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The Influence Of Covid-19 Daily Cases, World Oil Prices, World Gold Prices And Rupiah Exchange Rates

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Abstract
This study aims to clarify the effect of the daily number of reported cases of Covid-19, World Oil Prices, World Gold Prices, and the rupiah exchange rate on the movement of the Composite Stock Price Index during the Covid-19 Pandemic, both in the short and long-term. Analysis of the data used is the analysis of Error Correction Mechanism using Eviews software. The data collected is daily time series data from March 2, 2020 to July 30, 2021, so the number of samples collected is 341 samples. The results of the study stated that the increase of daily reported Covid-19 cases had a negative impact on the movement of the Composite Stock Price Index in the short term, however, in the long-term, the increase of daily reported cases of Covid-19 has no effect on the Composite Stock Price Index. Meanwhile, World Oil Prices have a significant positive effect on the Composite Stock Price Index both in the short term and in the long-term. This study did not find any short-term or long-term effect between the World Gold Price on the movement of the Composite Stock Price Index. A significant negative effect was found, both in the short term and in the long-term, in the relationship between the Rupiah Exchange Rate on the movement of the Composite Stock Price Index.

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Keywords:
Daily Cases of Covid-19, World Oil Prices, World Gold Prices, Rupiah Exchange Rate, Composite Stock Price Index, Error Correction Mechanism

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INTRODUCTION

The capital market plays a very dominant role in moving the economy in a country. There are two main functions of the capital market; the capital market as a source of funding that can be used for additional capital or business development for the entity and as a means of public investment for shares, bonds, and other financial products from investors. The Composite Stock Price Index (JCI) is one of the indicators of capital market performance. In which the JCI is measured from the overall share price listed on the stock exchange market, both the shares on the main board and those on the developer board.

There are two factors that influence stock performance: microeconomic factors and macroeconomic factors. Microeconomics is a factor related to the company's internal conditions. Meanwhile, macroeconomics are factors which affect company performance from outside of the company. Samsul, (2015) explains "macroeconomic factors that can directly affect stock performance consist of 1) general interest rates, 2) inflation rates, 3) tax regulations, 4) government policies, 5) foreign exchange rates, 6) foreign loan rate, 7) international economy, 8) economic cycle, 9) economic understanding, 10) and money circulation".

Macroeconomic factors affect the company's performance in the short term. Meanwhile, in the long-term, microeconomics can influence investor behavior, resulting in the increase or decrease of stock prices. The spread of the Covid-19 virus is an extraordinary health problem which has hit almost all over the world, including Indonesia. The spread of the virus is extremely fast and able to mutate into a new type of virus, destroying all aspects of life, including the economy. JCI value fluctuations are illustrated in the following diagram:

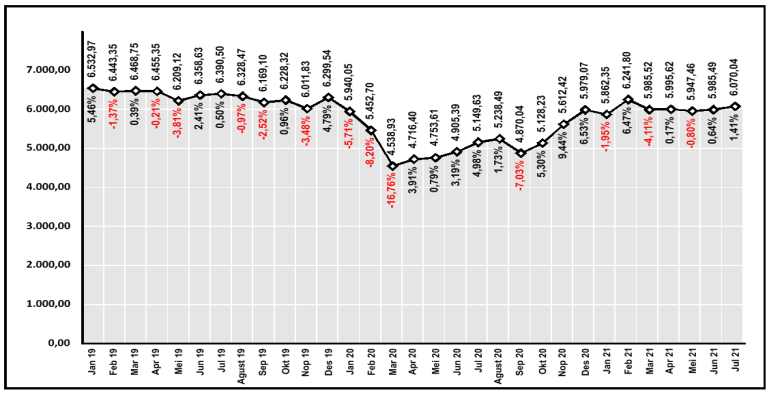

Figure 1: Composite Stock Price Index (JCI) January 2019 – July 2021

Source: www.idx.co.id, 2021 (data processed)

At the end of December 2019, China officially reported to the World Health Organization (WHO) concerning the presence of the Covid-19. It impacted the stock exchange trading on January 2020 that gave a negative response to stock performance which was shown by the JCI falling at the level of 5,940.05 or a decrease of 5.71 % (month on month) when it compared to the position at the end of December 2019. This reflects that the WHO announcement gives a negative sentiment on stock market performance (AlAli, 2020). The decline in the JCI was the impact of investors' concerns about the spread of the Covid-19 outbreak in addition to other economic and political factors (Mahardhika, 2020). The decline of the JCI reached its peak on March 2020, where the JCI slid down to the red zone to reach the level of 3,937.63 (March 24, 2020) or on the monthly average, the JCI touched the level of 4,538.93, or decreased by 16.76% (month on month). The deepest decline in the JCI was in 2020, which was triggered by increasingly massive spread of Covid-19 throughout the world, competition of world oil prices and the decline of interest rates by the United States Central Bank (Federal Reserve) (Media, 2020).

The Covid-19 outbreak has had a profound impact on the oil and gas industry. Various government efforts have been made to suppress the spread of the virus, including: "Implementation of Large-Scale Social Restriction Policies in the areas suspected of being infected by Covid-19 (Kemenkopmk, 2020), "Enforcement of Restrictions on Emergency Community Activities " (Media, 2021), "Enforcement of Level 4 Emergency Community Activity Restrictions for Java-Bali region" (*Bisnis.Com*, 2021), as well as various other policies which limit community activities. As a result of these restrictions, community mobilization was a reduced, which impacted on the decrease in demand for fuel. In addition, it also affected the cessation and reduction of upstream and refining activities, thus lowering world oil prices.

It is very clear that in March 2020 (the first Covid-19 case in Indonesia) world oil prices fell to US $ 20.48 per barrel. In April 2020 Covid-19 again gave a deeper negative sentiment to world oil prices and caused world oil prices to drop to US $ 18.84 per barrel. The drop in world oil prices as a result of the multiplier effect of Covid-19, where the decline in oil demand on the international market was influenced by the slowdown in world economic growth (GDP). World Gross Domestic Product growth in 2020 fell to 84.705 Trillion US $ or a correction of 3.43% as a result of the weakening economy of a number of developed countries and the impact of the Covid-19 outbreak (Ismoyo, 2020; Ozturk & Cavdar, 2021; Wallace, 2020).

However, the effect of Covid-19 deployment was responded brilliantly by gold futures trading. On April 2020 gold futures rose to the level of USD 1,709.90 per troy ounce or strengthened by 6.69% from March 2020. The highest increase occurred on July 2020, where the price of world gold futures prices rose to the level of US $ 2,017, 10 per troy ounce or increased by 10.03% from the previous month (*(Historical Price of Gold Futures - Investing.Com, 2021)*, 2021).

The growth in gold futures trading was due to investor concerns on the world economy slowdown during the spread of the Covid-19 (Ulfah et al., 2020). On the other hand, investors are looking for investment alternatives which have low risk (safe haven assets) (Ozturk & Cavdar, 2021; Sunariyah, 2006). The opposite condition is suffered by the rupiah exchange rate, which is indicated by the depreciation of the rupiah against the US dollar.

The impact of Covid-19 throughout 2020-2021 was greatly experienced by the undermining of the rupiah exchange rate against the USD where the rupiah exchange rate at several periods had depreciated. After the announcement about Indonesian citizens confirmed positive for Covid-19, the value of rupiah depreciated to IDR 16,300 per USD. The weakening of the rupiah value against USD is affected by investor anxiety on the impact of the Covid-19 hitting the Indonesian financial market (Haryanto, 2020). The spread of the Covid-19 is one of the causes of the further drop in the rupiah exchange rate. “This pandemic has resulted global uncertainty, so that investors tend to shift their investment funds into safe haven assets, such as gold, government bonds of developed countries, and world currencies, such as the United States dollar” (Ministry of Finance, 2020a). The decline in the rupiah exchange rate against the US dollar reached its peak on April 2, 2020, where the rupiah exchange rate touched the level of IDR. 16,475 per USD. So in this study, we will examine: Does the Covid-19 Daily Case, World Oil Prices, World Gold Prices, and the Rupiah Exchange Rate affect the JCI during the Covid-19 pandemic in the short and long term.

LITERATURE REVIEW

Composite Stock Price Index (JCI)

The Composite Stock Price Index is "a price index of shares listed on the Indonesia Stock Exchange which are compiled and calculated to this extent, so that they can be utilized to compare changes in stock prices from time to time" (Jogiyanto, 2013). The stock price index fluctuates every day,

this is due to changes in market prices and the addition of new issuers. The stock index performs as an investment reference for investors, as a consideration for determining whether to sell, hold, or buy shares, and it is useful for avoiding bias due to coIDRorate action (Samsul, 2015).

Fluctuations in the stock price index illustrate the situation of a global economy, whether the economy is in an active (bullish) or sluggish (bearish) condition (Darmadji & Fakhruddin, 2012). Market conditions that are currently active (bullish) are implied by a trend of JCI that is rising or strengthening, while market conditions that are currently sluggish (bearish) are indicated by a lot of selling and the market is declining or weakening (Zulita, 2006).

Relationship between Daily Cases of COVID-19 and JCI

In December 2019, the Chinese health authorities officially reported a case of pneumonia in Wuhan, Hubei Province. The source of the transmission of the case was linked to a fish market in Wuhan. During December 2019, which is the 18th to the 29th, there were five patients being treated for acute respiratory distress syndrome (ARDS). Based on the sample studied, it shows the etiology of the new coronavirus. Furthermore, on February 11, 2020, the World Health Organization (WHO) released the virus as Coronavirus Disease (COVID-19) caused by the Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-CoV-2) (Susilo et al., 2020).

Junaedi & Salistia, (2020); Lengkong et al., (2021), in their study found that the implementation of Work from Home (WFH) and Large-Scale Social Restrictions gave negative sentiments on the JCI movement. The results of this study are in line with the findings of (Haryanto, 2020), which stated that the daily number of Covid-19 cases had a negative impact on the JCI. Rahmayani & Oktavilia, (2021), stated that Covid-19 had no impact on the JCI movement in the short term, but the accumulation (long-term) of Covid-19 had a negative impact on the JCI movement. Based on this description, the hypothesis in this study is formulated as follow:

H_1 : During the Covid-19 pandemic, the Covid-19 Daily Case had a negative effect on the Composite Stock Price Index (JCI) in the short term

H_2 : During the Covid-19 pandemic, the Covid-19 Daily Case has a negative effect on the Composite Stock Price Index (JCI) in the long-term

The Relationship between World Oil Prices and JCI

Crude oil is one of the main sources of energy that functions as a movement of industry in the world. (Widyastuti & Nugroho, 2020). Petroleum production can have a dramatic impact on many of the world's industrial areas. One of the world's crude oils used as a benchmark for global prices is West Texas Intermediate (WTI). One of the guidelines for determining world crude oil prices is West Texas Intermediate (WTI) or often referred to as Texas Light Sweet. In addition to the price of Brent (North Sea) crude oil, the price of WTI is also used as a benchmark on the world crude oil price news page. Starting on April 27, 2020, mini and micro futures contracts for WTI crude oil are traded on the Indonesia Commodity and Derivatives Exchange or ICDX. ICDX trades products which include Soft Agri commodities (coffee, cocoa, palm oil), metal commodities (tin and gold), energy commodities (crude oil and coal), and foreign currency commodities (Dwijayanto & Winarto, 2021).

Along with the massive Covid-19 pandemic, various activities in all sectors are decreasing, it has also slowed down global demand for various commodities. The prices of both energy commodity and metal in general also demolished. At the beginning of 2020, world oil prices began to weaken, then in March 2020 the shaIDRest decline in oil prices occurred. This condition was triggered by the implementation of lockdowns in various countries. The deterioration of world oil prices triggers an economic recession because the weakening of oil prices has an impact on the

decline of other commodities such as palm oil and coal (National Development Planning Agency of Deputy for Economics, 2020).

Basit, (2020); Suryanto, (2017) in their study found that there was a positive and significant effect of world oil prices on the JCI. In their study, it was stated that the increase in world oil prices had an impact on the increase in the stock price index. Where the increase in world oil prices will encourage economic growth, thereby increasing consumption and people's welfare. As an increase from the increase in people's welfare, the value of investment in stock instruments will also increase. The results of the same study were also expressed by Fuad & Yuliadi, (2021); Prawoto & Putra, (2020); Supriyanto et al., (2021)) who stated that during the Covid-19 pandemic the price of West Texas Intermediate (WTI) oil had a positive and significant effect on stock prices in the short and long-term. Based on this description, the hypotheses in this study are:

H_3 : World Oil Prices have a positive effect on the Composite Stock Price Index (JCI) in the short term During the Covid-19 pandemic

H_4 : World Oil Prices have a positive effect on the Composite Stock Price Index (JCI) in the long-term During the Covid-19 pandemic

The Correlation between World Gold Price and JCI

Classical economics determines gold as a safe haven asset because gold is a low-risk investment, and its purchasing power will not be decreased by inflationary movements or exchange rate movements. Central banks in all countries store gold (gold reserves) intended for 1) as a means of paying debts, 2) guaranteeing paper money to be printed, 3) and to maintain the exchange rate of the currency (Faruq et al., 2017).

Portfolio theory is a theory about the concept of investment combinations carried out from study which encourages investors not to invest all their capital into one form of investment. If all the capital is invested in one form of investment, the entire capital will not get return when a failure happens. Investment diversification is intended to be useful in dividing portfolio risk called combining forms of investment.

In a weakening market condition, with the identification of a decline in the JCI, due to a lot of selling action. This condition means that investing in the capital market is not profitable. Thus, investors must save their funds by diverting some of their funds into other forms of investment, one of which is in the form of gold. Sunariyah, (2006) Sunariyah, (2006) explains that gold is a type of investment that tends to be risk-free. Investments in the form of this precious metal tend to have a stable value and rarely decline. Furthermore, Apriyanti, (2011), states that gold can be used to ward off inflation.

Some study by Khoiri & Arghawaty, (2020); Ozturk & Cavdar, (2021) showed that there was a negative correlation between world gold prices and JCI fluctuations during the Covid-19 pandemic. This condition indicates that when the world gold price increases it will decline the JCI. It was because of investors diverting their funds to investments in the form of gold. However, different study results were shown by Alfi Syahri & Robiyanto, (2020); and Lubis et al., (2021), reveals that during the pandemic, changes in world gold prices responded positively to changes in stock prices. Based on this description, the hypothesis in this study is formulated:

H_5 : The world gold price negatively affected the JCI in the short term during the Covid-19 pandemic

H_6 : The world gold price negatively affected the JCI in the long-term During the Covid-19 pandemic

The Correlation between Rupiah Exchange Rate against USD and JC

Sukirno, (2011) defines that "The currency exchange rate is the price of a country's currency against the currencies of other countries". In an open economy, the existence of the exchange rate is one of the most important factors for the current account balance and for other macroeconomic variables (Sukirno, 2011). Furthermore, Fahmi, (2014) explains that the exchange rate is the rate of the currency exchange of a country compared to the exchange rate of the other countries' currencies. Mankiw, (2003) distinguishes currency exchange rates into two categories: nominal values and real values. The nominal exchange rate is the relative price of the currency, while the real exchange rate is the relative price of goods or services.

The movement of rupiah exchange rate against foreign currencies, especially against USD, has always been a concern of investors. Tandelilin, (2010) explained that the improvement of rupiah exchange rate against foreign currencies will have a positive impact on the Indonesian economy. Meanwhile, the decline in rupiah exchange rate against foreign currencies gave negative sentiment on the stock market, as an implication of the increase in the production factors used by issuers. Moreover, for issuers who have foreign debt, the decline in the rupiah exchange rate against foreign currencies will provide an additional burden of debt burden (Samsul, 2015; Tandelilin, 2010).

With the increase in production costs and debt burden that must be borne by the issuer, it causes a decrease in the profitability of the issuer. Horne & Wachowicz, (2012) explain that investors are generally very happy with current income, expected future income and the stability of these incomes. So that investors pay attention to profitability analysis. With the low level of profitability has an impact on the decline in stock prices, the implication is that the JCI value will also decrease.

Prawoto & Putra, (2020) Prawoto & Putra (2020), using the Vector Error Correction Model (VECM) method in their study found that rupiah exchange rate against USD had a significant positive effect on the JCI both in the short term and in the long-term. The same thing was found by Ekadjaja & Dianasari, (2017); and Thobarry, (2009) in his study which states that there is a positive influence between the exchange rate of the rupiah against the USD and the composite stock price index.

However, the results of this study are not in line with the results of study conducted by Alfi Syahri & Robiyanto, (2020); Khoiri & Arghawaty, (2020); Rahmayani & Oktavilia, (2021); and Supriyanto et al., (2021) who stated that rupiah exchange rate against the USD had a negative and significant effect on the JCI movement during the pandemic. It means that when the rupiah weakens, investors will shift their investment to investments into USD. The depreciation of the rupiah led to a sell-off, which also led to a decline in the stock price index. In other words, when the rupiah exchange rate strengthens, it will increase stock prices, and vice versa when the rupiah exchange rate weakens it will cause a decrease in stock prices. Based on this description, the hypothesis in this study is formulated as follow:

H_7 : Rupiah Exchange Rate against USD had a negative effect on the JCI in the short term During the Covid-19 pandemic

H_8 : Rupiah Exchange Rate against USD had a negative effect on the JCI in the long-term During the Covid-19 pandemic

METHOD

Population and Sample

This study uses secondary data in the form of time series which are recorded daily. The data was collected from 02 March 2020 to 30 July 2021, so that a sample of 341 experiments was obtained. In this study, the data used is secondary and quantitative data that has been published. Data

related to the Covid-19 Daily Case was obtained from https://kawalcovid19.id, data related to the Composite Stock Price Index was obtained from the website https://www.idx.co.id, and data related to World Oil Prices, World Gold Price data and data on the Exchange Rate of the Rupiah against USD are obtained from the website https://id.investing.com.

Definition and Operation of Variables

The dependent variable in this study is the Composite Stock Price Index (JCI) while the independent variables used are the Daily Case of Covid-19, World Oil Prices, World Gold Prices, Value and Exchange of Rupiah against USD.

JCI is a composite index of all types of shares traded on the Indonesia Stock Exchange. This index is an indicator of the stocks' performance listed on the Indonesia Stock Exchange. The object of JCI movement in this study is the JCI which is recorded on a daily basis and is the closing JCI. Daily Cases of Covid-19 is the amount of daily additions of new confirmed cases of Covid-19. The world oil price is the spot of world oil price which is formed from the accumulation of supply and demand in the market. The world oil price data used is the oil price of West Texas Intermediate (WTI). Gold futures contracts are instruments traded on futures exchanges without any physical form. Changes in price are more volatile because they are traded all the time, like buying and selling shares. The world gold price with the prevailing price standard issued by the London gold market (London Gold Fixing. Exchange rate is the price of a currency of a country measured or expressed in the currency of another country. The exchange rate used in this study is for the USD currency against the rupiah.

Data analysis technique

The data analysis in this study used the Domowitz-El Badawi Error Correction Model approach. It is a form of model used to determine the short term and long-term effects of independent variables on the dependent variable. This approach is used to find a balanced regression model in the long-term and in the short term as well as the consistency in the model. The use of this model is expected to overcome the problem of spurious correlation (Spurious Regression), and find solutions related to time series analysis (Widarjono, 2017).
The specifications of the relationship in the model are as follows:
Long-term equation

$$JCI = \alpha_0 + \alpha_1 Covid + \alpha Oil + \alpha_3 Gold + \alpha_4 E\_Rate + u_t$$

note:

Covid	:	Daily Cases of Covid-19
Oil	:	World Oil Prices
Gold	:	World Gold Prices
E_Rate	:	Rupiah Exchange rate against USD
JCI	:	composite stock price index
u_t	:	Error term
α_0	:	Intercept
$\alpha_1, \alpha_2, \alpha_3, \alpha_4, \alpha_5$	:	Coefficient of Direction

Short Term Equation

$$\Delta JCI = \alpha_0 + \alpha_1 \Delta Covid + \alpha_2 \Delta Oil + \alpha_3 \Delta Gold + \alpha_4 \Delta E\_Rate + \alpha_5 Ect(-1) + u_t$$

Note :

Covid	:	Daily Cases of Covid-19
Oil	:	World Oil Prices
Gold	:	World Gold Prices

E_Rate	:	Rupiah Exchange rate against USD
JCI	:	composite stock price index
Ect(-1)	:	residual Value (previous period)
u_t	:	Error term
α_0	:	Intercept
α_1, α_2, α_3, α_4, α_5	:	Coefficient of Direction

RESULTS AND DISCUSSION

Descriptive Analysis

Based on the table 1, the number of observations in the study was 341 samples. The daily confirmed positive cases of Covid-19 during the study period were 0 people and the highest was 56,757 people with an average of 6787,736 people and the distribution of data was 9,738,617.

Table 1: Descriptive statistics

	Covid	Oil	Gold	E_Rate	JCI
Mean	6787,736	47,77015	1825,155	14523,38	5503,356
Median	4411,000	43,35000	1820,200	14450,00	5557,520
Maximum	56757,00	76,25000	2103,200	16575,00	6435,210
Minimum	0,000000	-37,63000	1494,600	13870,00	3937,630
Std.Dev.	9738,617	16,02589	103,1187	508,5970	614,1473

Source: Eviews (Processed Data)

World Oil Price Variable during the study period, the lowest was -37.630 points and the highest was 76.250 with an average of 47.770 points and the distribution of the data was 16.02589. Meanwhile, the World Gold Price during the study period was the lowest at 1,494,600 points and the highest at 2,103,200 points with an average of 1,825,155 points and the distribution of the data was 103,1187. While the lowest Rupiah Exchange Rate during the study period was IDR. 13,870.00 points and the highest was IDR. 16,575.00 with an average rate was IDR. 14,523.38 and the distribution of the data was 508.5970. And the JCI during the study period was the lowest at 3,937,630 points and the highest at 6,435,210 points with an average of 5,503,356 and the distribution of the data was 614,1473.

Assumption Test

In order to find out whether the data from each variable used in this study has met the assumption of stable data (stationary) or not, a unit root test was carried out. The Augmented Dickey-Fuller (ADF) test is used to test this assumption. Data is declared stationary if the probability value of the ADF is less than 0.05 (α = 5%) (Widarjono, 2017). ADF probability value in the Prob column. in the test, it was obtained at 0.0000, the probability value is less than 0.05, thus a decision was taken that the data on each variable met the assumption of stable (stationary) data. In this study, the normality test was used. In this study, 341 observations were used (n is more than 30), so the assumption of the Central Limit Theorem was used. Based on these assumptions, the normality assumption can be ignored (Gujarati, 2013). Based on the results of the analysis of the heteroscedasticity test using the Harvey test, the chi-square probability value on the Obs*R-Squared line in the test was obtained at 0.0744, the probability value is greater than 0.05, thus the decision was taken that the equation model does not occur. heteroscedasticity problem. . In this study, to detect the existence of autocorrelation problems, the Lagrange Multiplier (LM) test was used. The results of the analysis obtained that the chi-square probability value on the Obs*R-Squared line in the test was obtained at 0.1669, the probability value was greater than 0.05, thus it was decided that in the equation model there was no autocorrelation

problem. Based on the results of data processing in the multicollinearity test, the VIF value of each independent variable is less than 10, thus the decision taken is that there is no intercorrelation between the independent variables.

Cointegration Test, this test is used to test whether there is a long-run equilibrium of the Covid-19 Daily Case variables, World Oil Prices, World Gold Prices and the Rupiah Exchange Rate against the JCI. To test whether there is cointegration of these variables between the short and long-term, it can be seen from the probability value in Trace Statistics or probability value in Max-Eigen Statistics. If the probability value is less than 0.05 (α = 5%), it is concluded that the data is cointegrated in the long-term (Widarjono, 2017). The results of the cointegration test using either the Trace Statistic approach or the Max-Eigen Statistic approach, the probability value for each hypothesis is 0.0000. Thus, it is concluded that there is a cointegration of the Covid-19 Daily Case variable, World Oil Prices, World Gold Prices and the Rupiah Exchange Rate against the JCI in the long-term with a short term at a significance level of 0.05.

ECM Short-Term Regression Test

The results of the ECM short-term regression test can be seen in the following table:

Table 2 : ECM Short-Term Regression Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(N_COVID)	-0.007697	0.002136	-3.604111	0.0004
D(N_Oil)	0.023184	0.010951	2.117007	0.0351
D(N_Gold)	0.072180	0.042450	1.700354	0.0902
D(N_E_Rate)	-1.184510	0.106057	-11.16863	0.0000
ECT(-1)	-0.882571	0.057238	-15.41919	0.0000
C	-8.55E-05	0.000703	-0.121575	0.9033
R-squared	0.601141	Mean dependent var.		-6.23E-06
Adjusted R-squared	0.594094	S.D. dependent var.		0.018738
F-statistic	85.30465	Durbin-Watson stat.		1.992409
Prob (F-statistic)	0.000000			

Source: Eviews, 2021 (data_processed)

The results of the ECM Short-Term Regression test which become one of the requirements are the Error Correction Term (ECT) value must be significant at a significant level of 5% and the coefficient must be negative. These conditions are met where the probability value of the Error Correction Term (ECT) is obtained at 0.0000 or less than 0.05 and the coefficient value is obtained at -0.882571. Based on this value, it can be concluded that the ECM Short-Term Regression test is valid. The following are the results of the ECM short-term regression eq.

D(Log(JCI)) = -8.55E-05 - 0.007697*D(Log(Covid)) + 0.023184*D(Log(Oil)) + 0.072180*D(Log(Gold)) - 1.184510*D(Log(E_Rate)) - 0.882571*Ect(-1)

Based on the estimation results, the R2 value is equal to 0.594094, this value illustrates that the independent variables consisting of Covid-19 Daily Cases, World Oil Prices, World Gold Prices, Rupiah Exchange Rates affect the Composite Stock Price Index variable by 59.4094%. While the remaining 40.5906% is influenced by other factors outside this model. This model is a fit model because the Fuji value obtained is 85.30465 with a significance value of 0.0000 which is smaller than 0.05 (α= 5%).

Meanwhile, the Error Correction Term (ECT) coefficient obtained is 0.882571, which means that the difference between the Composite Stock Price Index and its equilibrium value is 0.882571 that will be.

ECM Long-term Regression Test

The following are the results of the ECM long-term regression equation:

Table 3: ECM Long-term Regression Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
N_COVID	-0.003618	0.003193	-1.133116	0.2580
N_Oil	0.057340	0.013518	4.241753	0.0000
N_Gold	0.016039	0.059281	0.270561	0.7869
N_E_Rate	-1.268043	0.123715	-10.24967	0.0000
C	1.048895	0.064491	16.26429	0.0000
R-squared	0.299902	Mean dependent var.	0.441645	
Adjusted R-squared	0.290781	S.D.dependent var.	0.014827	
F – statistic	32.87757	Durbin-Watson stat.	1.765615	
Prob (F-statistic)	0.000000			

Source: Eviews, 2021 (data processed)

Based on the results of the ECM Long-Term Regression test, the following regression equation is obtained:

JCI = 1.048895 - 0.003618Covid + 0.057340Oil + 0.016039Gold - 1.268043E_Rate + ei

The estimation test results obtained an R2 value of 0.290781 indicating that the independent variables consisting of Covid-19 Daily Cases, World Oil Prices, World Gold Prices, Rupiah Exchange Rates affect the Composite Stock Price Index variable by 29.0781% while the remaining amount is 70.9219% is influenced by other factors outside this model. This model is a fit model because the Fuji value is 32.87757 with a significance value of 0.0000 or less than 0.05 (α = 5%).

Variables of Covid (Daily cases of Covid-19)

Based on the results of data analysis, the coefficient value is -0.007697 with a probability value of 0.0004 which is smaller than 0.05 (α=5%), so it can be concluded that H_1 is accepted which shows that the Covid-19 Daily Case in the short term has a significant negative effect on the movement Composite Stock Price Index (JCI). Where in the short term for every additional COVID-19 daily case of 1 person, the JCI will be corrected by 0.007697 points.

The results of this study support the study by (Haryanto, 2020). He found that the higher daily cases of Covid-19 had an impact on the decline of the JCI. The results of a similar study were also conducted by (Halisa & Annisa, 2020) which stated that the daily number of Covid-19 cases that occurred today would affect the movement of the JCI the next day. Meanwhile (unaedi & Salistia, (2020); and Novalina & Rusiadi, (2020); in their study found that the Covid-19 pandemic had a direct impact on the performance of the tourism, export and import sectors, due to restrictions on the mobilization of people from and between countries/cities.

Based on the results of data analysis, the coefficient value is -0.003618 with a probability value of 0.2580 which is greater than 0.05 (α=5%), so it can be wrapped up that H_2 is rejected which means that the Daily Case of Covid- 19 has an insignificant negative effect on the movement of the Price Index. Joint Stock (JCI). The implementation of social restriction policies to deal with the spread of the Covid-19 virus in the form of large-scale social restrictions (LSR), Micro Enforcement of Restrictions on Community Activities (ERCA). The Emergency of ERCA implementation is like swallowing the "bitter pill" towards New Normal. The implementation of these policies is expected to be able to suppress the spread of the Covid-19 virus in order to stimulate economic recovery. Furthermore, the presence of the Covid-19 vaccine has provided positive sentiment for the movement of the Composite Stock Price Index (IHSG). The effectiveness of vaccination sentiment on economic recovery is indicated by the strengthening of rupiah

exchange rate and JCI (Developer, 2021). This is supported by (Simamora, 2021) in his study, who found that vaccination had an effect on the movement of the JCI.

In addition to these policies, the government also encourages long-term economic recovery through policies in the Fiscal and Monetary sector to deal with the effects of the spread of the Covid-19 virus. The policy is contained in Perppu No. 1 of 2020, UU no. 2 of 2020 and PP No. 23 year 2020.

The monetary policies that have been carried out and are continuously encouraged are through: lowering interest rates, stabilizing and strengthening the value of the rupiah, expanding instruments and transactions on the money and foreign exchange markets, injection of liquidity, easing macroprudential policies as well as facilitating and smoothing cash or non-cash payment systems. Meanwhile, financial services policies are carried out through: countercyclical policies against the impact of the spread of Covid-19, maintaining stability and market sentiment, maintaining liquidity and support as well as synergies (kompaspedia.com, 2020). Based on this description, it provides clear evidence that in the long term the Daily Case of Covid-19 has no effect on fluctuations in the Composite Stock Price Index (JCI).

Oil Variables (World Oil Prices)

Based on the results of data analysis, the coefficient value is 0.023184 with a probability value of 0.0351 which is smaller than 0.05 (α=5%), so it can be concluded that H_3 is accepted which means that world oil prices in the short term have a significant positive effect on the movement of the Stock Price Index Composite (JCI). Where in the short term every 1-point increase in world oil prices, the JCI will be boosted by 0.0351 points.

Meanwhile, based on the results of data analysis in the long-term, the coefficient value is 0.057340 with a probability value of 0.0000 which is smaller than 0.05 (α=5%), so it can be stacked up that H_4 is accepted which indicate that world oil prices in the long run have a significant positive effect on the movement of the Jakarta Composite Index (JCI). Where in the short term every 1 point increase in world oil prices, the JCI will be boosted by 0.057340 points.

The results of this study support the study conducted by Basit, (2020); and Suryanto, (2017), which uses data before the Covid-19 pandemic and found that world oil prices had a significant positive effect on the JCI movement. Fuad & Yuliadi, (2021); Prawoto & Putra, (2020); and Supriyanto et al., (2021) uses data during the pandemic period found that the movement of West Texas Intermediate (WTI) oil prices had a significant positive effect on stock price movements both in the short term and in the long-term.

Gold Variable (World Gold Price)

Based on the results of data analysis, the probability values in the short term and long-term are 0.0902 and 0.7869, respectively, greater than 0.05 (α = 5%), so it can be concluded that H_5 and H_6 are rejected, which means that the gold price is good in terms of performance. The short term and the long-term have no significant effect on the movement of the Jakarta Composite Index (JCI).

This study rejects the study from Dwiati & Ambarwati, (2016); Khoiri & Arghawaty, (2020); Lubis dkk., (2021); and Suryanto, (2017) who stated that world gold prices affected the JCI movement. The results of this study support study from Basit, (2020); Raraga dkk., (2012); Utha, (2019) ; and Wahyuni, (2014), which states that the world gold price does not affect the movement of the Composite Stock Price Index.

During economic uncertainty due to the increasingly massive spread of the Covid-19 virus, world gold prices, which are peroxide by gold futures prices, tend to be stable. During the pandemic, world gold price fluctuations only ranged +/- 5%, for this reason it is not wrong if gold is called one of the safe haven assets. Where the world gold price can maintain or increase its

value during times of market turmoil or crisis, as well as protecting wealth and not being affected by inflation (zero inflation).

In general, investors still view gold as an alternative investment, and investors think that gold does not offer a high return compared to investing in the stock exchange. For investors who have the characteristics of a risk hunter, they prefer to invest in the stock market which offer a high return even though the risk is high. Based on the description, it is sufficient to provide evidence that the movement of world gold prices does not affect the movement of the Composite Stock Price Index.

Exchange Rate Variable (Exchange Rate of Rupiah to USD)

Based on the results of data analysis, the probability value in the short term and long-term is 0.000, respectively, smaller than 0.05 (α=5%), so it can be concluded that H_7 and H_8 are accepted, which means that the Rupiah Exchange Rate against the USD both in the short and long-term have a significant negative effect on the movement of the Composite Stock Price Index (JCI).

In this study it is stated that in the short term any increase in the US$ exchange rate will have an impact on the JCI decrease by 1.1845 points. Meanwhile, in the long term, any increase in the US$ exchange rate will have an impact on the JCI decrease by 1,268 points. This study supports the research of Pardede dkk., (2016); Raraga dkk., (2012); and Zulita, (2006) who found a negative influence between the US$ exchange rate on the movement of the Composite Stock Price Index. The results of this study reject the research conducted by Ekadjaja & Dianasari, (2017); and Thobarry, (2009), which states that there is a positive influence between the US$ exchange rate on the movement of the Composite Stock Price Index.

The findings of this study provide evidence that the depreciation of rupiah against USD has an impact on increasing the prices of production factors originating from imports. The increase in the prices of these factors of production causes a decrease in the company's profit. The depreciation of the exchange rate also has a negative impact on issuers with large foreign debts. This can reduce the company's profit. The decline in company profits will reduce investor interest in investing in the company, thereby giving negative sentiment to the movement of the Composite Stock Price Index.

CONCLUSIONS, IMPLICATIONS, AND LIMITATIONS

Based on the results of the analysis and discussion of the influence of the Covid-19 Daily Case, World Oil Prices, World Gold Prices, and the Rupiah Exchange Rate on JCI movements during the Covid-19 Pandemic, using daily time series data during 02 March 2020 to 30 July 2021 can be concluded that: The Covid-19 Daily Cases in the short term has a significant negative effect on the movement of the Jakarta Composite Index (JCI). Meanwhile, in the long-term, there was no effect between the Daily Cases of Covid-19 and the movement of the Composite Stock Price Index. World Oil Prices have a significant positive effect on the movement of the Composite Stock Price Index (JCI), both for the short term and for the long-term. The World Gold Price has no significant effect on the movement of the Composite Stock Price Index (JCI), both for the short term and for the long-term. The Rupiah Exchange Rate has a significant negative effect on the movement of the Jakarta Composite Index (JCI), both in the short term and in the long-term.

Based on the estimation results of the Covid-19 Daily Case in the long-term, it does not affect the movement of the Jakarta Composite Index (JCI). To realize this estimate, it is necessary to have real support from the community and government for the application of strict health protocols in every activity. The government has issued “Minister of Health Circular Letter Number HK.02.01/Menkes/335/2020 concerning the Service and Trade Sector (Public Area) in Supporting Business Continuity.

The circular regulates health protocols for business owners and workers. The provisions contained in the circular letter are intended to implement the adaptation of new habits (the new normal). This will be a reference for the business world in managing their business. New Normal aims not only to save the country's economic situation, but also to reduce the risk of layoffs. But on the other hand, the application of the new standard needs to be handled wisely and very carefully so as not to cause fear to the wider community, especially to the business world.

Based on estimates of World Oil Prices in the short term and in the long-term, it has a significant positive effect on the movement of the Composite Stock Price Index. The mining sector is one of the largest contributors to the state treasury. Rising world oil prices mean an increase in state treasury and conversely a fall in world oil prices is a reduction in state treasury. On the other hand, the increase in world oil prices, will increase price of refined fuel oil. With the increase in fuel prices, the public and the business world have to pay higher prices for fuel, because Indonesia is a net importer of refined fuel oil. For this reason, it is necessary to have a policy in determining the balance of world oil production capacities.

The World Gold Price is a variable that has no effect either in the short term or in the long-term on the movement of the Composite Stock Price Index. This is because gold is considered as an alternative investment that does not generate greater profits when it compared to stock investments.

Based on estimates of the Rupiah Exchange Rate against USD in the short term and in the long-term, it has a significant negative effect on the movement of the Composite Stock Price Index. The strengthening of the Rupiah Exchange Rate is an indication of the improvement in the national economy, for this reason it is necessary to encourage the government to create a conducive business climate to increase investment interest in the country. In addition, in maintaining exchange rate stability, the government must continue to maintain policies related to monetary policy instruments and policies in the capital market.

Limitations and Suggestions

Researcher is aware that this study has limitations in the inclusion of other micro and macroeconomic variables that can affect the JCI during the COVID-19 pandemic. So it is expected that further study can examine other micro-economic and macro-economic factors that affect the performance of the JCI.

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