

# COVID 19: The Impact of Government Policy Responses on Economic Activity and Stock Market Performance in Malaysia

*(COVID-19: Kesan Polisi Kerajaan terhadap Aktiviti Ekonomi dan Prestasi Pasaran Saham di Malaysia)*

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## ABSTRACT

*The exponential spread of the coronavirus in Malaysia has caused a significant majority of the economic activities to cease, resulting in poor stock market performance. This pandemic situation has in turn prompted the government to introduce policies to restart and improve economic activity and stock market performance. Hence, does the government's interference in attempting to control the outbreak of COVID-19 disease, play an important part in affecting the level of economic activity and stock market performance? To resolve this doubt, the impact of government policy responses to COVID-19 in the case of Malaysia was investigated. The sample period of the study was from 28 January 2020 till 29 May 2020, amounting to a total of 84 observations. The findings reveal that the responses taken by the government, such as staying at home requirements, closure of workplaces and debt or contract relief for households, significantly affected both economic activity and stock market performance in the country. Based on the results, these responses appear to have significant policy implications, particularly in displaying that debt or contract relief for households have negative impacts on the economic activities, but a positive impact on the stock market.*

*Keywords: COVID-19; government policy response; economic activity; stock market; Malaysia*

## ABSTRAK

*Penularan coronavirus telah menyebabkan kebanyakan aktiviti ekonomi berhenti dan prestasi pasaran saham yang buruk. Pandemik ini mendorong kerajaan untuk memperkenalkan polisi untuk meningkatkan aktiviti ekonomi dan prestasi pasaran saham. Maka, adakah campur tangan kerajaan memainkan peranan penting dalam mengawal wabak penyakit COVID-19 yang memberi impak terhadap tahap aktiviti ekonomi dan prestasi pasaran saham? Untuk menjawab keraguan ini, kami meniasat kesan polisi kerajaan terhadap COVID-19 dalam kes Malaysia. Tempoh kajian data meliputi 28 Januari 2020 hingga 29 Mei 2020, iaitu sejumlah 84 data secara keseluruhan. Hasil kajian menunjukkan bahawa polisi yang dilaksanakan oleh kerajaan seperti keperluan tinggal di rumah, penutupan tempat kerja dan moratorium untuk isi rumah secara ketara mempengaruhi aktiviti ekonomi dan pasaran saham. Berdasarkan kajian kami, moratorium mempunyai implikasi yang penting iaitu kesan negatif terhadap kegiatan ekonomi tetapi mempunyai kesan positif terhadap pasaran saham.*

*Kata Kunci: COVID-19; polisi kerajaan; aktiviti ekonomi; pasaran saham; Malaysia*

## INTRODUCTION

Nowadays, every human being in all corners of the world is in constant worry over the deadly and extremely transmittable disease caused by the severe acute respiratory syndrome coronavirus known as COVID-19 in short, or coronavirus disease 2019. This disease started from Wuhan City, China in early December 2019 and the outbreak spread like wildfire to all parts of the world. At this moment, this pandemic infection has infected more than 83 million people and led to more than 1.8 million reported death cases in over 200 countries in the world<sup>1</sup>. Malaysia, being one of the developing countries in the world, could not escape this ongoing worldwide pandemic outbreak of COVID-19. According to the Malaysian Ministry of Health (MOH), as of December 31, 2020, the number of COVID-19 cases reported in Malaysia were 113,010 with 471 deaths.

In fact, the outcome of the ongoing outbreak of this coronavirus pandemic has a vital impact on the economy. This disease brought about detrimental consequences to the financial markets (i.e, conventional and Islamic financial markets) globally (Hassan et al. 2020) and the entire sector of economies activities (OECD 2020). According to the statement from the International Monetary Fund (IMF), it is forecasted that this pandemic will cause even worse consequences to the world economy compared to the financial crisis of 2008/09, where the world economy instantly declined by -4.9% in 2020. Likewise, Malaysia's gross domestic product (GDP) forecast has been reviewed, indicating that the contraction will be 3.8% year on year as compared with the previous 1.7% contraction (IMF 2020a). On the other hand, this coronavirus pandemic disease is likely to threaten the stock market as well. In the Malaysian stock market, the high numbers of confirmed COVID-19 cases negatively affected the performance of the Kuala Lumpur Composite Index (KLCI) (Lee et al. 2020), where some firms especially those that had high debts were seen to be facing financial problems, when interruptions occurred to their production and shipments. As a result, this affects the confidence of investors and which in turn makes the investors react in turn and sell the shares. This subsequently causes a corporate bond market and equity decrease (Shretta 2020). Due to the uncertainties caused by the pandemic (Ozili 2020), many of the corporations faced liquidity problems which then caused greater fluctuation on the stock prices (Tashanova et al. 2020).

To prevent a serious outbreak of the pandemic in the country, the very strict Movement Control Order (MCO) had been implemented by the Malaysian government starting from 18 March till 4 May 2020. The purpose of this MCO was to prevent the movement of individuals from entering or leaving designated zones. Besides this, all Malaysians were not allowed to travel overseas. Likewise all foreign visitors were restricted from visiting Malaysia. Practices such as social distancing and isolating clusters of people who get infected have been verified as an effective footstep to curb the outbreak of the virus in China (WHO 2020a). In addition to that, in order to halt the spread of the pandemic Malaysians had to practise 'new normals' in life, such as the regular washing of hands, wearing masks at crowded areas, avoiding groups and assembly. A significant majority of individuals also began practising working from/at home. With the Conditional Movement Control Order (CMCO), effective from May 4, the government considered reopening certain economic sectors by permitting some businesses to operate. After June 10, most restrictions on domestic movement and activities were lifted under a Recovery Movement Control Order (RMCO). In addition, the majority of the schools were likely to reopen progressively from June 24 onwards. However, the government had enforced the closing of the country's borders up to 31 August 2020, in an attempt to control visitors from travelling abroad (IMF 2020b). When the third wave of COVID-19 pandemic struck on 8 September 2020, the government adopted the Conditional Movement Control Order (CMCO) again in several states due to the number of confirmed cases continuing to spike and increase. Bank Negara Malaysia had foreseen that the economic costs (RM17 billion to RM23 billion) was much lower in the current CMCO as compared to the costs (RM30 billion to RM45 billion) during the initial MCO phase in March and April 2020.

The impact of the second CMCO was felt when the existing businesses struggled with decreasing revenues and poor consumer sentiment. Surprisingly, between March and October 2020, a large number of new businesses (281,781) had registered with the Companies Commission of Malaysia (SSM). During the same period, around 31,190 businesses were also reported to have stopped all their business operations. In order to cushion the economic interruption and social distress caused by this virus, various actions to improve the economy have been taken by the Malaysian government (Shah et al. 2020). For instance, an initiative amounting to RM20 billion was announced as a stimulus package to enable the tourism and other industries in the nation to cope with the influence of this coronavirus pandemic. Subsequently, a second stimulus package worth RM250 billion was announced in March, 2020 where RM25 billion out of RM250 billion would be allocated as income support to assist households and business owners affected by the outbreak. In addition to that, one-off payments and discounts offered on utilities would also be made to affected people (Yassin 2020). On top of that, Bank Negara Malaysia consented to collaborate mutually with the government efforts to halt individual monthly instalments on bank loans for six months except for credit card debts. The purpose of this moratorium was to reduce the borrower's burden and alleviate their financial constraints (Annuar 2020).

Although a global survey has ranked Malaysia as among the top four on public well-acceptance of the government response to combat the COVID-19 pandemic (Bernama 2020), the question on the impacts of the government policy response towards the economic activity and stock market remains a paradox. Generally, most economic activities had ceased during the MCO. The KLCI experienced a drop to its lowest point of 1,219.71 on the second day of MCO. Thereafter, KLCI made a come-back slowly to the 1,400 point level (Lee et al. 2020). Hence, this study attempts to address the knowledge gap by including the impact of the pandemic on economic activity and the stock market. In line with this, the main objective of this study is to examine empirically the effect of the government's policy response on economic activity levels and the performance of the stock market. This study makes several contributions to the body of existing literature. First, this study examines one of the currently and highly-debated issue, namely the impact of the government's response policy due to the CoVID-19 pandemic on the level of economic activity and stock market performance. Second, there is an apparent lack of studies exploring this relationship in country-specific features. Hence, time series data is applied in this study for the case of Malaysia. In addition, although numerous previous researchers had studied the financial crisis (Radelet & Sachs 1998; Allen & Carletti 2010; Rady 2012) none was due to a health crisis, such as the recent coronavirus pandemic 2019, which was the most severe economic downturn since the Great Depression (Gopinath 2020). Hence, the findings of this paper are also important in showing that non-economic factors or non-financial factors can generate their effects on both the economic activities as well as the stock market.

## LITERATURE REVIEW

### IMPACT OF THE SPREAD OF COVID-19 ON ECONOMIC ACTIVITY AND STOCK MARKET PERFORMANCE

The COVID-19 pandemic not only influences the health sector but also brings about a great impact on the economy (Rizwan et al. 2020). Baldwin (2020b) proposed that the Covid-19 pandemic may continue longer as compared to Severe Acute Respiratory Syndrome (SARS)<sup>2</sup>. When the restrictions are removed, people would expect to see rehased influxes of disease. This would stop and hamper the economy from recovering. Shretta (2020) claimed that COVID-19 pandemic has slowed down levels of economic activity globally, especially those countries or establishments engaged in the assembly or in producing and delivering of raw and intermediate materials. Those countries involved in tourism operations are also encountering huge interruptions and disturbances. Developing countries appear to face some extra challenges due to low capital flow, poor healthcare systems and the lack of financial support. Tourism-oriented countries such as Spain, Greece and Portugal were particularly affected negatively (Fernandes 2020). The spillover effects of this pandemic on the supply chain is quite apparent (Baldwin 2020a; Fernandes 2020) where the availability of supplies in the global supply chain has reduced and become rather imbalanced (Ivanov & Dolgui 2020). Additionally, due to this emergency, a few economies have been trapped unawares, in a defenseless and vulnerable state coupled with slow development and high debt obligation levels (Gopinath 2020).

In addition, stock markets worldwide fell rapidly after the spread of COVID-19 (Ashraf 2020b). The spike in the number of confirmed COVID-19 cases and total instances of death, negatively affected all the organizations' stock returns in both the Hang Seng Index and Shanghai Stock Exchange Composite Index (Al-Awadhi et al. 2020). The findings suggested that the pharmaceutical and information technology industry performed essentially better as compared to the market; but the returns of the beverage and transportation sector indicate that it did not respond well during the pandemic outbreak. Ashraf (2020b) also revealed similar findings, when the number of confirmed COVID-19 cases increased, the stock returns decreased respectively. He argued that stock market performance would be more sensitive to the changes in the number of affirmed cases rather than the changes in mortality rates. In short, stock prices reacted rapidly to the COVID-19 pandemic.

The COVID-19 pandemic seems to have a significant short-term effect on stock prices in most of the countries (Liu et al. 2020). It was found that stock markets in Asia, especially in Hong Kong, Japan, Malaysia and Thailand would experience progressive negative returns and fluctuating stock prices. Investor fears and sentiments appear to be the main determinant of their poor performance (Chia 2019). Investors in the USA, UK and German, however would rather invest in gold and sovereign bonds during the pandemic (Kinateder et al 2021). These policies adopted by the governments has also affected global supply in the manufacturing sector. In order to protect the health of their employees, most of the businesses were forced to close, thus reducing labor supply and productivity, eventually leading to a layoff or a complete shut-down. Topcu and Gulai (2020) argued that the negative effects of the pandemic on emerging stock markets has slowly decreased by the middle of April. Emerging markets in Asia were found to be affected badly, whereas those in Europe were least affected. Salisu, Ebu and Usman (2020) also suggested that stock returns are negatively and highly correlated to the pandemic due to the panic and uncertainties in the stock market. However, after the COVID-19 announcement, compared to the crude oil market, the stock market has experienced very moderate impacts.

The COVID-19 pandemic greatly affects US economic growth in the long run (Sharif et al. 2020). Adverse effects on the long-term development of the US economy is expected and the world has raised concerns on how the US government responds to the pandemic., The findings of Sharif et al. (2020) has therefore inspired us to study the government's policy response during this COVID-19 outbreak. As a conclusion, the greater the uncertainty of the pandemic, the more unstable and unpredictable the market becomes (Zhang et al. 2020). Thus, various policy responses are needed in the short and medium run in order to sustain economic growth and returns on the stock market.

### EFFECTS OF THE GOVERNMENT'S POLICY RESPONSES DURING COVID-19 PANDEMIC

A full economic recovery from Covid-19 will depend upon how rapidly the pandemic can be managed and how rapidly investors' confidence can be re-established, regardless of whether firms can discover alternatives or substitutes for the shortage (Baldwin & di Mauro 2020). On average, countries with stricter confinement measures are associated with negative socio-economic impacts (Aristodemou et al. 2021). The government adopted social distancing measures (Ashraf 2020a; WHO 2020b) and MCO (Shah et al. 2020) with the hope that these would genuinely control the transmission of COVID-19, but these measures tend to cause negative impacts on stock market returns because of their unfriendly impact on economic activity (Ashraf 2020a; Ozili & Arun 2020). Although a lockdown would reduce economic activity and hurt the growth of the economy, especially in the developing countries, causing reduced health care capacity, and shallower

financial markets (Loayza & Pennings 2020). As such, community awareness campaigns, social distancing policies and income support packages would bring much benefit to market returns (Ashraf 2020a).

The government's non-pharmaceutical interventions, such as school and workplace closures, public transportation shutdown and international travel restrictions are related to higher stock market volatility (Zaremba et al. 2020). Monetary policies were implemented to reduce the impact of Covid-19 on the financial market, such as reducing the interest rates and increasing the money supply (Zhang et al. 2020). These policies would help to enhance investor confidence in the short-term (Zhang et al. 2020), but could result in disappointments in long term expectations (Gormsen & Koijen 2020). Expansionary monetary policy had failed to alleviate the negative economic effects of the pandemic because households and firms were unable to participate in economic activities due to the shut-down and social distancing policies (Ozili & Arun 2020).

The impact of the Covid-19 pandemic would have been lesser if the government had reacted quickly with sufficiently larger stimulus packages, such as financial support for individuals and companies and an assurance of liquidity in domestic markets to boost the economic activities (Hassan et al. 2021a; Topcu & Gulai 2020). Islamic social finance such as waqf also played an important role in assisting those individuals who had fallen below poverty level due to the shut-down and halt in economic activities during the pandemic. Waqf can stimulate economic activity through waqf assets utilization for education and infrastructure (Hassan et al. 2021b; Faturohman et al. 2021). In many countries, the government adopted expansionary fiscal policies lessen the negative economic impacts of COVID-19 (Ozili & Arun 2020). Fiscal policies were adopted to enhance the liquidity of firms, namely tax deferrals and short-term loans (De Vito & Gomez 2020). Short-term loans were suggested as more useful in boosting cash flow within a half of the year after the initial shock. However, due to weak currency transmission and a small fiscal multiplier, the stimulus package may not be sufficiently compelling for most of these developing countries (Loayza & Pennings 2020). In the study by Sharif et al. (2020), it was found that the fiscal stimulus policy would give a positive signal to investors in the US as the government stands to assist the affected business. Hence, the majority of the investors would prepare to look forward to future market rises. In line with this, we make the hypothesis that the government's policy responses to the COVID-19 pandemic significantly affect economic activity and stock prices.

## METHODOLOGY

### DATA DESCRIPTION

This study employs seven explanatory variables and two explained variables to present the impact of government policy responses on the levels of economic activity and stock market performance during the pandemic crisis in Malaysia. The observation period was from 28 January 2020 to 29 May 2020, giving a total of 84 observations in all.

In terms of explained variables, the economic activities are proxied by Purchasing Managers' Index (LPMI). The predominant way of economic trends in services and manufacturing sectors are measured by using this Purchasing Manager Index (PMI). This index ranges from downstream to upstream activities across 19 industries. These investors, company decision makers and analysts can be identified, based on the PMI information to estimate current and future businesses. Also, the stock market performance is proxied by closing prices (LCLOSE) on the Kuala Lumpur Composite Index (KLCI). To mitigate the observed skewness, the closing stock prices are expressed in natural logarithm.

In terms of explanatory variables, the government policy responses are represented by international travel control (IT), restrictions on gatherings (ROG), stay at home requirements (SAHR) and workplace closures (WPC). The debt or contract relief for households (DCR) where the households' financial commitments are frozen by the government, is controlled through delaying or stopping loan repayments or for water services. Income support (IS) is given to individuals who are unable to work or are retrenched by their employers and low-income households which are eligible to get direct cash compensation from the government. On the other hand, the ordinal scale of 0 to 2 is measured by DCR and IS variables, where 0 to 3 of ordinal scale of measurement is for SHAR and WPC variables and 0 to 4 of ordinal scale of measurement is for IT and ROG variables. The ordinal scale is being used as a comparison parameter by applying sorting in order to understand whether the variables are less or more than one another. By applying this scale, researchers can inspect the degree of acceptance among the respondents in order to recognize the order of the variables. The level of representation for ordinal scale variables are reported in Appendix A. LCC is represented by the number of COVID-19 confirmed cases. The LPMI and LCC variables are transformed into natural logarithms. All data are retrieved from 'Oxford COVID-19 Government Response Tracker (OxCGRT) database except the closing stock prices which are obtained from Bursa Malaysia and Purchasing Manager Index from the trading economics database. The newly-developed database such as OxCGRT is used to monitor the government's policy response during the pandemic. The choice of variables is mostly inspired from Ozili and Arun (2020), where the multivariate model is adopted to prevent variable bias. In addition, this study seeks to carry out two-stage least squares (2SLS) regressions to address the concerns of endogeneity.

TABLE 1. Descriptive Statistics

Variable	Unit of measurement	Mean	Std. Dev.	Maximum	Minimum
PMI	Diffusion index	43.43	7.35	48.80	31.30
CLOSE	Stock market index	1423.15	86.82	1554.49	1219.72
CC	Number of people	2766.40	2828.23	7629.00	4.00
IT	Ordinal scale 0-4	2.96	0.51	4.00	0.00
ROG	Ordinal scale 0-4	1.27	1.022	3.00	0.00
SAHR	Ordinal scale 0-3	0.57	0.50	1.00	0.00
WPC	Ordinal scale 0-3	1.52	1.37	3.00	0.00
DCR	Ordinal scale 0-2	0.88	0.99	2.00	0.00
IS	Ordinal scale 0-2	0.42	0.49	1.00	0.00

TABLE 2. Correlations

Correlation	LPMI	LCLOSE	LCC	IT	ROG	SAHR	WPC	DCR	IS
LPMI	1.0000								
LCLOSE	0.3698	1.0000							
LCC	-0.5932	-0.7110	1.0000						
IT	-0.0769	-0.1735	0.3210	1.0000					
ROG	-0.4973	-0.7661	0.9357	0.3012	1.0000				
SAHR	-0.5872	-0.6918	0.9434	0.2274	0.8964	1.0000			
WPC	-0.6863	-0.7423	0.8838	0.1846	0.8483	0.9654	1.0000		
DCR	-0.7054	-0.3076	0.8252	0.2078	0.7050	0.7684	0.6775	1.0000	
IS	-0.6298	-0.2581	0.7973	0.2058	0.6754	0.7319	0.6301	0.9525	1.0000

Table 1 and 2 demonstrate the descriptive statistics and correlations of the variables. As shown in Table 2, the correlations show that purchasing manager index (PMI) and closing stock prices (LCLOSE) have a negative relationship with all the independent variables, namely the number of confirmed cases (LCC), international travel control (IT), restrictions on gatherings (ROG), stay at home requirements (SAHR), workplace closures (WPC), debt or contract relief for households (DCR) and income support (IS).

### MODEL SPECIFICATION

In this section, the multivariate model is estimated by employing a least square regression as demonstrated below:

$$LPMI_t = c + LCC_t + IT_t + ROG_t + SAHR_t + WPC_t + DCR_t + IS_t + \varepsilon_t \quad (1)$$

$$LCLOSE_t = c + LCC_t + IT_t + ROG_t + SAHR_t + WPC_t + DCR_t + IS_t + \varepsilon_t \quad (2)$$

where LPMI is the natural log vector of purchasing manager index, LCLOSE is the natural log vector of the stock market consisting of closing stock prices (LCLOSE). LCC is the natural log vector of the number of confirmed cases, IT is international travel control, ROG is restrictions on gatherings, SAHR is stay at home requirements, WPC is workplace closure, DCR is debt or contract relief for households, IS is income support,  $\varepsilon_t$  is the assumption that the error term be normally distributed and subscript t is the business day of the week.

### EMPIRICAL RESULTS AND DISCUSSIONS

Accordingly, equation (1) and (2) is estimated by applying a least square regression. The results are presented in Table 3. The LCC coefficient is significant and has negative relations in column 2. It means that the number of confirmed cases

meaningfully affected the closing stock prices for KLCI. The number of COVID-19 confirmed cases created uncommon returns on stock indices as this pandemic generated uncertainties to the global stock market and investors were apprehensive and pessimistic on future returns. This result is in line with the finding by Liu et. al. (2020). Meanwhile, Ashraf (2020b) also reported that an increase in the number of confirmed cases has a negative effect on overall stock markets. Moreover, the coefficient of international travel control (IT) shows a significant positive to the closing stock price's variable. With this stringent travel restriction imposed by the government, individuals from other countries are banned from entering our country, subsequently reducing the number of COVID-19 cases from abroad. This stringent government measure reduces the uncertain sentiments and in turn increases the investor confidence. Hence, this positive sentiment will be helped in raising stock prices (Ashraf 2020a). In addition, the restrictions on gatherings (ROG) is negatively related to closing stock price variables. This result is consistent with the findings by Ashraf (2020a), where the stringent social distancing measures such as restrictions on gatherings showed a negative impact on the stock market. Besides, the coefficient of stay at home requirements (SAHR) showed positive and significant relationships on both the economic activities and stock prices. Undoubtedly, the shopping habits of Malaysians have changed during the MCO. Consumers now seem to prefer online shopping. During and after the MCO, there is a noticeable growth in shipments, logistic services and in turn a boost to economic activities. Besides, the stock market's negative responses to the COVID-19 can be decreased by staying at home, since it would reduce the risks of mortality (Ashraf 2020a).

TABLE 3. The impact of government policy responses on economic activity and stock market (OLS)

	(1)	(2)
	Purchasing Manager Index (LPMI)	Closing Prices (LCLOSE)
LCC	-0.0119 (-1.2678)	-0.0287*** (-5.6154)
IT	0.0020 (0.1807)	0.01216* (1.9806)
ROG	0.0120 (0.7757)	-0.02213*** (-2.6541)
SAHR	1.1175*** (18.1674)	0.1299*** (3.9084)
WPC	-0.3776*** (-23.2345)	-0.0383*** (-4.3553)
DCR	-0.1940*** (-10.5327)	0.02135** (2.1434)
IS	0.0060 (0.1689)	0.0486** (2.5384)
C	3.9127*** (103.9457)	7.3729*** (362.2358)
R-squared	0.9422	0.8418
Adjusted R-squared	0.9370	0.8273
Observations	84	84

Notes: LCC = the number of confirmed cases in natural logarithm. IT = International Travel controls. ROG = Restrictions on gatherings. SAHR = Stay at home requirements. WPC = Workplace closures. DCR = Debt/contract relief for households. IS = Income support for households. C = Intercept. LPMI = natural logarithm of the purchasing manager index. LCLOSE = closing stock prices on the Kuala Lumpur Composite Index (KLCI) in natural logarithm. \*\*\*, \*\*, \* represent the 1%, 5% and 10% level of significance. The parenthesis is represented by T-statistic.

TABLE 4. The impact of government policy responses on economic activity and stock market (2SLS)

	(3)	(4)
	Purchasing Manager Index (LPMI)	Closing Prices (LCLOSE)
LCC	-0.0119 (-0.9668)	-0.0250*** (-3.4038)
IT	0.0018 (0.0820)	0.0184 (1.4382)
ROG	0.0181 (0.8211)	-0.0485*** (-3.6852)
SAHR	1.0975*** (15.1675)	0.1899*** (4.3981)
WPC	-0.3759*** (-20.8836)	-0.0434*** (-4.043)
DCR	-0.1945***	-0.0013

	(-5.0357)	(-0.0554)
IS	0.0098 (0.1398)	0.0792* (1.8801)
C	3.9132*** (59.0787)	7.3459*** (185.8676)
R-squared	0.9416	0.8016
Adjusted R-squared	0.9362	0.7831
Observations	84	84

Notes: LCC = the number of confirmed cases in natural logarithm. IT = International Travel controls. ROG = Restrictions on gatherings. SAHR = Stay at home requirements. WPC = Workplace closures. DCR = Debt/contract relief for households. IS = Income support for households. C = Intercept. LPMI = natural logarithm of the purchasing manager index. LCLOSE = closing stock prices on the Kuala Lumpur Composite Index (KLCI) in natural logarithm. \*\*\*, \*\*, \* represent the 1%, 5% and 10% level of significance. The parenthesis is represented by T-statistic.

On the other hand, the workplace closures (WPC) coefficient revealed a negative significance on the levels of economic activity and for the closing stock prices in column (1) and (2). This result was supported by the International Labour Organization (ILO) 2020. This report indicated that the COVID-19 epidemic has intensified, and that many countries had instructed social distancing policies such as lockdowns and related business disruptions, travel restrictions, and school and workplace closures to slow the virus's spread. Such policies have had unprecedented shocks to the labour market, business enterprises and economy activities. In addition, entire sectors of economic activity in many countries have been seriously restricted by this pandemic crisis, causing reduced revenue flows for many businesses. The implementation of partial or total lockdowns namely, limit the movement of a majority of workers and business operations, subsequently having a huge impact on whole sectors such as the manufacturing sectors that are facing disruptions to their supply chains and a decrease in the demand for goods, and the service sector whose activities are experiencing an unprecedented collapse. Likewise, Ashraf (2020a) suggests that the adoption of social distancing measures such as workplace closing has a negative impact on stock prices due to foreseen adverse effects on economic activity. Income support for households (IS) and debt or contract relief for households (DCR) show positive and significant associations with closing stock prices in column (2). This finding is in line with a suggestion from Ashraf (2020a) where economic support programs by the government tends to raise stock prices. These support programs can eliminate the unfavorable impacts on employment and income due to the social distancing policy. Direct cash to low-income households assist them to purchase essential food items during the lockdowns. Hence, such actions would make the investors react positively and subsequently boost stock prices. On the other hand, this debt relief or moratoriums on loans from the banks, leads to individuals having extra capital to make investments in the stock market with the expectation of gaining extra returns and causing stock prices to rise. Debt or contract relief for households (DCR), furthermore has a negative and significant relationship to levels of economic activity in column (1). This is due to some people taking this debt relief opportunity to invest in the stock market with the hope of higher returns, rather than for personal consumption spending, which then subsequently discourages economic activity.

Next, Table 4 presents the results of coefficients estimated with the two-stage least squares (2SLS) regression. Interestingly, the regression results of column (3) are similar with our earlier findings in column (1). The results report that there are positive and significant relationships between stay at home requirements (SAHR) and economic activities. Besides, work place closures (WPC) and debt or contract relief for households (DCR) demonstrate negative and significant relationship with economic activities. On the other hand, the estimation results are slightly different between column (2) and (4). The results show that almost all the outcomes match with previous findings, except that the coefficient for international travel control (IT) and debt or contract relief for households (DCR) shows no significant effects on closing stock prices. In summary, the two-stage least squares regression validates our overall conclusions.

## CONCLUSION

This paper aimed to explore the impact of the government's policy responses to the COVID-19 pandemic on economic activity and stock market performance in Malaysia. The sample period of the study was from 28 January 2020 to 29 May 2020, which provided for 84 observations. The findings demonstrated that the number of confirmed COVID-19 cases negatively influence the economic activity and stock prices in Malaysia. As compared to economic activity, the stock market index responded more significantly to the number of confirmed cases; that is, an increase in the number of confirmed COVID-19 cases would register a drop in stock prices.

In light of this, the Malaysian government had executed some policies to cope with the adverse effects of the COVID-19 pandemic, namely international travel control (IT), restrictions on gatherings (ROG), stay at home requirements (SAHR) and workplace closures (WPC), debt or contract relief for households (DCR) and income support (IS). This study sheds light on how these policy responses such as SAHR, WPC and DCR significantly affect both the

economic activity and stock prices. The WPC policy tends to reduce economic activity significantly as it stops the agents of economy from engaging in business and also making the investors pessimistic about the stock market (Ozili & Arun 2020). However, the SAHR policy is positively and significantly related to the economic activity and stock prices. During the MCO, people appeared to have changed their shopping habits as their movements are being restricted to their homes. Now they prefer to do online shopping as it has become convenient to have the purchases delivered straight to the doorstep. Logistics and shipments activities are growing, even though people are restricted at home. By staying at home not only the risks of getting infected and possible mortality could be reduced, it can also reduce the stock market's negative responses to the COVID-19 pandemic (Ashraf 2020a).

In particular, based on the OLS and 2SLS method, DCR has a significant negative relationship to economic activity. However, it is positively and significantly related to stock prices based on the OLS method. Although people delay their loan repayments and they have more cash on hand, they do not increase their consumer consumption, in turn reducing economic activity. Findings in the study suggest that they would rather invest their money in the stock market as there seems to be an opportunity to make money, even in times of this health crisis. Investors get fancy over the "stay-at-home" stocks such as technology stocks during the pandemic. As a result, this raises the prices of stocks on technology. On the other hand, ROG and IS significantly affect the stock market performance instead of the economic activity. ROG is served as a stringent social distancing policy negatively and significantly affects the stock prices (Ashraf 2020a). Meanwhile, IS significantly influences stock prices positively. As income support programme directly removes the unfavourable Covid-19 impacts on employment, it prepares the investors to invest in the stock market with enough confidence.

Last but not least, our findings have significant implications for policymakers to tackle the challenges from this health crisis. The findings suggest that the government's policy responses to COVID-19, such as IT, SAHR and IS positively and significantly affect the stock prices. Interestingly, economic activity is found to be positively and significantly influenced by the SAHR only. Hence, the above-mentioned policies could be an effective solution to boost economic activity and stock market performance for similar crises or pandemics in future. In addition, DCR would be another effective solution to improve market stock performance, even though it could prove detrimental economic activity levels. These findings may further help the investors to identify the significant determinants to consider when making crucial investment decisions during such a pandemic. Investors could observe changes in the number of confirmed COVID-19 cases in Malaysia before making any investment decisions in Bursa Malaysia. To conclude, a rapid, accurate and appropriate government response would strengthen the state of the economy and stock market performance in the country. Researchers undertaking future researches could take a deeper and closer look into the impact of government policies in response to the pandemic in different sectors and if it has greatly influenced other industries, such as tourism and the hospitality industry.

## NOTES

1. This information was obtained from <https://www.worldometers.info/coronavirus/> on 31 December 2020
2. Both COVID-19 and SARS are similar coronaviruses. The pathogen of SARS is SARS-CoV, while the virus that causes COVID-19 is recognized as SARS-CoV-2 (WHO, 2020a)

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## Appendix A

## Level of representation of ordinal scale variables

Variable	Name	Descriptions	Scaling
IT	international travel control	Record restrictions on international travel.	0 - no restrictions 1 - screening arrivals 2 - quarantine arrivals from some or all regions 3 - ban arrivals from some regions 4 - ban on all regions or total border closure
ROG	restrictions on gatherings	Record limits of gatherings	0 - no restrictions 1 - restrictions on very large gatherings (the limit is above 1000 people) 2 - restrictions on gatherings between 101-1000 people 3 - restrictions on gatherings between 11-100 people 4 - restrictions on gatherings of 10 people or less
SAHR	stay at home requirements	Record orders to "shelter-in-place" and otherwise confined to the home	0 - no measures 1 - recommend not leaving house 2 - require not leaving house with exceptions for daily exercise, grocery shopping, and 'essential' trips 3 - require not leaving house with minimal exceptions (eg. allowed to leave the house once a week, or only one person can leave at a time, etc)
WPC	workplace closing	Record closings of workplaces	0 - no measures 1 - recommend closing (or recommend work from home) 2 - require closing (or work from home) for some sectors or categories of workers 3 - require closing (or work from home) for all, but essential workplaces (eg grocery stores, doctors)
DCR	debt or contract relief for households	Record if the government is freezing financial obligations for households (eg. stopping loan repayments, preventing services like water supply from stopping, or banning evictions)	0 - no debt/contract relief 1 - narrow relief, specific to one kind of contract 2 - broad debt/contract relief
IS	Income support	Record if the government is providing direct cash payments to people who lose their jobs or cannot work.	0 - no income support 1 - government is replacing less than 50% of lost salary (or if a flat sum, it is less than 50% median salary) 2 - government is replacing 50% or more of lost salary (or if a flat sum, it is greater than 50% median salary)

Sources: Codebook for the Oxford Covid-19 Government Response Tracker