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THE IMPACT OF MCO ON THE STOCK MARKET AND MORATORIUM ON BANKING SECTOR'S PERFORMANCE IN MALAYSIA: THE CASE OF COVID-19

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ABSTRACT

This study examines the influence of COVID-19 on the KLCI and also the stock price of banks in Malaysia. We use the event study methodology to examine the impact of COVID-19 in the pre-and post-10 days of the event dates. Data on stock prices of are obtained from Bursa Malaysia. The findings show that the cumulative abnormal return (CAR) of the overall stock market decreased significantly after the announcement of the first Movement Control Order (MCO) in the country. This indicates that the economic and financial instability caused by COVID-19 has reduced investor confidence. The study also shows that blanket loan moratorium has resulted in a decrease of CAR for three major local banks. The MCO which was enforced to reduce the number of widespread cases was followed by the implementation of bank moratorium to assist the people due to their income reduction. Hence, our study empirically shows that banks were negatively affected by the implementation of moratorium.

1. INTRODUCTION

COVID-19 started in Wuhan, China, in the late December 2019 (Liu et al., 2020) and has spread drastically. In a matter of months, it has brought most countries into a complete standstill (Fanelli and Piazza 2020). Economies and business were severely affected by the sudden halt and most people were unprepared to face the consequences and aftermath of the pandemic. In the United States, its real GDP decreased 11 percent while European countries recorded a 15 percent decrease in the early period of 2020, which is the largest decrease since World War II (Ramelli and Wagner, 2020). The economic impact of Covid-19 is potentially going to be of first-order importance in the post-pandemic years (Ramelli and Wagner, 2020). This is an important issue to understand because as much

as COVID-19 has been an unprecedented event, its scale has been matched by government policies to cushion its negative repercussions (Narayan et al., 2021). Governments responded with multiple policy approaches to minimize the repercussions of the pandemic. To have a glimpse of the implications of those policies, we can look at earlier works like Adda (2016) who investigates the effectiveness and implication of government policies during the viral diseases outbreak in France.

Unfortunately, Malaysia too is not spared from Covid-19 pandemic. The first case was detected on 25 January 2020 involving Chinese nationals who had entered Malaysia via Johor from Singapore (Hassan, 2020). The cases continued to rise and on 18 March 2020, the Prime Minister was forced to implement the Movement Control Order (MCO) (Tang, 2020) to curb the spread of the virus. During the MCO, there are tight restrictions on international travel, schools were closed, people were given stay-at-home orders, they are banned from gathering, nonessential businesses were ordered to close, face masks are mandatory, and social distancing must be adhered. The MCO is essentially a complete lockdown and this action of restricting people's movement which was aimed to break the COVID-19 chain which has negatively affect the country's economy.

For instance, the Malaysian economy has recorded a slower growth of 0.7% in the first quarter of 2020, which is 3.6% lower than the fourth quarter of 2019 (Hamdan, 2020). Meanwhile, the Malaysian economy recorded a contraction of 17.1% in the second quarter of 2020 due to MCO and Conditional Movement Control Order (CMCO) implementation. Gross domestic product (GDP) also declined by 2.7% in the third quarter (Hamdan, 2020). Among the economic sectors that was severely affected was the trade and services sector, mainly due to travel restrictions and border closures (Lim, 2020). Impairment of the trade sector will negatively impact companies engaged in export and import activities, especially multinational companies. At the same time, the impact on the tourism sector will affect other sectors such as hospitality, food, and transportation industries due to the lack of influx of tourists from abroad.

In order to lessen the people's burden due to the decline of business, the Malaysian government has instructed banks in Malaysia to implement a bank moratorium where debtors such as hire-purchase borrowers were exempted from servicing their loans without any penalty for a period of six months starting from 1 April 2021 (Daim, 2020). While this moratorium intends to help ease the financial problems faced by people affected by COVID-19, it will have a negative effect on banks as they are already faced with a decline of new borrowers willing to take up loans.

Hence, this study has two objectives. First, we aim to identify the impact of MCO announcement on the KLCI, which is relatively unexplored up to the time of writing. As shown by Mazur et al. (2021), even the S&P500 in United States experienced high volatility in March 2020 and subsequently crashed. Since this is the first time modern Malaysia has experienced a pandemic which not only affects the entire global economy but also its local economy simultaneously, therefore, it is interesting to see the immediate reaction of investors towards the Malaysian stock market. Second, this study also aims to find the impact of the loan moratorium announcement on the stock price of local banks in Malaysia. So far, there still no study which specifically study on the reaction of investors on Malaysian firm stock prices in response toward the implementation of fiscal or monetary policy due to COVID-19.

The rest of the paper is structure as follows. Section 2 discusses the literature reviews and the hypotheses are subsequently presented. Section 3 explains the data and methodology. Section 4 presents the results and discussion and Section 5 concludes.

2. LITERATURE REVIEW
2.1 The effect of covid-19 on the stock market

The stock market plays a vital role in the economic development of the country. Nevertheless, the contagion of COVID-19 has affected the stock market's stability in two ways (Ozili, 2020). First, it forces business activities to close and eventually stagnating the financial markets. The second way is when investment decisions for investors are influenced by the number of positive COVID-19 cases that causes further fluctuations in the stock market (Ozili, 2020).

China was the first country to implement a complete lockdown in the city of Wuhan on the 23 January 2020, and the reopening of the stock market on the first trading day on 3 February 2020 was inundated with overreactions in both the industry and firm level (Huo and Qiu, 2020). According to Huo and Qiu (2020) who investigates the stocks of 28 industries in China, a total of 22 industries documented negative cumulative abnormal returns (CARs). The leisure service industry recorded the greatest negative CAR due to the lockdown restriction. Only six industries recorded positive CARs, including the Pharmaceutical and Biotechnology industry with the highest and positive CARs, 2.46%. This is due to the high demand for safety equipment, medicines, and medical services during pandemic. The computer industry also recorded a positive CAR as people started purchasing more technological equipment such as computers, tablets, and smartphones for work related purposes.

In the United States, the stock market was badly affected by COVID-19 where it crashed in March 2020 in reaction to the government's response towards the pandemic (Mazur et al., 2021). The Dow Jones Industrial Average (DJIA) declined roughly 26% in four trading days and approximately 90% of the S&P1500 stocks showed asymmetrically distributed large negative returns (Mazur et al., 2021). Baker et al. (2020) suggests that limitations on commercial activity and forced social distancing, particularly in a service-oriented economy, was the key reason the U.S. stock market responded so much more forcefully to COVID-19 than to prior pandemics.

In Australia, Alam, Wei, and Wahid (2020) showed that the economy of Australia and its capital market has weakened since early 2020. Similar to Huo and Qiu (2020), industries like food, pharmaceuticals and healthcare showed high positive returns whereas transportation industry showed poor performance.

Similarly, the stock market in Pakistan was significantly affected by the pandemic. While the number of positive cases and deaths did not have a significant relationship with stock market performance (Riaz et al., 2020), the uncertainty with regards to the stock market conditions have negatively influenced the decisions of investors in Pakistan. Since Pakistan first confirmed the first two positive cases of COVID-19, the Pakistan Stock Exchange has lost 2.266 points, equivalent to Rs. 436 billion of its equity. Its market capitalisation decreased from Rs.7,531 to Rs.7,095 (Riaz et al., 2020).

Using data from 53 emerging and 23 developed countries, Harjoto et al. (2020) showed that COVID-19 cases and deaths negatively impacts stock returns while simultaneously increasing volatility and trading volume. However, investors from emerging markets reacted differently to COVID-19 cases and deaths as compared to those in the developed markets.

We believe the KLCI before and after MCO will react negatively when the Prime Minister announced the MCO to curb the spread of the virus. The lockdown means closures of school and workplace and restrictions on most movement. Since economic activity relies much on interactions, the measures dramatically affected the market.

Furthermore, long-distance travel has become commonplace these days, supporting tourism and hospitality sectors and facilitating interactions and commercial activity in business, entertainment, education, and the sciences. The lockdown effectively puts a stop to all these activities. Other than that, globalisation of financial market for the past decades makes financial markets around the world more integrated than before. The instability of markets in other parts of the world will also affect the Malaysian stock market.

Since the beginning of year 2020, Bursa Malaysia has declined by 20.52%, which is the lowest figure in a decade (Chia et al., 2020). Foreign direct investment (FDI) flows also declined by 40% following the closure of the country's borders to curb the spread of COVID-19. The reduction in the number of local and foreign investors is expected to reduce the liquidity of the Malaysian stock market. In a way, we concur with Mazur et al. (2021) in expecting a negative reaction of the market towards government's response to tackle the pandemic. Hence, the below hypothesis is formed:

H1: The announcement of Movement Control Order (MCO) has a negative effect on the KLCI.

2.2 The effect of bank moratorium on local bank's stock prices

When MCO was implemented in Malaysia on 18 March 2020, the number of unemployment in the country is expected to rise (Kanyakumari, 2020). To buffer the impact of the MCO on ordinary Malaysians, the central bank of Malaysia instructed banks to implement an automatic six-month blanket moratorium on all bank loans except credit card balances. According to Malaysia's Minister of Finance, it is the only country to have implemented a blanket moratorium. In other countries like Australia, New Zealand and India, certain conditions have to be met in order for the borrowers to qualify for moratorium. The moratorium support offered was also highest in the region, where Malaysian banks offered approximately 55 per cent of their total loan book for moratorium purposes which accounts for almost RM100 billion.[1] In Thailand, the moratorium assistance only covered 33 per cent of the country's total loan book, followed by the Philippines (22 per cent), Indonesia (16 per cent), India (11 per cent) and Singapore (10 per cent)[2].

However, loan moratoriums can pose critical risks to the banking systems and prudent risk management is needed due to the possibility that they may eventually become non-performing loans (NPLs). According to the Finance Minister of Malaysia, the banking sector is estimated to incur losses of RM6.4 billion throughout the duration of loan moratorium, which equals to about losses of RM1.06 billion per month based on the Malaysian Financial Reporting Standards (MFRS) 9. According to the Minister of Finance, there is also "modification loss" of RM79 billion due to the six-month blanket moratorium period.[2] "Modification loss" means bank have less capacity to issue new loans to businesses and individual borrowers. This is substantiated by the report of the central bank of Malaysia which reported a decline in earnings from domestic banking activities in the first and second quarter of 2020. Additionally, a report by Fitch Ratings also mentioned about decreased ratings for banks as due to the pandemic. Fitch reported

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[1] https://www.nst.com.my/news/nation/2020/07/612710/only-malaysia-offered-loan-moratorium#:~:text=KUALA%20LUMPUR%3A%20Malaysia%20is%20the,Seri%20Zafrul%20Tengku%20Abdul%20Aziz

[2] https://www.abm.org.my/consumer-information/loan-deferment

a negative rating for Malaysian banks and that the main problem for the latter are the slow non-performing loan recognition, lower profitability and property market risks.

Generally, the performance of local banking industry in 2020 has been bad due to weaker economic outlook which contributes to lower net interest income, and substantially higher allowance for NPL. For example, Malayan Banking Bhd has put this loss at RM1bil and around 70% of Maybank's loan book in Malaysia is under the moratorium.[3] According to Jasin (2020), Maybank has announced its inability to pay any dividends for the second quarter of 2020 due to poor bank performance. Aside from Maybank, almost all banks in Malaysia also recorded and reported poor business performance, which negatively impacted the stock market.

According to The Star (2020), it is expected that the banking sector will experience constraints in terms of income and loan growth due to the local and global economic downturn caused by the COVID-19 pandemic. Ozili and Arun (2020) further adds that in general, the number of transactions in bank decreased during the COVID-19 pandemic. Among the declining transactions was ATM cash machines and card payments usage, which have a negative impact on bank profits. Since the implementation of the moratorium, the number of transactions carried out decreases. Data obtained from 118 banks registered in 28 countries have shown that the entire banking sector was significantly affected in the early months when the COVID-19 pandemic hit the world (Korzeb and Niedziółka, 2020). Furthermore, bank stock prices in the U.S. have also fallen sharply, indicating an increased risk of a banking crisis (Blank et al., 2020). As the COVID-19 pandemic spread rapidly worldwide, the stock price in Indonesia has reached its lowest level at Rp.3.911.71 (Putri, 2020). Putri (2020) also mentioned that banks in Indonesia with large amounts of assets also experienced a decline in stock prices during and after the COVID-19's announcement. Based on the information provided by central bank of Malaysia and other related reports, we therefore, hypothesize the following.

H2: The announcement of loan moratorium will have a negative effect on the stock price of local banks in Malaysia.

3. METHODOLOGY

The data of this study is obtained from Bursa Malaysia. The daily stock price is also obtained for three major local banks – Malayan Banking, CIMB Bank, and Public Bank. The reason for choosing only these three banks is due to their high combined market capitalisation. As such, we believe that incorporating these three banks will be sufficient for us to make a good representation of the local banks in Malaysia. The Kuala Lumpur Composite Index (KLCI-30) was also obtained from Bursa Malaysia.

The main analysis was conducted using the event study method. According to He et al. (2020), the event study method is a method to study the change in abnormal returns after an event occurs. Researchers using this method to investigate the impact of COVID-19 on the stock market and stock prices. The calculation of abnormal returns is usually based on three models - the average adjusted return rate model, market index adjusted return rate model, and market model. However, this study only used market models where this model is commonly used and has excellent predictive power (Brenner, 1979) and the calculations are as follows:

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[3] https://www.thestar.com.my/business/business-news/2020/07/04/spotlight-on-loan-moratorium

To calculate the abnormal return, first, we calculate the difference between the actual return and the expected return by using Equation (1).

$$A_{i,t} = R_{i,t} - E(R_{i,t}) \qquad (1)$$

where $A_{i,t}$ is the excess return or residual of a security. $R_{i,t}$ is the actual return of a security. $E(R_{i,t})$ is the expected return of a security.

Abnormal return (AR) measures whether the distribution of returns at the time of the event is abnormal. The abnormal returns are then averaged across the firms to get the daily averaged abnormal returns over the period from day -10 to day +10. Refer to Equation (2). The cumulative average abnormal returns (CAR) is then calculated by summing the daily average abnormal returns overtime t_1 to t_2. Refer to Equation (3).

$$AR_t = \frac{1}{N} \sum_{i=1}^{N} A_{i,t} \qquad (2)$$

$$CAR\ (t_1, t_2) = \sum_{t=t_1}^{t_2} AR_t \qquad (3)$$

The CARs will be tested on their statistical significance. Following a general principle of inferential statistics, the null hypothesis (H_0) states that there is no cumulative abnormal return within the event window, whereas the alternative hypothesis (H_1) states the existence of cumulative abnormal return within the event window. The null hypothesis is rejected if the test statistics exceeds a critical value of 10% tail region. The test statistics for both CAR is given below:

$$H_0: \mu = 0 \ \text{ and } H_1: \mu \neq 0$$

$$t(CAR) = \frac{CAR(t_1, t_2)}{\sigma^2(t_1, t_2)} \qquad (4)$$

where $\sigma^2(t_1, t_2) = L\sigma^2(AR_t)$, L is the horizon length of the event period which can be calculated form $t_2 - t_1 + l$. In this study, l are 21 and 11 trading days.

There are two event dates in this study. To examine the first objective, we use the day when the implementation of MCO was announced, which is on the 16 March 2020. To examine the second objective, we use the day when the loan moratorium was announced, which is on the 24 March 2020. Following Bunkanwanicha et al. (2013), event window of (-10,+10) was chosen for us to examine the impact of these two events on their respective stock prices. The estimation window is defined as (-70, -10). Due to the close gap between these two events, we use the same estimation window for both events to prevent the value of abnormal return for the loan moratorium announcement from being contaminated by the event of MCO announcement. Based on the core literature on event study such as MacKinlay (1997), the estimation period is used to calculate the proxy of the market return. In this study, the estimation period is 60 days prior to the event. Hence, we use the market return for these 60 days as the proxy for the 'normal' market return.
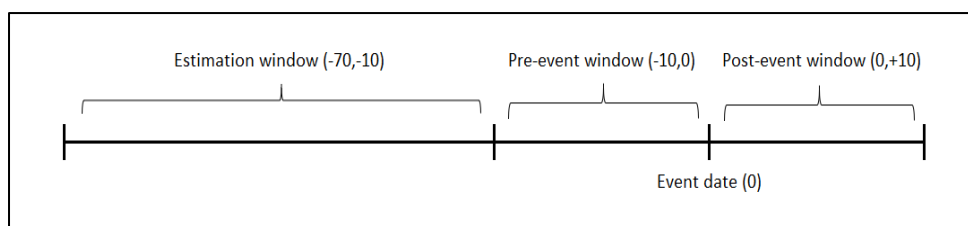
Figure 1: Estimation window (-70,-10), pre-event window (-10,0), post-event window (0,+10), and event date (0).

4. RESULTS AND DISCUSSION
4.1 Descriptive statistics

Table 1: The descriptive statistics of cumulative abnormal return.

	N	Mean	Median	Std. Dev.	25%	75%
Panel A: MCO announcement:						
CAR (-10,0)	30	-33.72	-33.72	18.83	-24.06	-51.50
CAR (0,+10)	30	-386.14	-386.14	60.36	-247.01	-390.44
Panel B: Bank moratorium announcement:						
CAR (-10,0)	3	-2.20	-3.17	0.28	-1.94	-2.85
CAR (0,+10)	3	-5.95	-6.08	0.93	-3.43	-6.61

4.2 The effect of MCO announcement on the stock market

Table 2 and Figure 2 shows that the cumulative abnormal return (CAR) for KLCI in the pre-event window. It shows a negative CAR of -49.03 but the t-value indicates that it is insignificant. This suggests that 10 days before the announcement of MCO, the market has been trading at a downturn. There might be two possible reasons for this downturn.

First, of course is the outbreak of the COVID-19 pandemic in Malaysia and abroad. Before the MCO announcement, there was already rumours spreading that MCO will be imminent. There were less than 10 new daily cases in February 2020 but since March 2020, daily new cases were on the rise. Refer to Figure 4 for the increase in the number of daily cases. According to Figure 2, even before the MCO announcement was made, it has already affected the overall Malaysian stock market. The COVID-19 situation in China might also affect Malaysia's stock market because Malaysia received substantial business supplies from China, primarily supplies related to electronic devices. So, when COVID-19 hit China and certain provinces were subjected to full lockdown or partial lockdown, their exports to Malaysia was affected. Thus, the day-to-day operations of certain businesses in Malaysia were affected. Second, is the political situation in Malaysia in the period before the MCO lockdown. There was a political instability on which lasted from 23 to 29 February 2020 when the incumbent government was unexpectedly toppled. Eventually a new administration was appointed but instability persists. Financial markets naturally react to political instability (Roe and Siegel, 2011) and hence the negative CAR in the pre-event window may be caused by political factor as well.
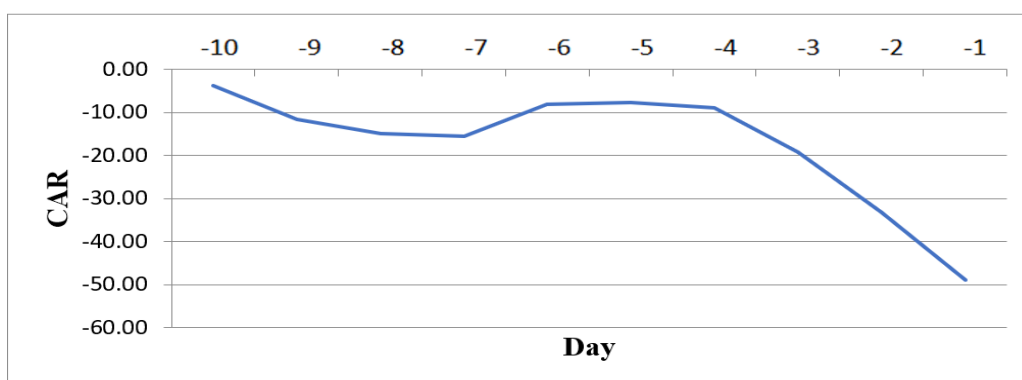
Table 2 and Figure 3 shows that the cumulative abnormal return (CAR) for KLCI in the post-event window. It shows a negative CAR of -461.27 but the t-value indicates that

it is insignificant. Although it is insignificant, nonetheless, the negative CAR indicates that during the 10 days after the announcement of MCO, the KLCI have a negative return. The announcement of MCO solidifies the assumption that businesses are now only allowed to operate during certain time period, restrictions on the movement of people, and the closure of national borders. The first two restrictions affect the services and tourism industry tremendously while the third restriction affects the export and import activities. All these are expected to decrease the profits of firms and as a result, deemed to be unfavourable by local and international investors. Therefore, investors might prefer to pull out their fund while monitoring the changing situation.

Based on the analysis and discussion of the results, this study could not fully hypothesis 1 that the announcement of MCO have a negative relationship with the Malaysian stock market. Although negative CAR was recorded, the t-values shows that they are insignificant.

Table 2: The cumulative abnormal return of KLCI due to the MCO announcement.

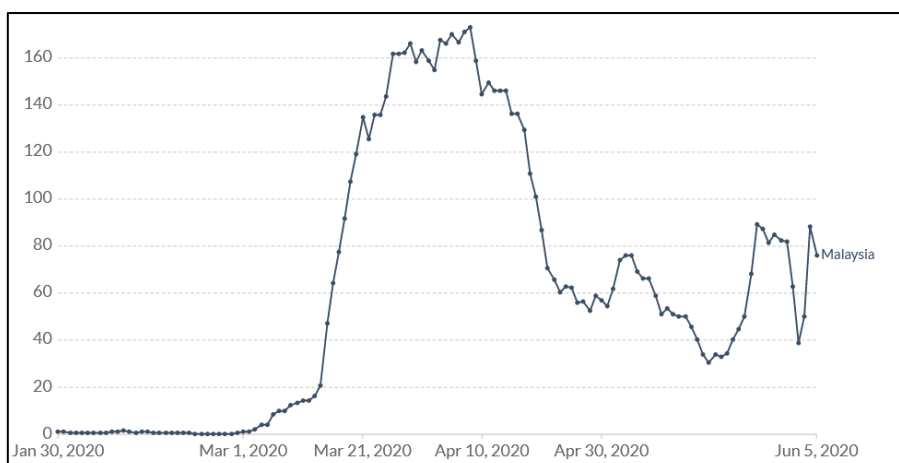| Event Window	CAR	t-value	p-value
Pre-event (-10, 0)	-49.03	0.00241	0.298
Post-event (0, +10)	-461.27	0.001682	0.370

Figure 2: KLCI's cumulative abnormal return during the pre-event window of 10 days before event date.
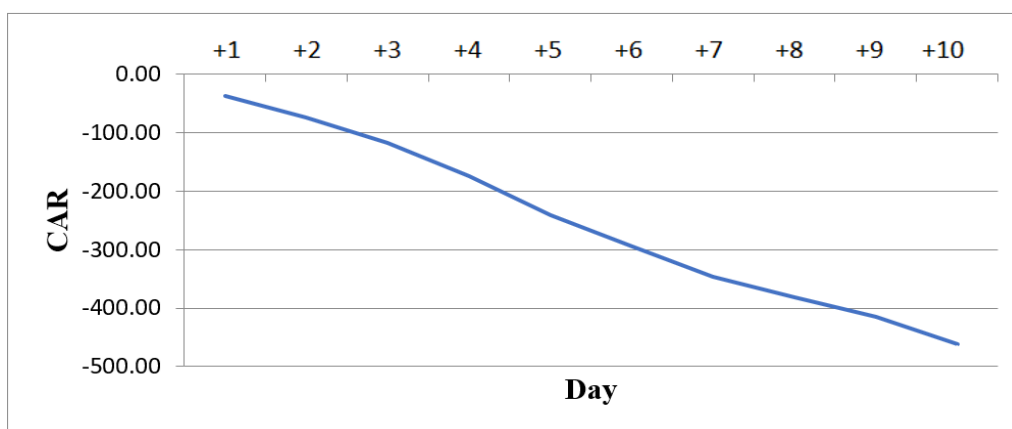
Figure 3: KLCI's cumulative abnormal return during the post-event window of 10 days after event date.

Figure 4: Number of daily new cases in Malaysia from January 2020 to June 2020.
*Source*: **John Hopkins University CSSE COVID-19 data**.

4.3 The effect of bank moratorium announcement on bank's stock price

Table 3 and Figure 5 shows that the average CAR of three major local banks in Malaysia is on a decreasing trend even before the announcement of moratorium. It shows a negative CAR of -1.18 but the t-value indicates that it is insignificant. After the moratorium announcement, we see a further slide of CAR of -4.89 in the post-event window but the t-value remains insignificant. This shows that investors were affected by the moratorium announcement as they postulate bank's profit will further suffer due to the aid given to help relieve borrower's financial problems. The moratorium support offered was also highest in the region as it was a blanket moratorium as opposed to targeted moratorium in other countries. As indicated by the Ministry of Finance, the moratorium covers about 55 per cent of the total loan book for banks in the country. This is further supported by the notion that certain banks were unable to pay dividends for the second quarter of 2020 due to poor bank performance (Jasin, 2020). Therefore, our study supports the findings like Korzeb and Niedziółka (2020), Blank et al. (2020), and Putri (2020) whom all found a negative relationship between the pandemic and the banking industry's stock prices.

In relation to the first objective of this study, the implementation of MCO has forced business closure particularly small businesses. As the pandemic continues on, businesses are reluctant to take on new debts for expansion or investment purposes. Hence, this will eventually slowdown the country's economy, affecting the financial markets, and subsequently it's stock price. Based on the analysis and discussion of the results, this study partly supports hypothesis 2 that the announcement of loan moratorium will have a negative impact towards local bank's stock price.

Table 3: The cumulative abnormal return of local banks due to the loan moratorium announcement.

Event Window	CAR	t-value	p-value
Pre-event (-10, 0)	-1.18	0.002017	0.103
Post-event (0, +10)	-4.89	0.002674	0.562
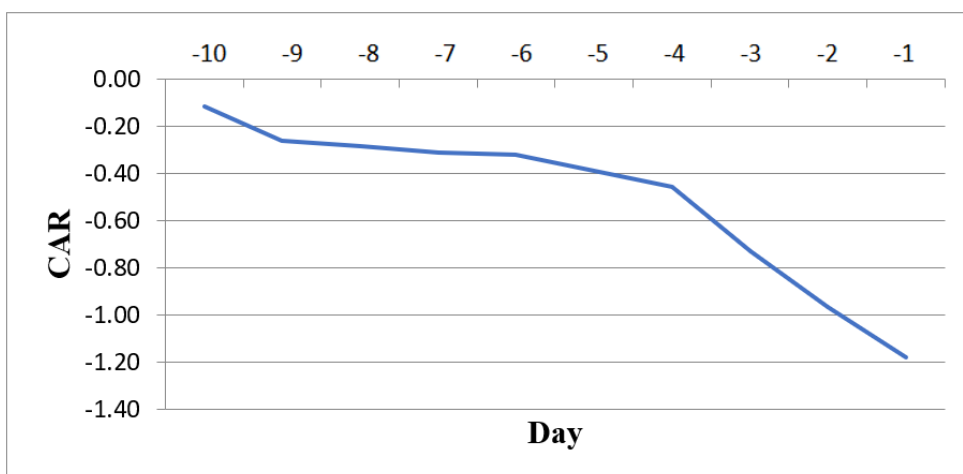
Figure 5: The average cumulative abnormal returns of three banks during the pre-event window (-10,0).
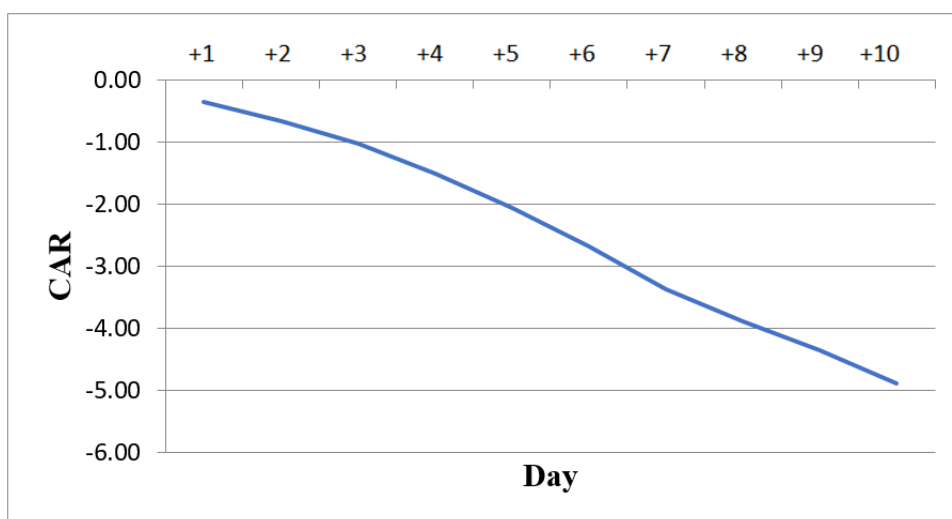
Figure 6: The average cumulative abnormal returns of three banks during the post-event window (0,+10).

5. CONCLUSION

This study uses the event study methodology to examine two things - the effect of MCO announcement on the overall Malaysian stock market and the effect of loan moratorium on the local bank's stock price. When COVID-19 began to spread in Malaysia, it caused the country's economic growth to decline as many businesses had to close in order to help the government stop the chain of transmission of COVID-19 immediately. In addition, the government took steps to implement MCO and border closures that prohibit any export and import activities. This affects the financial performance of the businesses and directly affect the instability of the financial markets. When the economy and financial markets are unstable, it reduces investor confidence, causing the stock market to suffer. Political instability has made investors less confident in their country's economic development, whether it can provide a profitable or detrimental return to them in the future.

The ever-increasing number of COVID-19 cases from time to time not only affects the country's economy but also affects the people's well-being. The implementation of

MCO to reduce COVID-19 cases has restricted people from going out to work because they have to stay at home, making it difficult for them to earn income. Banks were then instructed to provide loan moratorium to help overcome the financial problems faced by the people. As a result, the performance of banks is postulated to suffer and this results in lower confidence among investors in buying banks' stocks. The results obtained from this study indicates that the two hypotheses in this study are only partially supported, where during MCO announcement and moratorium announcement, negative CARs are recorded.

COVID-19 represents a novel risk and therefore, it causes feverish behaviour by investors. Nonetheless, despite the panic, rational expectations are expected to explain the movements of stock prices of the market and also individual companies. The implications from our research can potentially instigate further research. In our analysis, we only identify and document how loan moratorium affects stock returns of three major local banks. There is a lot of possibilities to look into the reaction of investors towards the fiscal and monetary policy reactions from the government during the pandemic as it is also obvious that these policies could results either in economic recovery or harm. We leave this question for future investigations.

There are several limitations in our study. Notably, the gap between the two event dates is close to each other. We took preventive action by using the same estimation window for both events in order to prevent contamination in calculating the market return. We also recognize that the political instability prior to the MCO announcement might have affected the market return in the estimation window. However, it is difficult to access the exact date for the start of the political interference as the political stability has always been there since the 2018 Malaysian general election. Third, the three banks included in this study is also part of the KLCI index. Therefore, the result might be biased. However, we are of the opinion that intentionally choosing small capitalisation banks will not reflect the true sentiment of the market during the moratorium, and hence, the result will also be biased.

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