable control test with research objects in Indonesia and Malaysia during the years 2021-2022 is 0.918448 and 0.1376227 for the positive average value test with the control variable. The minimum Positive value

for the non-variable control test with research objects in Indonesia and Malaysia during the years 2021-2022 is -0.64654 and -0.62395 for the Positive minimum value test with the control variable. The maximum Positive value for the non-variable control test with research objects in Indonesia and Malaysia during the years 2021-2022 is 3.63340 and 3.63340 for the Positive maximum value test with the control variable. The positive mean value which is smaller is 0.0918448 than the standard deviation value of 0.

3. The average value of death for the non-variable control test with research objects in Indonesia and Malaysia during the years 2021-2022 is 0.0813571 and 0.0967896 for the test of the average value of death with the control variable. The minimum Death value for non-variable control tests with research objects in Indonesia and Malaysia during 2021-2022 is -0. 55882 and -0. 55882 to test the minimum value of Death with the control variable. The maximum value of Death for the non-variable control test with research objects in Indonesia and Malaysia during the years 2021-2022 is 2.31148 and 2.31148 for the test of the maximum Death value with the control variable. The smaller Death average value is 0.0813571 from the standard deviation value of 0.
4. The Vaccine Average Value for the non-variable control test with research objects in Indonesia and Malaysia during the years 2021-2022 is 0.6912734 and 0.7035215 for the Vaccine average value test with the control variable. The minimum value of Vaccine for non-variable control tests with research objects in Indonesia and Malaysia during 2021-2022 is -0. 39978 and -0. 57792 for the Vaccine minimum value test with the control variable. The maximum value of Vaccine for the non-variable control test with research objects in Indonesia and Malaysia during the years 2021-2022 is 56,77361 and 56,77361 for the maximum value test of Vaccine with the control variable. The smaller Vaccine mean value is 0.6912734 from the standard deviation value of 5.

4.2 Normality Test

Table 3. Normality Test after Outlier

One-Sample Kolmogorov-Smirnov Test (Non-Control Variable)		
		Unstandardized Residual
N		101
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	.13067235
Most Extreme Differences	Absolute	.079
	Positive	.044
	Negative	-.079
Test Statistic		.079
Asymp. Sig. (2-tailed)		.122[c]
a. Test distribution is Normal.		
b. Calculated from data.		
c. Lilliefors Significance Correction.		
One-Sample Kolmogorov-Smirnov Test (Control Variable)		

		Unstandardized Residual
N		102
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	.01614934
Most Extreme Differences	Absolute	.074
	Positive	.074
	Negative	-.056
Test Statistic		.074
Asymp. Sig. (2-tailed)		.193[c]
a. Test distribution is Normal.		
b. Calculated from data.		
c. Lilliefors Significance Correction.		

Based on the left table 3 (non-control) statistical test of the non-control variable KS normality test with a value of N used as many as 101 data and the number of data outliers as many as 3 data from 104 data in table obtained a value of 0.079 with a significance probability of 0.122 (12.2%) and the value is above the standard = 0.05 (5%) and interprets that the distribution is normal and it is assumed that the processed data has met normality.

Based on the table 3 (control) statistical test of the non-control variable KS normality test with a value of N used as many as 102 data and the number of data outliers as much as 2 data from 104 data in table obtained a value of 0.074 with a significance probability of 0.193 (19.3%) and the value is above the standard = 0.05 (5%) and interprets that the distribution is normal and it is assumed that the processed data has met normality, then the research can proceed to the next test.

4.3 Classical Assumption Test

a. Multicollinearity Test

In table 4 the value of Tolerance There is no independent variables that had a value of less than 0.10 (100%) and the VIF value showed the same thing where there were no independent variables, both Positive, Death, and Vaccine variables which had a value of more than 10. So, it can be concluded that there is no multicollinearity by testing without control variables.

In table 5 the value of tolerance there is no independent variables and control variables that have a value less than 0.10 (100%) and the VIF value shows the same thing where there are no independent variables, both Positive, Death, and Vaccine variables and the currency exchange rates a control variable that has a value of more than 10. So, it can be concluded that there is no multicollinearity between variables either by testing without control variables or by testing using control variables in the regression model.

Table 4. Multicollinearity Test (Non-Control Variable)

Coefficients[a]							
	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
Model	B	Std. Error	Beta	t	Sig.	Tolerance	VIF

1	(Constant)	-.015	.014		-1.101	.274		
	Positive(X1)	.196	.031	.536	6.399	.000	.705	1.419
	Death(X2)	.049	.033	.124	1.477	.143	.705	1.418
	Vaccine(X3)	.012	.002	.365	5.174	.000	.993	1.007
a. Dependent Variable: Market Return(Y)								

Table 5. Multicollinearity Test (Control Variable)

Coefficients[a]								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.000	.002		-.172	.864		
	Positive(X1)	.005	.004	.012	1.386	.169	.567	1.764
	Death(X2)	.003	.004	.005	.605	.546	.662	1.512
	Vaccine(X3)	.001	.000	.027	3.838	.000	.882	1.134
	Exchange Rate (X4)	.965	.009	.981	112.494	.000	.590	1.695
a. Dependent Variable: Market Return(Y)								

b. Heteroscedasticity Test

Table 6 shows the analysis obtained on the Positive, Death, and Vaccine variables and the lag is carried out showing a significance level above 0.05 (5%). Meanwhile, Table 7 shows the analysis obtained on the variables showing a significance level above 0.05% (5%) so it can be concluded that the 2 regression models are free from heteroscedasticity symptoms.

Table 6. Heteroscedasticity Test (Non-Control Variable)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.004	.013		.302	.763		
	Positive	.001	.030	.003	.023	.982	.707	1.415
	Death	-.008	.033	-.029	-.236	.814	.707	1.415
	Vaccine	.000	.002	-.005	-.053	.958	.993	1.007

a. Dependent Variable: ABS_RES

Table 7. Heteroscedasticity Test (Control Variable)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.001	.002		.518	.606		
	Positive(X1)	-.003	.004	-.128	-.965	.337	.569	1.758
	Death(X2)	-.001	.004	-.043	-.351	.726	.661	1.512
	Vaccine(X3)	7.696E-5	.000	.027	.252	.801	.882	1.134
	Exchange Rate (X4)	-.005	.008	-.073	-.565	.573	.592	1.690

a. Dependent Variable: ABS_RES

c. Autocorrelation Test

The Run Test on table 8 (non-control) value shows an output of 0.01777 (17.8%) with a probability of 0.618 (61.8%) which exceeds the standard of 0.05% (5%) so it can be concluded that there is no autocorrelation between residual values.

The Run Test on table 9 (control) value shows an output of -0.00068 (0%) with a probability of 0.073 (7.3%) which exceeds the standard of 0.05% (5%) so it can be concluded that there is no autocorrelation between the residual values.

Table 8. Autocorrelation Test (Non-Control Variable)

Runs Test	
	Unstandardized Residual
Test Value[a]	.01777
Cases < Test Value	50
Cases >= Test Value	51
Total Cases	101
Number of Runs	49
Z	-.499
Asymp. Sig. (2-tailed)	.618
a. Median	

Table 9. Autocorrelation Test (Control Variable)

Runs Test (Control Variable)	
	Unstandardized Residual
Test Value[a]	-.00068
Cases < Test Value	51

Cases >= Test Value	51
Total Cases	102
Number of Runs	43
Z	-1.791
Asymp. Sig. (2-tailed)	.073
a. Median	

4.4 Model Testing

a. F-Test

Table 10 and 11 show the ANOVA test with calculated F of 35,070 and 5550,462 with a probability of 0.000 respectively. With a probability much smaller than 0.05 (5%) it can be concluded that the regression model can predict stock market returns in other words that one variable or all independent and control variables can affect stock market returns.

Table 10. F-Test (Non-Control Variable)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.852	3	.617	35.070	.000[b]
	Residual	1.708	97	.018		
	Total	3.560	100			

a. Dependent Variable: Market Return(Y)
b. Predictors: (Constant), Vaccine(X3), Death(X2), Positive(X1)

Table 11. F-Test (Control Variable)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.029	4	1.507	5550.462	.000[b]
	Residual	.026	97	.000		
	Total	6.055	101			

a. Dependent Variable: Market Return(Y)
b. Predictors: (Constant), Exchange Rate (X4), Vaccine(X3), Death(X2), Positive(X1)

b. T-Test

Based on table 12 the regression non-control variable equation used is:

Market Return:

-0.015 + 0.196 Positive + 0.049 Death + 0.012 Vaccine + e

As a comparison with the use of control variables, based on table 13 the regression control variable following equation can be arranged:

Market Return:

0.000+ 0.005 Positive + 0.003 Death + 0.001 Vaccine + 0.965 Currency exchange rate+ e

Table 12. T-Test (Non-Control Variable)

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-.015	.014		-1.101	.274
	Positive(X1)	.196	.031	.536	6.399	.000
	Death(X2)	.049	.033	.124	1.477	.143
	Vaccine(X3)	.012	.002	.365	5.174	.000

a. Dependent Variable: Market Return(Y)

Table 13. T-Test (Control Variable)

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	.000	.002		-.172	.864
	Positive(X1)	.005	.004	.012	1.386	.169
	Death(X2)	.003	.004	.005	.605	.546
	Vaccine(X3)	.001	.000	.027	3.838	.000
	Exchange Rate (X4)	.965	.009	.981	112.494	.000

a. Dependent Variable: Market Return(Y)

c. R2 Test

In table 14 the adjusted R square value is 0.505 and has an explanation that 52% of the variation in stock market returns can be explained through independent variables and the remaining 48% is influenced by other variables outside the research model.

Table 14. R2 Test (Non-Control Variable)

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.721[a]	.520	.505	.132677673076516

a. Predictors: (Constant), Vaccine(X3), Death(X2), Positive(X1)

b. Dependent Variable: Market Return(Y)

In table 15 the adjusted R square value is 0.995 and has an explanation that 99.6% of the variation in stock market returns can be explained through independent variables and the remaining 0.04% is influenced by other variables outside the research model

Table 15. R2 Test (Control Variable)

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.998[a]	.996	.995	.016478956454750

a. Predictors: (Constant), Exchange Rate (X4), Vaccine(X3), Death(X2), Positive(X1)
b. Dependent Variable: Market Return(Y)

IV. Conclusion

Based on hypothesis testing, the daily positive case variable is not significant to stock market returns. The positive variable is a variable to measure the number of people in a region or country infected with the virus during the COVID-19 pandemic. In its interpretation, investors cannot use positive confirmation indicators and do not see signals of potential returns and also will not invest because the stock markets of Indonesia and Malaysia are not effective and efficient in carrying out business and trading activities and because of the high volatility of disease outbreaks, growth of positive case confirmations. During the years 2021-2022.

The daily mortality case variable is a variable to measure the number of people in a region or country who died from the virus during the COVID-19 pandemic period. In the interpretation of the mortality variable in accordance with the signaling theory caused Confirmation information on COVID-19 deaths is unpredictable and does not yet have a clear pattern of market information so that it gives a positive signal to investors with the perception that the public is starting to be aware of the COVID-19 pandemic outbreak and are starting to follow government recommendations and follow the applicable protocol rules so that it triggers them to invest in a country. With the interpretation that the increasing confirmation of COVID-19 deaths raises investor confidence to invest due to the emergence of government policies to anticipate the increase in confirmation of COVID-19 deaths including in this case the increased volatility of the stock market due to the implementation of COVID-19 will result in investors being able to make predictions or forecasts about their future investment returns. Regarding the issue of death, death has been regulated as the word of Allah SWT in the Al-Quran Surah Yasin verse 12 is as follows:

شَيْءٍ وَكُلَّ وَاٰثَارَهُمْۗ قَدَّمُوْا مَا وَنَكْتُبُ الْمَوْتٰى نُحْيِ نَحْنُ اِنَّا اِ

اَحْصَيْنٰهُ فِيْٓ اِمَامٍ مُّبِيْنٍ

Meaning: Indeed, we are the ones who bring the dead to life, and We are the ones who record what they have done and the traces they have left. And everything We collect in a clear Book (Lauh Mahfuzh).

Based on hypothesis testing, the daily vaccination variable is not significant to stock market returns. The vaccination variable is a variable to measure the number of people in a region or country who are vaccinated during the COVID-19 pandemic period. This is not in accordance with the adaptive market hypothesis which states that due to the changing environment of market evolution, heuristics that were previously adaptive can become

maladaptive. This is inseparable from the policy mix of the Indonesian and Malaysian governments in providing vaccines for their citizens where the total availability of vaccinations is still not given to the public and the stigma of the community is diverse with vaccinations, giving rise to the perception that vaccinations cannot meet the expectations of investors to want to invest in Indonesia and Malaysia in the period 2021-2022.

Also due to the high volatility of positive case confirmation growth during the period 2021-2022. Based on the results of the tests that have been carried out, there are the following limitations:

1. Sampling of data was taken based on weekly accumulated data.
2. Overall it ignores the fundamental situation of all members who join the main indexes on the Indonesian and Malaysian stock exchanges as well as the domestic and foreign political situation.
3. There are no variables that measure the level of strictness policies during the pandemic

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