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**ANALYSIS OF COVID-19 CASES, BRENT OIL AND CRUDE
PALM OIL PRICE ON MALAYSIAN STOCK PRICE**

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Abstract

The composite index of Malaysia, Bursa Malaysia weakened in line with government's reaction to a novel of coronavirus (covid-19). The performance of Bursa Malaysia and cash flows may be impacted as a result of Malaysia's position as an oil-exporting and income-related economy. This research is aimed to determine the influence of covid-19 cases on the Malaysian stock market. Researcher used Kuala Lumpur Composite Index (KLCI) as the dependent variable and the independent variables are daily covid-19 cases in Malaysia, the Brent oil price, and Malaysian crude palm oil price. The study's sample period was from March 16th, 2020 to March 16th, 2021. This study conducts multicollinearity test, normality test and stationary test besides Multiple Linear Regression test to determine the effect of daily covid-19 cases, Brent oil and price of crude oil on KLCI. The findings reveal that daily covid-19 cases have negative impact on KLCI, while the rest independent variables revealed a significant positive effect on KLCI. In addition, crude palm oil price found to be the most significant factor which impacted KLCI.

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Keywords: Covid-19, KLCI, brent oil price, crude palm oil price

1. Introduction

The virus's first incidence was discovered in China, specifically in Wuhan, back in a month of December 2019, and it has since spread to South-East Asia, Europe, Africa, and other countries of the world. WHO declares the outbreak of covid-19 as a global health emergency. Globally, as of 2nd March 2021, over 113 million confirmed number of cases of covid-19, with more than 2 millions of death have been reported by World Health Organization (WHO). WHO also declared the first covid-19 cases were recorded on 25 January 2020 in Malaysia. Total cases are gradually increase and as of 2 March 2021, Malaysia recorded 302,580 total covid-19 confirmed cases, with 1,135 deaths. The government of Malaysia are trying to establish and adopt a number of preventive measures to control and prevent the spread of coronavirus. On 16 March 2020, Malaysia Prime Minister, Tan Sri Muhyidin Yasin announced a nationwide Restriction Movement Control Order (MCO) beginning 18th of March and Malaysians has been subjected to strict quarantines directed by authorities. During the MCO, some preventive actions taken by everyone to combat the epidemic. Practising a social distancing, wearing mask in public, lockdown and travel prohibition have had an unequalled effect on the financial and economic environment in numerous economies.

The composite index of Malaysia, Bursa Malaysia weakened in line with government's reaction to a novel of coronavirus (covid-19) causing a pandemic. Bursa Malaysia is one of the country's stock exchange platform, acts as a place for businesses, associations, and the government to sell shares, and other offering of exchange related product and services. Due to the uncertainties brought on by the covid-19 and MCO, prominent shareholders of listed companies also sold their shares during the initial few days of trading of MCO (Star Media, 2020). Stocks or known as equities refers to a market where investors can buy and sell ownership of such investible assets. It is a platform for trading stocks that can be done on stock exchange or over-the-counter.

Chia et al. (2020) look into the connection between stock returns in Malaysia and a few covid-19 variables. This study considered the KLCI Index and other eight selected key indices around the world, which included the first three MCOs as variables, from 2 January 2020 to 30 April 2020. It reported that new daily cases of covid-19 and deaths cases were negatively affecting the indices returns. Surprisingly, MCO had a substantial direct effect on all returns of indices, whereas oversea financial risk had a negative impact. He et al. (2020) makes an effort to investigate the positive effects and collateral damage of covid-19 case on the performance of several stock markets. They experimentally look into the stock markets daily data from South Korea, China, Italy, Germany, France, Spain, Japan, and the United States of America. They revealed that covid-19 has an adverse influence on the selected stock markets and there are bidirectional effects between Asian and European and American stock markets.

Lee et al. (2020) also investigate the direction of the covid-19 outbreak on the Malaysia stock exchange. KLCI and 13 other sectorial indices were used as dependent variables in this study's regression analysis. Researchers used the covid-19 daily cases and covid-19 death cases in Malaysia, China, and the United States, besides used volatility index, and the Brent oil price. In conclusion, it has been repeatedly demonstrated that the covid-19 cases have a considerable adverse effect on the certain Malaysian sectors and KLCI, but not on the sector of plantation. This shows that during this crucial time, the plantation sector was a protective sector to invest in. Additionally, the Malaysian stock market's various sectors tended to

respond differently to the number of deaths in China. Being an oil exporting country, Malaysia's stock market was discovered to have a strong positive correlation with the movement of the Brent Crude Oil Price.

Zeren and Hizarci (2020) gathered the data between January and March 2020 to evaluate how covid-19 affected various stock markets. The death cases of covid-19, the total number of covid-19 cases, and stock indices were all employed in this study. In instance, it was found that the stock markets in Spain, China, and Korea cointegrated with the covid-19 examples. Unexpectedly, no link could be seen between the covid-19 instances and the success of the financial markets in Germany, France, and Italy. Additionally, they observed that the increase in covid-19 incidents had no effect on the behaviour of stock market investors in France, Germany, or Italy. By combining investors' pessimistic outlook on future returns and concerns about uncertainties, Liu et al. (2020) demonstrate the detrimental influence of covid-19 verified cases on atypical stock index performances through an effective channel. This study evaluates the effects of the covid-19 pandemic on oil prices, currency exchange rates, stock market performance, and outcomes. Twenty-one of the biggest stock market indexes in the major affected countries including Korea, Japan, Singapore, the United States, Italy, Germany, and the United Kingdom, have their short-term effects of the covid-19 outbreak evaluated in this study.

The impact of the covid-19 outbreak on the price of oil, the dollar's value, the performance of the stock market, and the impact on transnational corporations (TNC) and the inflow of foreign direct investment (FDI) in Nigeria is evaluated by Nwosa (2021). The analysis examined historical data from 1 December 2019 to 31 May 2020. The study discovered that covid-19 has negative effects on Nigeria's stock market performance, exchange rate, and oil price using causal techniques. Additionally, the research revealed that covid-19 had a greater impact on the price of oil, currency exchange rates, and stock market performance than did the global recessions of 2009 and 2016. The causality estimate showed that oil price had a significant impact on both the value of the dollar and the performance of the stock market, whereas exchange rate significantly affected stock market performance. The analysis reached to the conclusion that the covid-19 pandemics had an effect on both TNCs and FDI influx to Nigeria by affecting the price of oil, the value of the dollar, and stock market performance.

In a recent study, Kamaludin et al. (2021) looked at the Dow Jones Index, the covid-19 epidemic, and the movement of the equity market in ASEAN nations. The Philippines, Thailand, Indonesia, Singapore, and Malaysia make up the ASEAN-5 countries. The researchers look into the relationship of covid-19 daily infection and the performance of equities markets in these nations. The equity markets in Malaysia and Singapore react to covid-19 incidents in the first phase, while Thailand and the Philippines exhibit coherency in the second phase, according to this study. As the virus spread, every ASEAN-5 stocks displayed excellent coherence with the Dow Jones Index. At the end of the sample period, however, there was no consistency between the ASEAN-5 equity markets, local covid-19 examples, and the Dow Jones Index.

Arintoko (2021) attempts to investigate the economic and industrial aspects that influence the stock prices of the top Indonesian palm oil firm. The autoregressive distribution lag (ARDL) model is used to evaluate the dynamics of stock price for both symmetrical and asymmetrical impacts. Monthly data for the years 2008 to 2020 were used in this study. It shows that the company's stock price follows the present

stock price of its competitors in the long run. The price of palm oil has a favourable impact on the value of the stock. In contrast, short-term inflation has a negative impact on stock price. The computed equilibrium correction coefficient suggests that the twist of equilibrium of stock price in monthly dynamics will be corrected rather quickly. Fundamental factors, however, have unequal impacts, particularly on the stock price response when these factors in the short term drop rather than grow. When making strategic decisions, investors and management should pay special attention to stock prices that are sensitive to changes in fundamental performance.

According to Vo (2019), there is a proof that company profitability has a sizable positive link with stock returns in the case of fishing firms. The performance and future prospects of a company can be enhanced by a sustainable growth in earnings, which will boost interest in equities. Stock prices will rise as a result of the growth in demand for these equities. An increase in investor expectations led to higher firm performance, which in turn led to an increase in stock prices (Antono et al., 2019).

1.1. Problem statement



Source: Worldmeter.com

Figure 1. Movement of KLCI Weekly from December 2019 until February 2021

The graph depicts the KLCI's movement after the MCO announcement. Since the beginning of December 2019, the KLCI has been on a downward slope, with the lowest point 1219.70 (second day MCO) is being reported. After that, KLCI gradually increased till it reached 1,500 (refer to figure above). The KLCI has a fairly negative view for the equities market because the market is perceived as being unstable during external shocks like the covid-19 epidemic. Due to this, researcher is interested to investigate on the impact on covid-19 daily cases on KLCI. Besides, due to the global standstill, Brent crude oil is oversupplied, and producers are slashing prices to remove stockpiles (Kaur & Bhullar, 2020). The performance of Bursa Malaysia and cash flows may be impacted as a result of Malaysia's position as an

oil-exporting and income-related economy. Therefore, in this study researcher will determine the impact of covid-19 cases, price of Brent oil and crude palm oil price on Bursa Malaysia index.

1.2. Research objectives

This study has purpose to identify the significant impact of covid-19 daily cases, Brent oil price and palm oil price on Malaysian stock market and to determine the most significant factor impacted on stock market in Malaysia.

2. Research Methods

Historical daily stock market indices used in this study within a year from March 2020 until March 2021. Data collected from Bursa Malaysia website and were run using Stata10 software. Normality and multicollinearity test were run before conducted correlation and regression analysis. The covid-19 daily cases will be measured using daily number of confirmed cases of covid-19. The data extracted from WHO website. Brent crude oil index would be used to determine the price of crude oil prices which reflect the unpredictable and liquid nature of the market, as well as the fact that oil serves as a benchmark for global economic activity. Detailed market action on Brent crude trends are available on the oil price charts in Investing.com. The Brent crude oil price will be measured in USD per barrel. In addition, daily palm oil price will be measured in Ringgit Malaysia and based on Future Crude Palm Oil Index.

3. Findings

3.1. Descriptive statistic and diagnostic test

Table 1 below shows the result of descriptive statistic and some diagnostic tests concerned in the study. The mean value said to be closed with median, then the data is considered as normal. All variables, KLCI, daily cases of covid-19, Brent oil price and Palm oil price are normal as their value of mean and median are close to each other. The probability of Skewness and Kurtosis value revealed that the residual in this study is not normal as they are below 5%, however this data is valid due to a large sample of study even though from non-normal distributions. Besides that, mean Variance Inflation Factor (VIF) is referring to multicollinearity test which detect multicollinearity problem exist in the study. The VIF value of 6.25 indicates that this study is free from any multicollinearity problem as the value shows below 10, as per rule of thumb (Micheal & Abiodun, 2014).

Table 1. Descriptive Statistic and Diagnostic Test

	Mean	Median	Skewness	Kurtosis	Probability
KLCI	7.3288	7.3504			
Daily cases	5.1375	5.0498			
Brent oil price	3.7557	3.7656			
Palm oil price	7.9975	7.9783			
Residuals			0.001	0.0052	0.0016
Mean VIF					6.25

Table 2 represents the stationarity test of unit root for each of the variables by employed Augmented Dicker-Fuller (ADF) test. All of them are stationary at first difference, hence researcher reject null hypothesis, and claims that all the variables have unit roots. Non-stationary data should undergo cointegration test to prevent bias or spurious result of regression analysis.

Table 2. Unit Root Test

	At level	1st Difference
KLCI	0.9439	0.0000
Daily cases	0.1744	0.0000
Brent oil price	0.5502	0.0000
Palm oil price	0.7238	0.0000

3.2. Regression analysis

Table 3 presents the regression analysis by using Pooled Ordinary Least Square (POLS) test. 75.93% of variation of covid-19 daily cases, Brent oil price and price of crude palm oil, are able to explain the KLCI. The remaining of 24.07% is explained by other predictors or determinants which are omitted in this study. This study is fit and strong as it has significant probability of F statistic. Additionally, covid-19 daily cases, Brent oil price and crude palm oil price have significant impact on KLCI as the P value of each variables are significant. Hence, researcher rejects null hypothesis of having no impact. Covid-19 daily cases have negative significant impact on KLCI, where any 1 unit increase in covid-19 daily cases will reduce the KLCI by 1.24 unit. For Brent oil price, any 1 unit increase in Brent oil price, it will also increase KLCI by 12 unit. These two results have been supported by Lee et al. (2020), where they claimed that most sectors in the Malaysian market have positive impact on KLCI since Malaysia is an oil exporting country. Furthermore, any 1 unit increase in crude palm oil price, KLCI will increase by 20 unit and this independent variable shows the most significant factor impacted on KLCI. Arintoko (2021) found that price of palm oil has direct effect on stock price. Stock price is said to reflects all relevant information, where increase in palm oil price will affect the KLCI.

Table 3. POLS Test

Variables	KLCI		
	Coefficient	Standard Error	P value
Constant	2.3178	0.0805	0.000
Covid-19 daily cases	-0.0124	0.0017	0.000
Brent oil price	0.1200	0.0176	0.000
Crude palm oil price	0.2006	0.0309	0.000
R-squared		0.7622	
Adjusted R-squared		0.7593	
Prob > F		0.000	
F statistic		256.46	

4. Conclusions

This study conducted to identify the impact or influence of covid-19 daily cases, Brent oil price and crude palm oil price on KLCI and also to find out the most significant factors which impacted on Malaysian stock price. 244 observations include in this study which covers from 16th March 2020 until 16th March 2021. By employing a multiple regression analysis, researcher found that covid-19 daily cases have negative impact on KLCI, as the virus spread it will negatively affect the performance of KLCI (Lee et al., 2020). The restrictions order by the government stopped the economic activities and further shook economic progress, by which created fear among investors to invest in stock market. However, Brent oil price and crude palm oil price found to have a positive significant impact on KLCI, as per Lee et al. (2020) and Arintoko (2021) respectively. As an exporting oil country, the increment in Brent oil and palm oil price will convince investors to invest in Malaysian stock market, hence boost the KLCI. The policy maker might use these findings as a guide when deciding which variables to emphasise in influencing the stock market index. They have to constantly monitor and assess economic and industry fundamentals when predicting future stock values. As crude palm oil price being the most significant factor, investors are advisable to closely monitor the change in crude palm oil price which will positively affect KLCI, besides monitoring the daily cases of covid-19. For future research, they have options to lengthen or expand the period of study, besides try to find the dynamic relationship among the variables using co-integration analysis. A different method of study perhaps generates meaningful result and provide a better understanding on this topic.

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