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# COVID-19 IMPACT ON STOCK RETURNS OF TRAVEL, LEISURE AND HOSPITALITY SECTORS IN MALAYSIA

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**ABSTRACT**
The COVID-19 pandemic impacted the worldwide financial market, including Malaysia. The main purpose of this study is to investigate the effect of COVID-19 on stock returns of travel, leisure, and hospitality sectors. The sample period of this study is from January 2020 to December 2021. The variables were used in this study, including COVID-19 new cases, COVID-19 deaths, exchange rate, government response and stringency index, OPEC oil basket price, and CBOE volatility index. It is found that COVID-19 new cases, exchange rate, and volatility index have a significant and negative influence on stock returns of travel, leisure, and hospitality sectors. On the other hand, government response and stringency index and oil price statistically and positively affect stock returns. The result indicates that stock return is strongly affected by COVID-19. These findings will appeal to those interested in investment regarding stock returns. The empirical findings from this study are expected to benefit the continued development of the travel, leisure, and hospitality sectors in Malaysia.

## 1. INTRODUCTION
In December 2019, a new form of coronavirus known as novel coronavirus (COVID-19) was found in Wuhan, China. The COVID-19 virus spread throughout China and the rest of the world. COVID-19 is caused by the SARS-CoV-2 virus. It belongs to the coronavirus family of viruses, which includes viruses that cause everything from common colds to more serious diseases like severe acute respiratory syndrome (SARS) and Middle East respiratory syndrome (MERS). The COVID-19 pandemic is the largest infectious disease epidemic in the world since the 1918 Spanish Flu, which killed 34,644 people, or 1% of the country's population.

COVID-19 was first found in Malaysia on January 24, 2020, and was considered an imported case until localized clusters were discovered on March 16, 2020. By that time, it spread to every state and federal territory in the nation. The number of cases

increased dramatically from 125 cases in March 2020 to 2,182 by the end of March 2020 (The Star, 2020). Malaysia's government issued a Movement Control Order (MCO) in response to the epidemic, starting from 18 March until 31 March 2020. Due to the increasing number of cases, the two-week MCO period was prolonged to the second phase of MCO until April 14, 2020. The MCO was extended till November 1, 2021 (Wikipedia, 2021).

According to the Malaysian Department of Statistics, tourism is one of Malaysia's most significant sectors, contributing 5.9% to the country's GDP and utilizing around a quarter of the country's labourers. It originally planned to launch the Visit Malaysia 2020 campaign to reach 30 million visitor arrivals. However, the program was cancelled due to the COVID-19 pandemic. Malaysia closed its borders to international visitors and restricted access for non-residents in 2020, resulting in a drastic decrease in tourist arrivals from 26.1million in 2019 to 4.3 million in 2020 (My Tourism Data, 2021). Domestic tourism spending also fell short of compensating for the industry's losses. During the lockdown periods, only essential businesses were permitted to open in the third quarter of 2020. Inter-state travel for non-essential purposes, such as shopping or visiting friends and family, was prohibited, effectively putting an end to domestic tourism.

The COVID-19 outbreak had a significant economic influence in Malaysia and all around the world. The COVID-19 pandemic can be classified as a crisis because it slowed people's mobility from a global to a community level, forced countries to close borders in the airport, delayed or even halted goods production and distribution, and so on. The tourism and hospitality industries are severely impacted by COVID-19. The tourism industry that includes face-to-face contact, such as air travel, hotels and restaurants, and tourism services, may be disproportionately impacted. The Malaysian Associations of Hotels (MAH) confirmed that the Malaysian hotel industry suffered from revenue loss of RM5 billions thanks to the COVID-19 pandemic and travel restrictions. According to the financial assistance policies, there would not be sufficient to deal with the pandemic's negative effects, which could be more serious than the worldwide monetary crisis from 2008 to 2009. The recovery will take some time and will most likely begin by the end of 2021. The restrictions imposed during the MCO aggravated Malaysia's travel, leisure, and hospitality sectors' contraction, necessitating progressive policies to guide industry participants.

Coronavirus has killed many people, one of the most lethal viruses ever. Malaysia never experienced such a big-scale health crisis. As a result, the main goal of this study is to fill the research gap by delving how COVID-19 pandemic affects the stock returns on Malaysia's travel, leisure, and hospitality sectors. This study provides significant findings to researchers, regulators, tourism organisations, market participants, and investor regarding the factors that influence the stock returns of travel, leisure, and hospitality sectors during the health crisis. The results do not only enable them to assess their performance and take appropriate action, but also help investors in determining an appropriate investment strategy in the occurrence of health crisis.

## 2. LITERATURE REVIEW

The financial market plays a crucial role in the economy as it can provide funds for investors' businesses. Stock is one of the tools of trading in the capital market. In addition, stock market is one of the economic barometers because the stock market is an integral part of the market economy and is directly related to the real economy. When it comes to investing in stocks, investors are looking for high returns. However, the stock market is affected by various events like natural events, disasters, announcements or news, financial crises, health crisis, political uncertainty, and shocks (He et al., 2020; Low, et al., 2011, 2015; Tee and Kew, 2019).

COVID-19 epidemic exerts a negative impact on investor sentiment, which may be magnified through social media, impacting trading volume and stock prices for a sample of United States firms (Chen et al., 2020). According to Hassan et al. (2020), COVID-19 intensified investors' pessimism about future profitability and heightened fears about uncertainty. The daily number of newly confirmed cases negatively affect the performance of major stock market indexes, particularly in Asia. Al-Awadhi et al. (2020) find that the number of Covid-19 cases increases over time has a negative impact on stock returns. With the increase in the number of cases, stock returns decreased. According to Ashraf (2020), in a sample of 77 countries, the stock market reacted more to confirmed cases than to the rise in deaths. Topcu and Gulal (2020) investigate the effects of the epidemic outbreak in emerging stock markets. They discover that the virus's negative impact on these markets gradually decreased and began to fade away by mid-April.

Ftiti et al. (2020) document that the Covid-19 cases have a negative impact on stock returns on the Chinese stock market. Liu et al. (2020) examine the impact of Covid-19 on 21 primary stock market indexes in countries affected by the virus, including Korea, Japan, Italy, Singapore, the United States, Germany, and others, and discovered that stock indices fell sharply after the virus spread. In addition, when compared with other countries, Asian countries had more negative abnormal returns. As a result, it is demonstrated that important events such as death and contagious disease have a negative impact on financial assets, particularly in the stock market. Similarly, Tee and Kew (2022) find that greater levels of COVID-19 new cases and deaths are inclined to reduce Islamic stock returns in Malaysia.

The tourist industry and companies associated to travel are being impacted by market uncertainty as the COVID-19 virus spreads. Consumer spending and business investment have also fallen, leading to a drop in travel stock prices. COVID-19 outbreak knocked the confidence of consumer and company, triggering a descend in business investment decisions and individual consumption (Mahajan, 2020). To put it another way, firms and consumers tend to limit investment and delay decision-making to wait for the uncertainty to subside. Consequently, many investors do not conduct irrational investment activities in response to information about the COVID-19 pandemic (Pagano et al. 2020). Moreover, investor panic has a negative effect on stock performance (Aggarwal et al., 2021).

Loh (2006) finds that airline stocks were sensitive to news relevant to the outbreak of SARS on the stock exchanges of Hong Kong, China, Singapore, Canada, and Thailand. The negative impact was more reflected in accretion in volatility than a decrease in stock returns. Another SARS-related study (Chen et al., 2007) focused on the 30 shares of tourism-related companies in Taiwan, particularly hotels, and found that while the SARS outbreak, revenue and stock prices of these companies declined. Furthermore, SARS appears to have a significant impact on the performance of hotel stocks both on the day of the outbreak and afterward.

We contribute to the current literature by examining the effect of COVID-19 pandemic on Malaysia's travel, leisure, and hospitality sector stock returns. Like SARS health crisis, we expect that the outbreak of COVID-19 has a negative impact to stock returns in travel, leisure, and hospitality sectors.

## 3. RESEARCH METHODS

The purpose of this study is to investigate the COVID-19, particularly its effect on the stock returns of travel, leisure, and hospitality sectors in Malaysia. This study period runs from January 29, 2020, to December 28, 2021. The daily data on stock price index on the Malaysian travel, leisure, and hospitality industries, the number of COVID-19 new cases, the number of COVID-19 deaths, government response stringency index, Malaysian exchange rate per US dollar, OPEC oil basket price, and CBOE SPX volatility index were retrieved from Thomson DataStream database.

Following Ashraf (2020), Chang et al. (2021), Chen et al. (2017), and He et al. (2020), we employed the following multivariate regression model to explore the impact of COVID-19 on the stock returns on travel, leisure, and hospitality sectors after controlling variables that potentially affect stock returns.

$$SR_t = \alpha_t + \beta_1 COVID19_t + \beta_2 GRSI_t + \beta_3 EXR_t + \beta_4 OIL_t + \beta_5 VIX_t + \varepsilon_t$$

where SR is Malaysian stock returns on travel, leisure, and hospitality sectors, calculated by $(P_t - P_{t-1})/P_{t-1}$. COVID-19 is measured by NEW (change rate of COVID-19 new cases) as well as DEATH (change rate of COVID-19 deaths). The control variables are GRSI (government response stringency index), EXR (change rate of Malaysian currency exchange rate per US\$), OIL (change rate of OPEC oil basket price), and VIX (CBOE SPX volatility index).

## 4. RESULTS AND DISCUSSION

Table 1 shows the descriptive statistics for variables used in this study. Ranging from -11.07% to 14.87%, the sample mean of travel, leisure, and hospitality industry stock returns (SR) is 0.01%, with a standard deviation of 2.03%. On average, the change rate in COVID-19 new cases (NEW) is 18.69%, whereas the change rate of deaths (DEATH) is 2.43%. Government response stringency index (GRSI) has a mean value of 64.47. The change rate of Malaysian Ringgit per USD (EXR) on average is 0.01%, whereas the change rate of crude oil price (OIL) is 0.12%. The mean value of volatility index (VIX) is 24.83.

**Table 1: Descriptive statistics**

|  | Mean | Minimum | Maximum | Standard deviation | Skewness | Kurtosis |
|---|---|---|---|---|---|---|
| SR | 0.01 | -11.07 | 14.87 | 2.03 | 0.10 | 10.08 |
| NEW | 18.69 | -100 | 2000 | 134.53 | 9.91 | 124.06 |
| DEATH | 2.43 | 0.00 | 366.67 | 16.75 | 20.79 | 451.21 |
| GRSI | 64.47 | 11.10 | 85.20 | 15.49 | -1.40 | 2.09 |
| EXR | 0.01 | -2.28 | 2.22 | 0.32 | 0.04 | 11.39 |
| OIL | 0.12 | -28.18 | 24.63 | 3.89 | -0.61 | 18.06 |
| VIX | 24.83 | 13.68 | 82.69 | 10.18 | 2.50 | 8.21 |

*Note:* The variables are SR (stock returns on travel, leisure, and hospitality sectors), NEW (change rate of COVID-19 new cases), DEATH (change rate of COVID-19 deaths), GRSI (government response

stringency index), EXR (change rate of Malaysian currency exchange rate per US$), OIL (change rate of OPEC oil basket price), and VIX (CBOE SPX volatility index).

Table 2 shows the Pearson Correlation between the stock return and the independent variables. The results show that COVID-19 new and deaths cases, EXR, as well as VIX have negative correlations with the stock returns. GRSI and OPEC oil basket price show a positive link with the stock returns.

**Table 2: Result of correlation analysis**

|  | SR | NEW | DEATH | GRSI | EXR | OIL | VIX |
|---|---|---|---|---|---|---|---|
| SR | 1 | | | | | | |
| NEW | -0.083 | 1 | | | | | |
| DEATH | -0.095 | 0.003 | 1 | | | | |
| GRSI | 0.201 | -0.014 | 0.085 | 1 | | | |
| EXR | -0.240 | -0.053 | 0.133 | -0.095 | 1 | | |
| OIL | 0.174 | -0.005 | -0.148 | 0.0105 | -0.227 | 1 | |
| VIX | -0.130 | 0.096 | 0.232 | -0.049 | 0.082 | -0.169 | 1 |

*Note:* The variables are SR (stock returns on travel, leisure, and hospitality sectors), NEW (change rate of COVID-19 new cases), DEATH (change rate of COVID-19 deaths), GRSI (government response stringency index), EXR (change rate of Malaysian currency exchange rate per US$), OIL (change rate of OPEC oil basket price), and VIX (CBOE SPX volatility index).

The regression results are presented in Table 3. In model 1, the results offer evidence of a negative and significant relationship between the COVID-19 new cases and stock returns. In model 2, COVID-19 deaths also show a negative relationship with stock returns but not statistically significant related to the stock returns. In model 3, we include both COVID-19 new and death cases into the same regression to check whether COVID-19 new and death cases significantly affect the stock returns when they are examined together in the model. The results confirm that COVID-19 new cases have statistically significant and negative effect on stock returns of travel, leisure, and hospitality sectors in Malaysia. The results are consistent with the findings of Al-Awadhi et al. (2020), Ftiti et al. (2020) and Liu et al. (2020).

However, COVID-19 death remains negative but insignificant in affecting the stock returns. Our findings are contrast to the results of He et al. (2020) who find high Covid-19 death cases greatly impact the stock exchange and lower stock returns in the United States. The failure of controlling death rate will increase negative sentiment and thus adversely influence the stock returns. The difference in result is perhaps because the Malaysian travel, leisure, and hospitality sectors react more to the changes in new cases than to the changes in death cases.

In all models, government response stringency index (GRSI), exchange rate (EXR), oil price (OIL) and volatility index (VIX) variables are significant contributions to stock returns. The results show highly strong evidence of a positive relationship between the GRSI and stock returns. In line with Chang et al. (2021), the stock market responds favourably to government actions. Specifically, the government response stringency index significant leads to positive stock market results. In addition, we found strong evidence of a negative relationship between the exchange rate and stock returns. Furthermore, oil price shows a positive and significant relationship with stock returns. The volatility index shows evidence of a negative relationship with stock returns. Consistent with Chen et al., (2017), the VIX implies a strong negative impact on stock returns.

**Table 3: Result of regression analysis**

| Variable | Model 1 | Model 2 | Model 3 |
|---|---|---|---|
| NEW | -0.001* | | -0.001** |
| | (-1.956) | | (-2.011) |
| DEATH | | -0.006 | -0.006 |
| | | (-1.204) | (-1.197) |
| GRSI | 0.022*** | 0.023*** | 0.022*** |
| | (3.905) | (4.042) | (3.967) |
| EXR | -1.252*** | -1.185*** | -1.218*** |
| | (-4.591) | (-4.319) | (-4.441) |
| OIL | 0.050** | 0.048** | 0.046** |
| | (2.189) | (2.052) | (2.000) |
| VIX | -0.016* | -0.016* | -0.017* |
| | (-1.882) | (-1.777) | (-1.737) |
| Constant | 0.971** | 1.056** | 0.932** |
| | (2.245) | (2.400) | (1.962) |
| Adjusted R-Square | 0.107 | 0.103 | 0.107 |

*Note:* The variables are SR (stock returns on travel, leisure, and hospitality sectors), NEW (change rate of COVID-19 new cases), DEATH (change rate of COVID-19 deaths), GRSI (government response stringency index), EXR (change rate of Malaysian currency exchange rate per US$), OIL (change rate of OPEC oil basket price), and VIX (CBOE SPX volatility index). *t*-statistics are shown in the parenthesis. ***, **, * denote significant at the 0.10, 0.05 and 0.01 levels, respectively.

## 5. CONCLUSION

In summary, the global pandemic has a particularly adverse impact on the travel, leisure, and hospitality industries. The pandemic has presented the industries with an extraordinary challenge. This study has achieved its objective in investigating the factors related to stock returns of travel, leisure, and hospitality sectors. Research on the impact of COVID-19 on stock returns of travel, leisure, and hospitality sectors is still new and at the preliminary stage in an emerging market likes Malaysia. The interest to conduct this study is to better understand the impact of COVID-19 on stock returns of travel, leisure, and hospitality sectors. It is found that COVID-19 new cases, exchange rate, government response stringency index, oil price, and volatility index are statistically related to stock returns of travel, leisure, and hospitality sectors. However, COVID-19 death is found insignificantly related to stock returns of travel, leisure, and hospitality sectors. This study assists market participants in determining the critical aspects to consider. As a result, this study's results underline the need to monitor the number of COVID-19 cases and external factors.

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