

Effects of COVID-19 Pandemic on Stock Behaviors of Health Care Sectors in Malaysia

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Abstract

Human capital development and health improvement are crucial goals for a sustainable and growing economy in every nation. This study's main goal is to determine how the COVID-19 pandemic has affected stock returns for healthcare companies in Malaysia. This study was conducted using a quantitative approach. In this study, secondary data collection is the main source. The sample datum selected in this study is listed healthcare industry companies in Bursa Malaysia. The data of daily stock prices and daily market indices cover the period of six- months prior to announcement and within a year, 2020, and the sampling frame of the research is taken the from Yahoo Finance Database Healthcare sectors are expected to have different impacts by the event according to different providers. Firms belonging to healthcare equipment and services are affected more compared to other healthcare providers. Although many countries have adopted similar measures to control the spread of the epidemic, these countries also have paid for the painful economic stagnation or retrogression. Once the first wave came, the panic spread quickly to the whole market investors behaved irrationally and the price fell drastically. However, the first wave effect gradually returned to normal in the following wave. The sample companies have more experience in responding to the waves and stabilizing the prices and investors reacted differently regarding the news of the second wave.

Keywords: Event Study, Finance, Healthcare, COVID-19, Stocks

Introduction

The implications of the COVID-19 pandemic on stock returns in the healthcare sectors available in Malaysia will be briefly discussed in this chapter. Additionally, it compares the stock market's behavior before and after the COVID- 19 pandemic. Additionally, this chapter contains information about the study's background, problem statements, aims, significance, scope, limitations, and organizational structure.

We were all astonished at the end of 2019 to learn that a new virus existed that spread quickly and may be fatal. According to the World Health Organization (WHO, 2021), the first pneumonia cluster cases began on December 31, 2019, in Wuhan, Hubei province. Later, on

March 11, 2021, COVID-19 was designated as a global pandemic. The recently identified viral disease COVID-19 is brought on by the same family of viruses that cause SARS, a severe acute respiratory syndrome. The letters "CO" stands for corona, "VI" for virus, and "D" for disease. Previously, this illness was known as the 2019 novel coronavirus or 2019-nCoV. Almost everyone experienced panic and was instructed to stay indoors to remain safe because the virus may infect those around and spread quickly via droplets. The number of COVID-19-related deaths and confirmed cases rose daily and to date there have been an estimated about 3,890,970 fatalities worldwide, 179,662,365 diagnoses, and 164,356,736 recoveries (Worldometer, 2021)

In most nations, some business operations were restricted and only the least number of operators were permitted to operate during certain hours, such as supermarkets and a number of businesses ceased their operations during the period. This is one step the administration took to address these problems. Most of the nation's economies are currently facing difficulties, and some industries have even collapsed. Directly, most individuals lost their jobs or were forced to seize all opportunities that would bring in money to survive. Most nations restricted outsiders' access to their borders and held back their aviation industries. This demonstrates a blatant indication of a recession in the world economy. According to data from the World Bank for 2020, East Asia will grow by 0.5%, South Asia will shrink by 2.7, and Central Asia will grow by 4.7%. During this crisis, it was anticipated that millions of people would relapse into poverty. Compared to other worldwide recessions since 1990, the COVID-19 crisis has had the greatest and fastest impact on growth predictions.

The COVID-19 pandemic had an impact on the stock market in addition to affecting human lives. China made significant progress in resuming work and manufacturing as the first nation to respond to COVID-19. According to Yang et al (2020) research, the financial industry is very risky and could have an impact on other businesses. However, the degree of response to this epidemic will vary depending on the sector. High-technology sectors have a potential to develop in this setting. This demonstrates how some industries, like those in manufacturing, education, and healthcare, responded favorably to this outbreak. This study proposes to investigate the COVID-19 pandemic's effects on stock behavior in Malaysia's healthcare industries. Some sectors may not be able to stay in business if they cannot adapt to the current climate (Kharbanda & Stallworthy, 1988).

Background of the Study

Human capital development and health improvement are crucial goals for a sustainable and growing economy in every nation. The tertiary sector of the economy, also referred to as the service sector, includes the healthcare sector. Government and private healthcare systems make up the two-tier system that governs the healthcare industry. In Malaysia, the healthcare system has been modernized in order to better serve the needs and desires of the populace.

There are now 27 healthcare-related companies listed on Bursa Saham Kuala Lumpur as of November 2022. Most companies in this category have positive stock prices, with LKL International Berhad (LKL 0182) having the lowest share price at RM0.27 and Hartalega Holdings Berhad (HARTA 5168) having the highest share price at RM7.03.

According to ASEAN Briefing (2021), the healthcare industry is expected to rise by roughly 127 billion ringgits in 2027. A rise in the demand for healthcare services from a particular group of people has a positive impact on this. Malaysia is regarded as having the lowest medical costs in the world, with rates that are roughly 40% less expensive than those in nations like the United States and the United Kingdom. It demonstrates that about 98% of the cost of the

healthcare sector was subsidized by the government. For 2019, Malaysia has set aside 29 billion ringgits for healthcare.

Table 1

Listed companies in the BM healthcare sector

NO.	LISTED COMPANIES IN BURSA SAHAM MALAYSIA	CODE	SUBINDUSTRY
1	ADVENTA BERHAD	ADVENTA 7191	Healthcare Equipment & Services
2	APEX HEALTHCARE BERHAD	AHEALTH 7090	Pharmaceutical
3	CAREPLUS GROUP BERHAD	CAREPLS 0163	Healthcare Equipment & Services
4.	CENGILD MEDICAL BERHAD	CENGILD 0243	Healthcare Providers
5	DUOPHARMA BIOTECH BERHAD	DPHARMA 7148	Pharmaceutical
6	HARTALEGA HOLDINGS BERHAD	HARTA 5168	Healthcare Equipment & Services
7	HEXTAR HEALTHCARE BERHAD	HEXCARE 78	Healthcare Equipment & Services
8	IHH HEALTHCARE BERHAD	IHH 5225	Healthcare Providers
9	KOSSAN RUBBER INDUSTRIES BERHAD	KOSSAN 7153	Healthcare Equipment & Service
10	KOTRA INDUSTRIES BERHAD	KOTRA 0002	Pharmaceuticals
11	KPJ HEALTHCARE	KPJ 5878	Healthcare Providers
12	LKL INTERNATIONAL BERHAD	LKL 0182	Healthcare Equipment & Service
13	LYC HEALTH CARE BERHAD	LYC 0075	Healthcare Providers
14	MALAYSIAN GENOMICS RESOURCE CENTRE BERHAD	MGRC 0155	Healthcare Equipment & Services
15	METRO HEALTHCARE BERHAD	MHCARE 03005	Healthcare Providers

16	NOVA WELLNESS GROUP BERHAD	NOVA 0201	Pharmaceuticals
17	NOVA PHARMA SOLUTIONS BERHAD	NPS 03006	Pharmaceuticals
18	OPTIMAX HOLDINGS BERHAD	OPTIMAX 0222	Healthcare Providers
19	PHARMANIAGA	PHARMA 7081	Pharmaceutical
20	SUPERCOMNET TECHNOLOGIES BERHAD	SCOMNET 0001	Healthcare Equipment & Services
21	SMILE-LINK HEALTHCARE GLOBAL BERHAD	SMILE 03023	Healthcare Providers
22	SUPERMAX CORP. BERHAD	SUPERMX 7106	Healthcare Equipment & Services
23	TMC LIFE SCIENCES BERHAD	TMCLIFE 0101	Healthcare Providers
24	TOPGLOVE CORP. BERHAD	TOPGLOV 7113	Healthcare Equipment & Services
25	TOPVISION EYE SPECIALIST	TOPVISN 03013	Healthcare Providers
26	UMEDIC GROUP BERHAD	UMC 0256	Healthcare Equipment & Services
27	Y.S.P. SOUTHEAST ASISA HOLDING BERHAD	YSPSAH 7178	Pharmaceuticals

Source: Bursa Malaysia

The first COVID-19 instances found in Malaysia were discovered on January 25, 2020. This number increased every single day. By the end of March 2020, there were 2,626 recorded confirmed cases, a sharp increase. Although there were no documented cases of death, the government took swift action and issued a movement control order (MCO).

Malaysia has now experienced three waves of COVID-19; 22 confirmed COVID-19 cases were among the refugees from the Humanitarian Assistance mission in Hubei, China, who were infected in Malaysia during the first wave of COVID-19, which lasted from 25 January to 16 February, 2020.

As for the second wave, this happened between February 27, 2020 and June 30, 2020. They were connected to the two observed huge clusters. The significant group was associated with the Tablighi Jamaat, which took place in Sri Petaling, Kuala Lumpur. The following clusters concerned a restaurant owner who violated the required 14-day self-quarantine following his return from India (HealthAnalytics, 2020)

In Malaysia, the third wave began on September 8, 2020. Two of the greatest clusters—Benteng Lahad Datu in Sabah and Tembok, Kedah—caused this third wave to occur. In contrast to the first and second waves, that situation was critical (New Straits Times, 2021).

The first MCO began on March 18, 2020, and ended on March 31, 2020. It stayed like this until April 14, 2020. With the intention of breaking the chain, travel restrictions were applied to citizens of the majority of nations, and Malaysia was no exception. Numerous businesses and even schools had to temporarily close. The shutdown in China had a significant negative

impact on the Malaysian economy as China is Malaysia's primary provider of products and services.

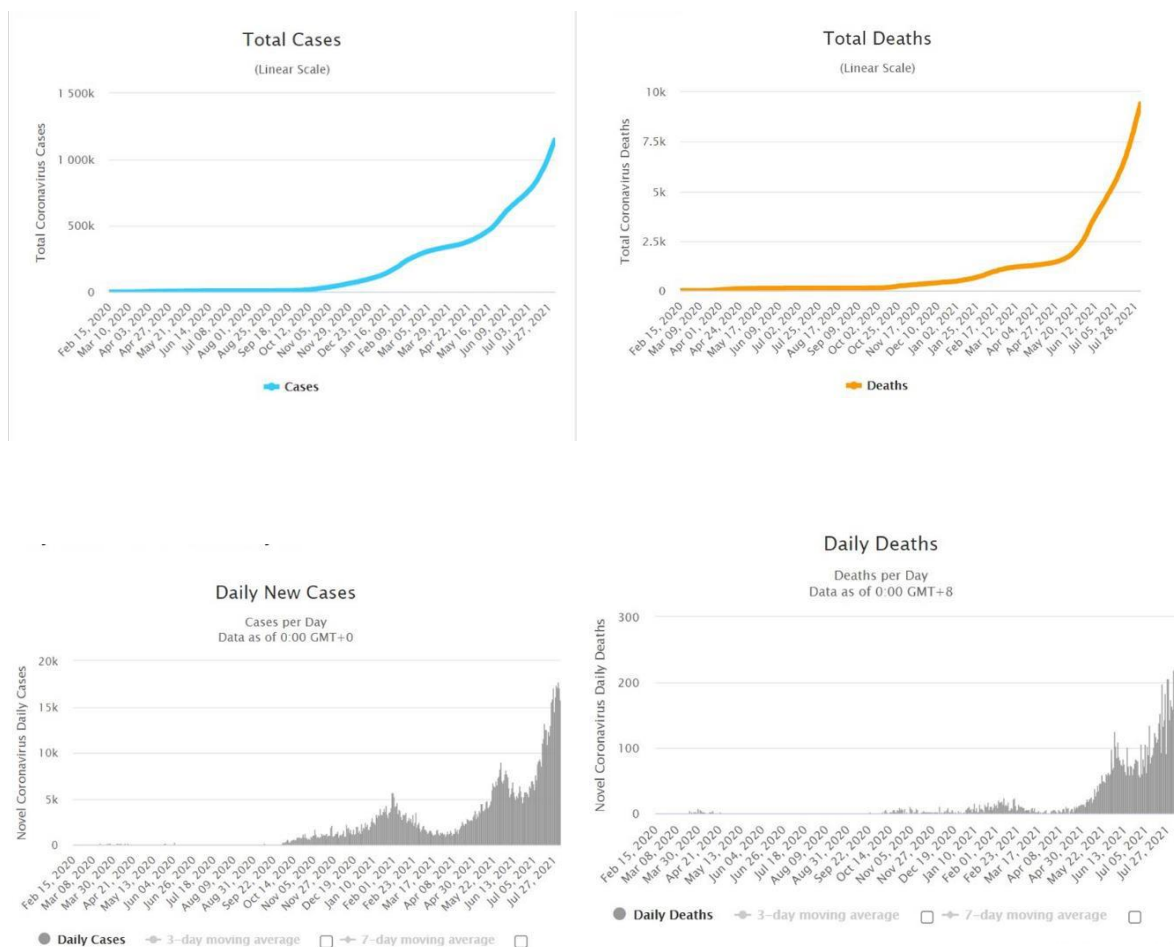


Figure 1: COVID-19 confirmed cases and deaths (31 December, 2019 until 08 August, 2021)
 Source: Worldometer (2021).

There were a select few areas permitted to operate but with restricted hours of operation; however, the majority of the nation was dealing with the same problems, which caused some industries to collapse and many people lost their jobs. This outbreak had an impact on the financial market in addition to human life. According to Yang, Chen, and Zhang's (2020) research, the financial sector is at a very high risk due to the current circumstances, which also has the potential to affect other businesses. However, various industries may react differently as a result of their varying degrees of openness to the information.

The healthcare industry appears to be as robust as ever, yet things seem to have changed since the end of the previous year. According to Bursa Healthcare Gauge Top Gainer on Pandemic Concern (2021), the healthcare index gained the most and closed 3.1%, or 101.56 points, higher at 3,382.38 - a two-month high. On account of the robust demand, healthcare and technology-related stocks should continue to fare better than the overall market.

Problem Statement

The healthcare sector is experiencing a massive increase in demand for the necessary supplies of both equipment and medications during this outbreak. Additionally, they need to invest in research and development (R&D) to create vaccines for the illness. According to GlobalData (2021), the healthcare industry had the best performance in the first quarter of 2021.

According to research by Mazur et al (2020), other industries, such the hospitality industry, are more susceptible and might benefit from the current situational crisis. Prior to the virus's revelation date, the cumulative anomalous returns indicate considerably positive and significantly negative results.

Due to this outbreak, the government expected a drop in revenue collection for at least half of the year. When compared to other businesses, data for pharmaceutical companies, however, appear in distinct ways. According to Aravind and Manojkrishnan (2020), branded pharmaceutical firms can survive an outbreak. However, because the materials for pharmaceutical businesses' production levels primarily came from China, the supply chain for those ingredients was severely impacted.

According to event study research by Liu et al (2020), fear of uncertainty and panic selling caused the Asian market to experience a negative anomalous return relative to other countries in the stock indices. However, the COVID-19 tools and equipment are not well-equipped in the healthcare sector.

It was interesting that little research has been done on this area, especially in the healthcare sector. This indicates that few studies have looked at how the COVID-19 epidemic has affected Malaysia's healthcare industries' stock behavior. Additionally, the majority of event study research uses short periods.

Research Questions

This study seeks to answer the following questions

- i. What is the impact of the MCO announcement of COVID-19 on stock return?
- ii. What is the impact of the first and second COVID-19 waves in terms of affecting stock behavior?
- iii. Does the COVID-19 epidemic result in abnormal stock returns for businesses?

Research Objectives

This study's main goal is to determine how the COVID-19 pandemic has affected stock returns for healthcare companies in Malaysia. The following goals are specifically pursued by this study:

- i. To evaluate how COVID-19 MCO announcements have affected stock returns for the companies.
- ii. To investigate how the first and second COVID-19 waves affected the stock performance of the companies.
- iii. To determine if the impact of the announcement caused the abnormal return

Significance of the Study

This study is important for investors as it is very useful for them to measure the stock behavior in order to penetrate new markets and to measure the behavior of the health sector's daily trading deals activity, especially during uncertainty periods like the pandemic.

As for companies and entrepreneurs, this study may give some useful information and guidelines in the current understanding of the firms on these financial strategies in terms of

sustainability. This study provides a clear presentation of the effects of the healthcare sector, giving them insights that are useful for them due to the current economic situation in order to sustain their business.

Moreover, this study will provide new insights for academic institutions and administrators to understand better and have great knowledge regarding the effects of COVID-19 on the stock behaviors of the healthcare sector. This study provides significant insights for future research initiatives focused on investigating diverse investment portfolios, doing risk analysis, examining market volatility, and assessing the implications of market uncertainty.

Besides that, this study is also useful for policy makers and practitioners who use research in many ways, including instrumental, conceptual, political, imposed and process uses. This study is able to increase knowledge and awareness on how a pandemic may affect the current political context. Moreover, through this analysis, political entities and institutions will have a new approach on how to deal with the principle by learning its influence in the past.

This study will be an expansion of knowledge for future researcher. It will provide important information regarding the effects of COVID -19 on the healthcare sector in Malaysia. It may help future researchers to fully understand regarding the impact of COVID-19 on the stocks market.

Organization of the Study

This study has been structured as follows: Firstly, Chapter 1 consists of an introduction of this study, background, problem statements, objectives of the study, significant of the study and as well as the limitation of the study.

A review of literature related to these studies is discussed in Chapter 2. In this chapter, it discusses the pre and post-COVID-19 pandemic stock behaviors. This chapter also discuss the relevant theories related to stock performance during the pandemic.

Chapter 3 offers further explanations concerning the data collection and research methodolo2

Literature Review

This chapter examines the fluctuations in stock prices following COVID-19 occurrences and business performance following the COVID-19 pandemic. Numerous studies have been conducted to determine how COVID-19 infections affect the performance of companies.

Introduction

Since the COVID-19 outbreak, the pandemic has caused extraordinary market uncertainty worldwide. Both SARS and this virus are thought to be probable, but this one is more serious than the others. The circumstances led to stock markets selling in a stunned and panicked manner, much like a terrorist assault. Furthermore, Nippani and Washer (2004) examined the impact of the severe acute respiratory syndrome (SARS) on stock indices in eight countries, namely Canada, China, Hong Kong Special Administrative Region of China, Indonesia, the Philippines, Singapore, Thailand, and Vietnam, and found that the disease had an adverse effect on all stock markets, except for Vietnam and China. Siu and Wong (2004) hypothesized that this phenomenon could be attributed to the significant negative impacts of SARS on the domestic consumption sector, specifically within the realms of tourism and air travel-related sectors in the affected nations.

Marinč (2016) concluded that geographical proximity and information dissemination indicated that the impact of SARS was generally unfavorable when evaluating the worldwide

economic impact of the disease. The impact was most noticeable in a less developed industry with smaller, more volatile stocks.

In the early stages of the COVID-19 outbreak, Baker et al.'s (2020) Disease Equity Market Volatility (EMV) tracker revealed that the effects resembled those of previous infectious disease outbreaks. The Dow Jones Industrial Average, which peaked in February 2020 and was at its highest level at that time, fell in February and remained down into March 2020 as the threat grew more and more clear and overwhelming. Additionally, it linked the negative stock market reactions to the COVID-19 virus's severe symptoms, ease of transmission, and high mortality rate. The previous outbreak's slow spread of information was a contributing factor to the high stock market volatility. As a result of MCOs, demand for several services has drastically decreased. However, because this pandemic is unusual, it is crucial to look into how COVID-19 has affected the stock market in order to gauge how the market is reacting to the health crisis.

Efficient Market Hypothesis

Market efficiency can only be achieved if the market responds to all information accurately and rapidly. In addition to reflecting financial records, the material also includes political news, social and economic developments, and other kinds of information. The idea of an efficient market takes into account how securities prices are affected by the market's response to fresh information.

According to Fama (1970), an effective market is one that reflects all of the information that is currently available. When a market responds quickly to new information, it finds a new equilibrium price that fully reflects it. There are three stages of an efficient market, depending on how information is absorbed.

- Stock prices that accurately reflect all information based on pricing, sales volume, and past profit are said to have weak efficiency. Stock price predictions for the future cannot be made from historical prices.
- Mid-efficiency occurs when the market price reflects knowledge that was made available to the public. Information can be categorized into historical price, business fundamentals, profit forecasting, and accounting techniques.
- When prices fully react to all information, including historical data and both public and private information, a market is said to be efficient.

Relationship between an event and stock prices

The number of COVID-19 cases has been significantly increasing all over the world. As most people and businesses wait and see what happens, certain sectors, including the industrial industry, have been affected. Their order is delayed as a result, which also has an indirect impact on the nation's supply of healthcare supplies.

The efficient market theory describes how knowledge affects stock prices in the market. The efficient market hypothesis predicts that a market would respond quickly to information. When making judgments, players in the capital market should choose any pertinent information carefully. This is due to the fact that not all of the information is pertinent to the activity.

Numerous studies have presented empirical support for uncertain event investigations. In their study of the cross-section of stock price responses to COVID-19, Ramelli and Wagner (2020) discovered compelling causal evidence supporting the contribution of international trade and global value chains to corporate value: initially, as China was virtually closed off,

investors avoided American equities with exposure to China and businesses with an international focus.

In addition, the COVID-19 outbreak's effects on the financial markets of G-20 nations were examined by Singh, Dhall, Narang, and Rawat (2020). In the four sub-event windows throughout the course of the 58 days, they discovered statistically significant negative ARs. Both emerging and industrialized nations must take negative ARs seriously. The study's findings indicate that the increase of COVID-19-positive instances in the G-20 countries has resulted in a heightened level of fear in the stock market. This panic has been identified as the primary cause of the cumulative average abnormal return (CAAR), which exhibited a range of -0.70% to -42.69% over the period from day 0 to day 43. The recovery of stock markets after a substantial decline in stock prices resulting from the COVID-19 pandemic is evidenced by the Compound Average Annual Return (CAAR) figures ranging from -42.69 to -29.77% observed throughout the period spanning from day 43 to day 57. The findings of the panel data analysis further corroborate the resilience of stock markets in recovering from the adverse impacts of the COVID-19 pandemic.

Al-Awadhi et al. (2020) looked at the impact of infectious contagious diseases on stock market results. In order to assess the impact of the COVID-19 virus, a contagious infectious disease, on the Chinese stock market, this study uses panel data analysis, which is a natural experiment. The results show that stock returns across all companies are significantly impacted negatively by both the daily increase in the number of confirmed cases and the number of deaths caused by COVID-19.

Mittal and Sharma (2021) looked into how the COVID-19 pandemic has affected pharmaceutical and healthcare stocks. The healthcare and pharmaceutical sectors were used as test sectors in this study. The widely used event study methodology was used to calculate abnormal returns and cumulative abnormal returns and assess their significance. The results showed that the test sector experienced significant abnormal returns and cumulative abnormal returns over the event window, but when the returns were compared to those of other sectors using a different econometric model, they were not statistically significant.

By using three alternative events connected to the evolution of the COVID-19 epidemic in Vietnam in 2020 on the pharmaceutical industry index, Phuong (2021) investigated how the COVID-19 pandemic influenced the share price of the pharmaceutical sector in that country. The findings demonstrated that the share price of the pharmaceutical sector reacted primarily following the announcement date.

The stock market's activity during COVID-19 was examined by (Naseem et al., 2021). With the help of principal component analysis, this study examined the Shanghai, Nikkei 225, and Dow Jones stock markets during the period of January 20, 2020, to April 27, 2020. The findings demonstrated a negative relationship between investor psychology and three specific stock markets when subjected to pandemics and psychological pressure. Investors are urged to stop making investments in the stock market because negative emotions and pessimism lower returns.

Mishra and Mishra (2021) looked at how the pandemic affected stock market behavior in 15 specific Asian markets. According to the findings, the rapid spread of the coronavirus coincided with a sharp increase in market return volatility, which was mostly brought on by investors' feelings being negatively impacted by the announcement impacts. A few Asian countries' stock market performances during the aforementioned time frame have been

shown to be affected by the reporting of COVID-19 confirmed cases and mortality cases, stock index returns, market volatility, oil prices, inflation rates, and interest rates.

Anh and Gan (2020) examined how the COVID-19 pandemic lockdown and subsequent epidemic had an impact on Vietnam's daily stock returns, a rapidly expanding emerging market that recovered well after the pandemic lockdown. The study supports the negative effect of Vietnam's stock returns on the COVID-19 instances that were reported there on a daily basis. The analysis also reveals that the performance of the Vietnam stock market before and during the statewide lockdown was the opposite. Despite the fact that COVID-19 prior to the lockdown significantly hurt Vietnam's stock returns, the lockdown itself and all of Vietnam's business sectors saw considerable gains in stock performance. The COVID-19 outbreak had the greatest impact on the financial sector of the Vietnamese stock market.

Huo and Qiu (2020) highlighted the reversals at the firm and industry levels as a result of investors' exaggerated responses to the pandemic lockdown. The reversals were more pronounced for sectoral and firm-level equities that had positive cumulative abnormal returns (CARs) during the event window when Wuhan was shut down. As a result, the reversal effects were mostly driven by sectors and equities that favorably overreacted to COVID-19 compared to others. Additional research reveals that overreactions are more pronounced for firms with lesser institutional ownership, which indicates that ordinary investors respond to COVID-19 more strongly. Stocks with positive CARs in the event window typically outperform after a month, whereas those with larger idiosyncratic volatilities and smaller book-to-market ratios typically underperform after a month.

Khan et al (2020) investigated how the COVID-19 pandemic affected the stock markets in sixteen different nations. The study's results are estimated using a combination of Mann-Whitney, conventional t-tests, and pooled OLS regression. The findings showed that investors in these nations did not respond to COVID-19 media reports at the beginning of the pandemic. All stock market indices, however, displayed a negative response to the news in both the short- and long-term event windows once human-to-human transmissibility had been established. It's interesting to note that the Shanghai Composite Index, which experienced significant losses during the short-event window, recovered during the long-event window.

Table 2

Summary of literature review

Author	Year	Title	Source	Finding
Al-Awadhi, Alsaifi, Al-Awadhi and Alhammadi	2020	Death and contagious infectious diseases: Impact of the COVID-19 virus on stock market returns	Journal of Behavioral and Experimental Finance	The outcomes suggest that there is a notable adverse impact on stock returns for all companies as a result of the daily increase in both total confirmed COVID-19 cases and total fatalities.

Anh and Gan	2020	The impact of the COVID-19 lockdown on stock market performance: evidence from Vietnam	Journal of Economics Studies	A thorough analysis of Vietnam's stock market has found that the widespread presence of COVID-19 both prior to and during the state of emergency in Hanoi exerted a noteworthy influence on the Vietnamese stock market. The data reveals that the implementation of the lockdown period had a significant and positive impact on the overall stock performance of the market.
Ashraf	2020	Cases or fatalities?	Research in International Business and Finance	Stock market responds negatively to the growth in new cases. In his Research using daily confirmed new and death cases, the result shows that stock market react more on positive cases rather than death reported cases.
Baker, Bloom, Davis, Kost, Sammon and Viratyosin	2020	The unprecedented stock market impact of COVID-19	NBER Working Paper, 26945.	The US stock market stock movement being more severe compared to previous pandemic.
Davis, Hansen and Seminario-Amez	2020	Firm-Level Risk Exposures and Stock Price Reactions to COVID-19	NBER Working Paper 27867.	There is a negative significant abnormal return for companies such as lodging and travel sectors that triggered by bad news.
Huo and Qiu	2020	How does China's stock market react to the announcement of the COVID-19 pandemic lockdown?	Economic and Political Studies	Overreactions to COVID-19 led to reversals at the firm and industry levels, with sectoral and firm-level equities having positive cumulative abnormal returns (CARs) during the event window when Wuhan was shut down. Overreactions are more pronounced for stocks with lesser institutional ownership and those with higher idiosyncratic volatilities.

Khan, Zhao, Zhang, Yang, Shah and Jahanger 2020	The Impact of COVID-19 Pandemic on Stock Markets: An Empirical Analysis of World Major Stock Indices Journal of Asian Finance, Economics and Business	The number of COVID-19 cases inversely predicted the return on the stock markets of sixteen different nations. The performance of these nations' top stock indices during the epidemic is contrasted with performance during the non-COVID period. All stock market indices displayed a negative response to the news once the human-to-human transmissibility had been established.
Mahmood, Irfan, Iqbal, Kamran and Ijaz 2014	Impact of political events on stock market: Evidence from Pakistan Journal of Asian Business Strategy	The market volatile only for a short period which is at maximum about 10 to 15 days towards an event such as political events.
Mishra and Mishra 2021	COVID-19 pandemic and stock market reaction: empirical insights from 15 Asian countries Transnational Corporations Review	The rapid spread of the coronavirus coincided with an increase in market return volatility that was predominantly brought on by depressed investor mood. At this time, the reporting of the number of COVID-19 confirmed cases and mortality cases, stock index returns, market volatility, oil prices, inflation rate, and interest rates all had an impact on Asian stock markets.
Mittal and Sharma 2021	The Impact of COVID-19 on Stock Returns of the Indian Healthcare and Pharmaceutical Sector Australasian Accounting, Business and Finance Journal	The healthcare and pharmaceutical sectors have exhibited noteworthy abnormal returns and cumulative abnormal returns within the event window.
Naseem, Mohsin, Wang, Geng and Kun 2021	The Investor Psychology and Stock Market Behaviour During the Initial Era of COVID-19: A Frontiers in Psychology	The findings of the study indicate a negative correlation between investor psychology and three specific stock markets in the context of psychological resilience and the impact of the pandemic. Negative emotions and pessimistic outlooks prompt investors to discontinue their financial

			Study of China, Japan, and the United States			investments in the stock market, leading to a future decrease in stock market returns.
Ozili Arun	and	2020	Spillover of COVID-19: Impact on the Global Economy	SSRN Journal	Electric	There is a positive impact on economic activities and no significant effect, even though the number of positive cases increasing
Phuong		2021	How Covid-19 affects the share price of Vietnam's pharmaceutical industry: event study method	Journal of Entrepreneurship and Sustainability Issues	of	Three incidents had varying implications on the prices of pharmaceutical stocks. The cumulative abnormal returns (CAR) following the announcement of the first and third occurrences are positive. However, the CAR is unfavourable following the second event's announcement. The third incident, CAR, had the slowest stock price reaction of the three.
Ramelli Wagner	and	2020	Feverish Stock Price Reactions to COVID-19	SSRN Journal	electrical	There is great relationship between international trade and global value chains with China experienced lower cumulative abnormal return (CARs). So, when the situation in China become better, the investors aware on United States companies more favorably.
Ruiz Barrero	and	2014	The effects of the 2010 Chilean natural disasters on the stock market	Estudios de Administración	de	Study suggested that there are different abnormal return responses and increase in market volatility affected by the natural disaster such as earthquake. Certain sectors like financial, construction and retail enjoy at the most.
Singh, Dhall, Narang Rawat	and	2020	The Outbreak of COVID-19 and Stock Market Responses: An Event Study and Panel Data Analysis for	Global Business Review		The authors find statistically significant negative abnormal returns (ARs) in the four sub-event windows during the 58 days. Negative ARs are significant for developing as well as developed countries. Results of panel data analysis confirm the recovery of stock

G-20
Countriesmarkets from the negative impact of
COVID-19.

Methodology

This study used a quantitative research approach. Quantitative research is the process of collecting and analyzing numerical data that can be used to find a pattern, averaging in order to make prediction, test causal relationships, and to generalize results to a wider population. In this study, secondary data collection is the main source. The sample datum selected in this study is listed healthcare industry companies in Bursa Malaysia. The data of daily stock prices and daily market indices cover the period of six- months prior MCO and within a year, 2020, and the sampling frame of the research is taken from Yahoo Finance Database. There is a total of 27 listed companies in the healthcare industry, as listed in Table 1.

This study is categorized into two timelines: the first concerns the impact of the COVID-19 MCO announcement, while the second focuses on the impacts of the first and second waves of COVID-19 infection announcements. Furthermore, this study also examines how the stock prices behave on the first and second waves during this outbreak. The table below shows the timeline for different phases of announcements in Malaysia.

Table 3

Timeline for different phases of announcements in Malaysia.

Phases of MCO Announcement	Dates
MCO (Phase 1)	18 March 2020 – 31 March 2020
MCO (Phase 2)	1 April 2020 – 14 April 2020
MCO (Phase 3)	15 April 2020 – 28 April 2020
MCO (Phase 4)	29 April 2020 – 3 May 2020
CMCO (Phase 1)	4 May 2020 – 12 May 2020
CMCO (Phase 2)	13 May 2020 – 9 June 2020
RMCO (Phase 1)	10 June 2020 – 31 August 2020
RMCO (Phase 2)	1 September 2020 – 31 December 2020
RMCO (Phase 3)	1 January 2020 – 31 March 2021 First Wave of COVID-19 infection

25 January 2020

Second Wave of COVID-19 infection 27 February 2020

Source: Malaysia Kini News (www.malaysiakini.com)

Methodology

This study employs the event study methodology (ESM) which is well-known for being used to analyze the effect of an event or information on the stock market behavior and to assess the effects of the COVID-19 waves on the healthcare sector in different periods.

The events include the announcement of MCOs, and announcements of new COVID-19 cases or deaths. The effects of the announcements of a certain event can lead to the positive or negative reaction of the stock prices. Brown and Warner (1985) mentioned that event study methodology is the best tool to forecast abnormal returns after the announcement of an event.

The daily index return in this study is computed using simple arithmetic return. Furthermore, the following techniques are used to calculate the abnormal return ($ABR_{n,d}$) and cumulative abnormal return ($CABR_{n,d}$) for each day in the event window for each index: (1) mean-adjusted returns; and (2) the market model.

Mean adjusted returns.

As in Brown and Warner (1985), this study uses standard mean-adjusted returns to calculate abnormal return ($ABR_{n,d}$) for index n on day d :

$$ABR_{n,d} = R_{n,d} - \bar{R}_n$$

Market model

In addition to the mean adjusted returns, this study calculated abnormal returns

$$ABR_{n,d} = R_{n,d} - (\alpha_n - \beta_n R_{m,d})$$

where $R_{n,d}$ is the return of index n on day d . $R_{m,d}$ is the return of the KLCI, $\alpha_n - \beta_n$ are regression coefficients for the estimation window (-90, +180) obtained by ordinary least squares estimation (OLS). The research indicates that Bursa Malaysia did not achieve optimal efficiency in a market characterized by semi-strong form efficiency. Mohammed et al (2010) discovered that the Cumulative Abnormal Average Returns (CAAR) continued to demonstrate noticeable upward or negative patterns even in the days following the announcement dates. Therefore, the purpose of observing the market for five trading days was to analyze the immediate market responses inside a nearly efficient semi-strong form market.

Event Date

In this study, the events chosen are 25 January 2020 as the first wave and the second wave was on 27 February 2020 when the announcements were made regarding the spread of the virus through the media by the federal government in Malaysia in response to the COVID-19 pandemic in the country.

Event Window

In order to assess the effects of COVID-19 on stock prices, the event window chosen is 300 days after the announcement regarding the spreading of the virus. The research argues that

the stock prices may react differently in different phases of pandemic; as such, this study decides to calculate the returns of 27 listed companies in Bursa Malaysia healthcare sector.

Estimation Window

To estimate the expected return, an estimation window is used as shown in Figure 2. The estimation window is from the day -90 to day -1 (17 March, 2020), the day before to the event day, which is the day when the information regarding COVID-19 spread in the media. The estimation window for the model is generally between 100 and 300 days based on daily return. This is to ensure that the data are more reliable and avoid the event window information from overlapping (Peterson, 1989).

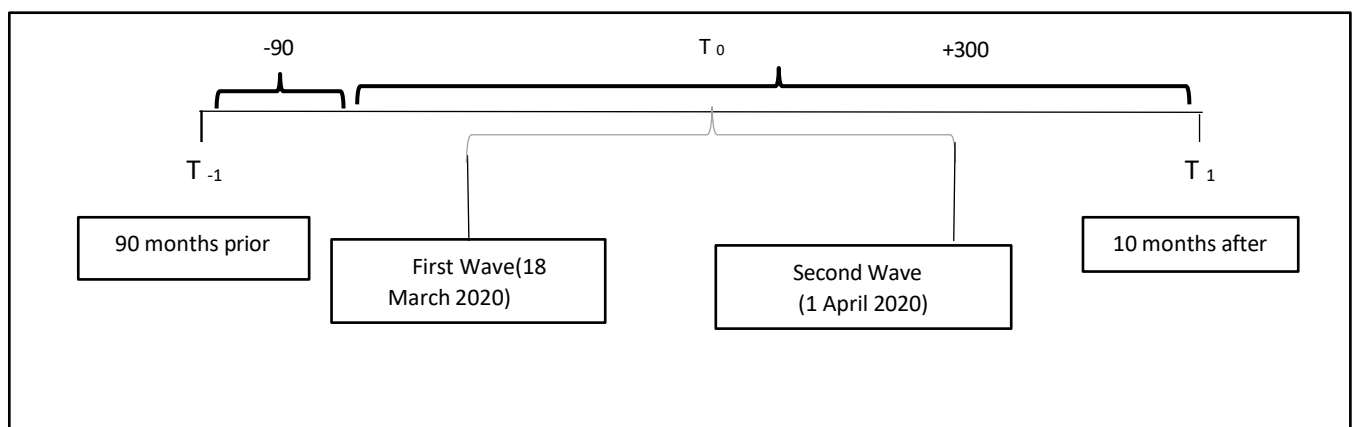


Figure 2: Observation Period

Hypothesis Development

Investors will employ any information that they have when making investment decisions. The stock market activities are likely affected by flows of information in the capital market. These can be economic or non-economic, which cannot be separated. There are many different characteristics of an event that may affect the changes of stock prices in the market. This outbreak is one of the incidental events that may happen every day and may occur at any time. This event can drastically cause changes in stock prices in the market.

Most of the sectors in every country were badly affected by COVID-19. This EMH describes the responsiveness of stock prices toward information, not only gathered from financial records, but also from political news, economics, social and other sources. The efficient market hypothesis concept considers the market reaction toward the information and how stock prices can be affected by it.

Research by Sansa (2020) regarding the effects of COVID-19 on the financial markets in China and US found that there are positive significant effects to positive cases within the markets. Similarly, Ramelli and Wagner (2020) also found there are a positive and significant effects between COVID-19 stock price transaction. The followings are hypotheses developed according to the enhanced and prior studies' findings:

H1: the stock market should have negative returns at the beginning of MCOs.

H2: The stock market should have a positive return once the pandemic is under control.

H3: Numbers of new cases and death cases are expected to have a negative impact on stock returns.

Limitations

There is little available research that focuses on the impacts of the pandemic on the healthcare sector in Malaysia.

Results

In this study, only two companies remained out of the 24 due to there not being enough data for another three companies. The companies excluded are Cengild Medical Berhad, Optimax Berhad, and Umedic Berhad. This study selected the cumulative abnormal return (CAR) as the primary indicator to measure the short-term performance of the Malaysian stocks under the influence of MCO announcement during the COVID-19 pandemic, the first wave and second wave, for all sample companies within 10 days before and 10 days after the event. From the whole samples and subsamples, this study proposes and demonstrates the impact of the two-phase MCO announcements on the market performance of the Malaysia Healthcare industry. Figure 3 and Figure 4 demonstrate the CAR surrounding the first and second waves, which indicate the first wave on 18 March 2020 and the second wave of MCO announcements in Malaysia. CAR1 to CAR24 indicate the available companies listed in Bursa Malaysia.

Figure 3 demonstrates the CAR on the first wave which affected five sample companies within ten days before and ten days after the event. The majority of CAR for other companies shows no severe impacts. As illustrated in Figure 3, most of the companies have negative significance toward the first wave, where there are five companies that react positively. For Figure 4, the majority of sample companies are negatively affected except six sample companies that positively reacted to the wave. CAR12's performance of sample companies shows the opposite effect of the second wave compared to the first wave.

With respect to the two waves, the sample companies have rich experience in responding to lockdown events with steady rebound under the precondition of stabilizing stock prices. Therefore, investors can approach the healthcare stock market rationally, with more positive expectations for upcoming events, which also positively affects the market reaction significantly. As a high-demand industry in a disease outbreak, demanded factors are more critical than other disruptions in the Malaysian healthcare industry.

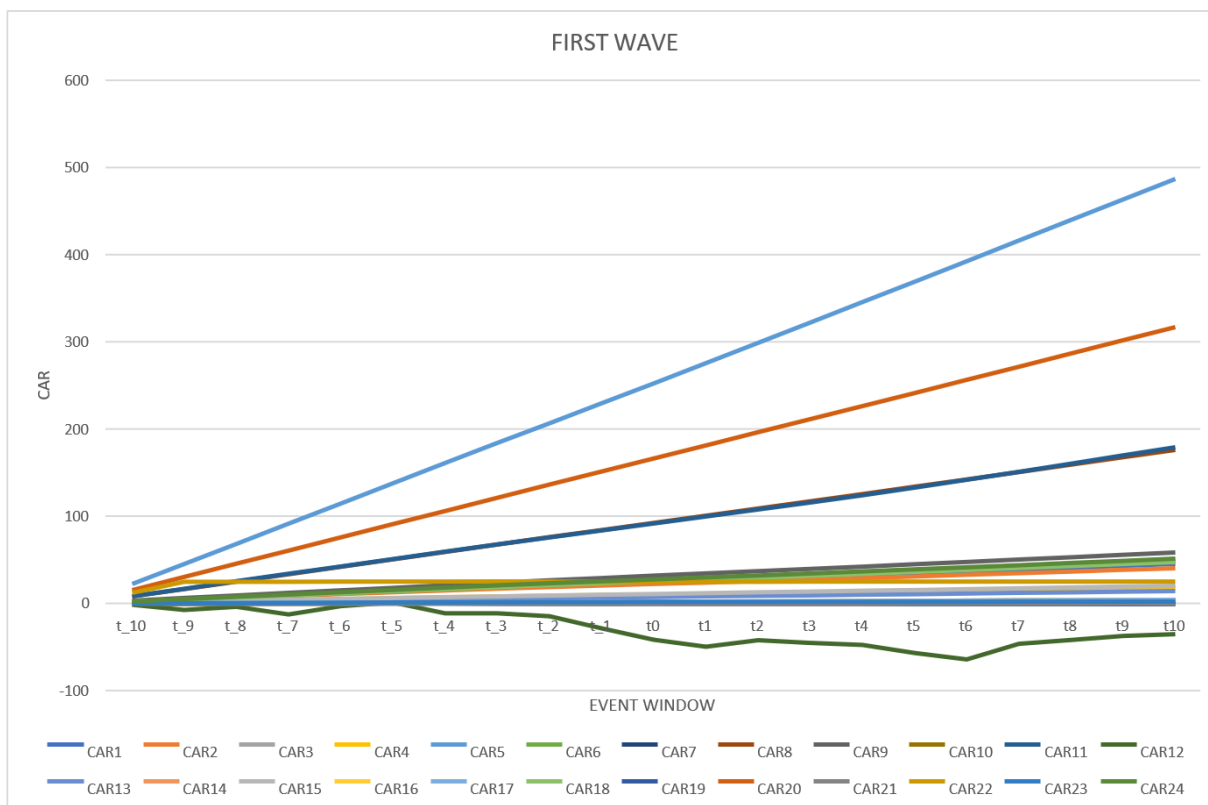


Figure 3: Ten days before and ten days after for first wave of MCO announcements

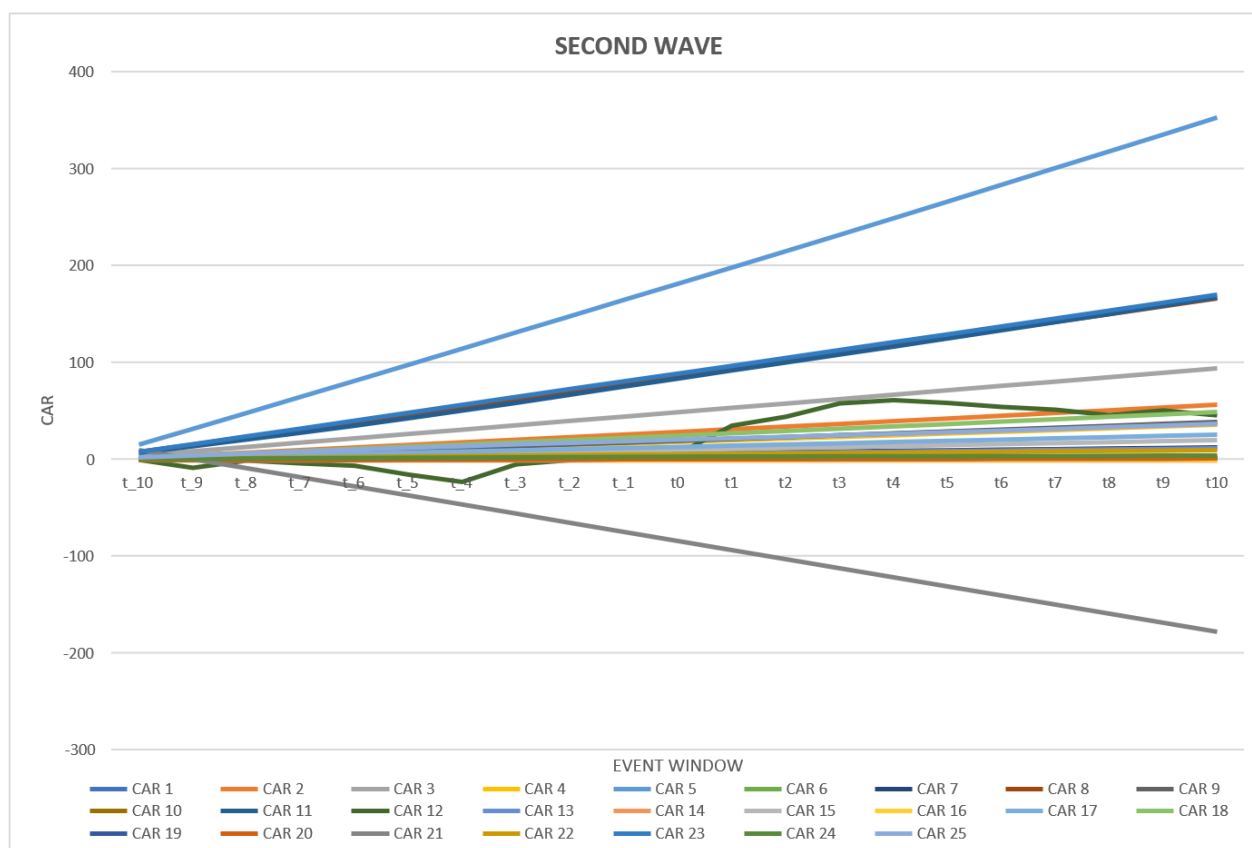


Figure 4: Ten days before and ten days after second wave of MCO announc

Table 4
 Abnormal return (AR) for the prior ten days and post ten days for first wave

	t ₋₁₀	t ₋₉	t ₋₈	t ₋₇	t ₋₆	t ₋₅	t ₋₄	t ₋₃	t ₋₂	t ₋₁	t ₀	t ₁	t ₂	t ₃	t ₄	t ₅	t ₆	t ₇	t ₈	t ₉	t ₁₀
AR TTEST 1	4.1645	4.1473	4.1645	4.0785	4.0181	3.9923	3.9235	3.9236	3.6824	3.5618	3.5187	3.4412	3.4668	3.4068	3.4669	3.5014	3.5617	3.6306	3.7426	3.7942	3.7254
AR TTEST 2	6.5898	6.6207	6.7442	6.5282	6.4046	6.6824	6.3121	6.3122	5.6331	5.5403	5.5403	5.0464	5.2621	5.2317	5.5093	5.7253	5.6946	5.8180	5.8181	6.0032	5.6638
AR TTEST 3	0.1625	*0.066703	0.1223	*0.052132	*0.006017	0.0127	***0.0689	0.0176	-0.2212	*0.065039	*0.01334	0.0782	***0.04992	-0.1165	0.1498	***0.02958	0.00368	0.0155	0.2558	**0.02875	-0.0210
AR TTEST 4	4.7761	4.9176	4.9530	4.7763	4.7407	4.7407	4.6700	4.6702	3.5027	3.5026	3.5026	3.5026	3.7853	3.7857	3.8208	3.8562	3.9978	4.1039	4.1040	4.3162	4.3517
AR TTEST 5	6.2520	6.2491	6.2956	6.3009	6.2956	6.3173	6.3420	6.2030	6.1891	6.2250	6.2273	6.2765	6.3551	6.3720	6.3499	6.3744	6.3990	6.4562	6.4045	6.4262	6.3910
AR TTEST 6	6.2146	6.2232	6.2497	6.2057	6.2146	6.2321	6.2542	6.2542	6.0958	6.1314	6.0871	6.1312	6.1483	6.1181	6.1310	6.1266	6.1311	6.1354	6.1882	6.2013	6.1619
AR TTEST 7	1.4804	1.7142	2.3044	1.8324	1.3631	1.3626	1.0109	0.4227	-0.2863	-1.9279	-1.9322	-0.2836	-0.4058	-1.2238	-0.9916	-0.2859	-0.2846	0.5384	-0.0486	0.1852	-0.6362
AR TTEST 8	6.2320	6.2729	6.3066	6.2692	6.3476	6.3326	6.3775	6.4371	6.2803	6.0348	6.1760	6.1315	6.1460	6.1986	6.2207	6.1872	6.2506	6.2841	6.3252	6.3624	6.3327
AR TTEST 9	7.7270	7.8570	7.9092	7.5708	7.5709	7.5709	7.8312	7.3889	7.3105	7.1549	6.9203	6.7904	6.9200	6.8426	6.9203	6.8943	7.0505	7.1545	7.0246	7.0504	7.1547
AR TTEST 10	0.1104	-0.1334	***0.0957	-0.1410	0.1283	0.1276	-0.1143	0.1153	-0.2472	-0.1761	-0.2743	-0.2979	-0.3590	-0.2343	-0.2650	-0.2294	-0.1697	-0.1737	-0.1655	-0.1652	-0.1506
AR TTEST 11	4.5584	9.0904	13.6752	18.1282	22.5814	27.0345	31.4878	35.8620	40.1045	44.3210	48.5109	52.6746	56.8906	61.0807	65.4285	70.1183	74.8872	79.6298	84.5567	89.5624	94.4366
AR TTEST 12	-25.2637	119.1872	72.3295	177.6195	191.8691	83.5415	-250.6246	3.9638	68.6521	279.8684	259.2824	161.8368	148.1738	58.1925	49.4485	-184.3550	147.7542	360.7476	85.3736	91.5498	41.6470
AR TTEST 13	12.3004	12.5696	13.1087	12.6595	12.4801	12.9290	12.6598	12.9292	12.3000	12.1214	11.7614	11.3127	11.5813	11.3129	11.4021	11.6715	11.8513	11.9411	12.1209	12.3900	12.2108
AR TTEST 14	1.9574	-1.9574	1.9575	-1.9574	0.6958	0.6958	-0.6959	0.6959	-1.9574	-1.9575	-1.9574	-1.9575	-1.9573	-1.9575	-1.9574	-1.9574	-1.9574	-1.9574	-1.9574	-1.4528	-1.4528
AR TTEST 15	10.4353	10.3663	10.2981	9.7953	9.8118	9.9501	9.7258	9.4839	9.1019	9.2244	8.9230	8.7054	9.1245	9.0565	9.0609	9.2049	9.2706	9.2641	9.4736	9.5496	9.5779
AR TTEST 16	0.9944	-0.9944	0.9944	-0.9944	0.9944	0.9944	-0.9944	0.9944	-0.9944	-0.9944	-0.9944	-0.9944	-0.9944	-0.9944	-0.9944	-0.9944	-0.9944	-0.9944	-0.9944	-0.9944	-0.9944
AR TTEST 17	5.7577	5.6491	5.8661	5.2155	5.4866	5.3240	5.3241	5.3241	3.9686	3.0475	2.4508	6.0287	6.0284	6.0288	6.0286	6.0286	6.0286	6.0286	6.0287	6.0286	6.0288
AR TTEST 18	12.4324	12.4321	12.4074	12.0558	11.9556	12.0308	11.9557	11.7549	11.0517	10.9271	10.8009	10.5502	10.8004	10.7009	11.4533	11.3027	11.1775	11.3029	11.4285	11.4534	11.4035
AR TTEST 19	1.1292	-1.1277	1.1297	-2.9136	1.1294	1.1290	-1.1302	1.1301	-1.1269	-1.1323	-1.1280	-1.1297	-1.1251	-1.1306	-3.8055	-1.1274	-1.1287	-1.1282	-1.1294	-1.1279	-1.1300
AR TTEST 20	7.8559	7.8582	7.8780	7.8558	7.8633	7.8632	7.8732	7.8732	7.8139	7.8096	7.8042	7.7970	7.8039	7.7824	7.7993	7.8066	7.8239	7.8533	7.8633	7.8533	7.8339
AR TTEST 21	5.9536	5.8849	5.5422	4.7192	4.6507	4.5821	4.2393	3.6221	3.3476	3.4165	3.3476	3.0734	3.0731	2.7306	3.0733	2.7990	3.1419	3.1419	3.2791	3.4848	3.6221
AR TTEST 22	6.7602	6.7654	6.8141	6.8337	6.8320	6.8643	6.9057	6.9057	6.7923	6.7856	6.7690	6.7872	6.8622	6.8339	6.8336	6.8498	6.8499	6.8714	6.8823	6.8947	6.8824
AR TTEST 23	4.4847	4.4846	4.4847	4.4847	4.4847	4.4847	4.4848	4.4848	4.4846	4.4849	4.4846	0.5323	0.5321	-0.0852	0.5322	0.0382	0.6558	0.6558	0.9029	1.2733	1.5205
AR TTEST 24	19.2741	19.4485	19.2172	18.6832	18.5009	18.3473	17.8821	17.8808	15.8843	16.5889	15.7684	15.4575	16.0496	15.7659	15.9686	16.1799	16.8504	17.4058	17.4363	17.6822	17.2379

*Significant at the 10% level. ** Significant at the 5% level. *** Significant at the 1% level

Table 5

Abnormal return (AR) for the prior ten days and post ten days for second wave

	t ₁₀	t ₉	t ₈	t ₇	t ₆	t ₅	t ₄	t ₃	t ₂	t ₁	t ₀	t ₁	t ₂	t ₃	t ₄	t ₅	t ₆	t ₇	t ₈	t ₉	t ₁₀
AR TTEST 1	4.7661	4.7087	4.7275	4.6833	4.7277	4.7532	4.7979	4.8488	4.9318	4.9699	4.9191	4.9381	4.9381	4.9508	4.9635	4.9445	4.9508	4.9445	4.9763	4.9890	4.9954
AR TTEST 2	6.5018	6.1014	6.2762	6.2517	6.4766	6.6518	6.6269	6.7269	6.7270	6.8770	6.6020	6.8020	6.7770	6.8270	7.0522	6.8772	7.0022	7.0273	7.0523	7.1273	7.1774
AR TTEST 3	4.1046	4.0907	4.1089	4.0862	4.1091	4.1183	4.1184	4.1230	4.1600	4.1691	4.1600	4.1645	4.1553	4.1645	4.1691	4.1646	4.1876	4.1784	4.1969	4.2061	4.2061
AR TTEST 4	4.9304	4.9304	5.1196	5.1200	5.1435	5.1671	5.2620	5.3330	5.3331	5.4751	5.4990	5.4989	5.4752	5.4989	5.4988	5.5226	5.5226	5.5937	5.7595	5.8542	5.8542
AR TTEST 5	3.6215	3.6622	3.7276	3.7414	3.7232	3.7435	3.7639	3.8114	3.7685	3.7865	3.7572	3.7685	3.7911	3.8227	3.8476	3.8748	3.9132	3.9200	3.9087	3.9200	3.9494
AR TTEST 6	3.4156	3.4478	3.4604	3.4382	3.4476	3.4444	3.4477	3.4509	3.4895	3.4990	3.4702	3.4894	3.4798	3.4862	3.5022	3.4959	3.5055	3.4927	3.5151	3.5151	3.5408
AR TTEST 7	7.1405	9.1202	8.9209	8.0018	8.2444	9.0916	9.1076	10.0910	9.3994	9.6634	8.6999	8.5398	8.4029	7.6904	8.5296	8.4071	8.8226	8.6917	8.5449	8.5362	9.1014
AR TTEST 8	4.0454	4.0141	4.0607	4.0480	4.0583	4.0739	4.0896	4.1156	4.1521	4.1598	4.1391	4.1547	4.1521	4.1625	4.1650	4.1625	4.1651	4.1782	4.1912	4.2067	4.2588
AR TTEST 9	3.8798	3.7719	3.8795	3.8152	3.8797	3.8581	3.9876	4.0739	3.9661	3.9876	4.0740	4.0739	4.0955	4.0955	4.0954	4.0956	4.3113	4.3113	4.2034	4.3113	4.3113
AR TTEST 10	1.1819	0.1239	0.5498	1.0089	1.5277	2.2330	2.9426	3.0293	2.7686	3.2929	2.8587	3.1184	2.7668	2.5007	2.3220	2.2387	2.1483	2.0628	2.3260	2.4119	2.5883
AR TTEST 11	2.3901	2.3731	2.3892	2.3943	2.4853	2.7098	2.7667	2.7476	2.8734	2.9193	2.8411	2.8697	2.8192	2.8347	2.8319	2.9243	2.9389	2.9076	2.9404	2.9377	2.9203
AR TTEST 12	-3.5816	-128.0029	117.1963	-46.0266	-39.1107	-	-	285.3290	67.5252	72.4102	32.9402	453.7940	143.5950	216.7974	52.8131	-	-	-	-	78.3387	-79.1628
AR TTEST 13	6.4617	6.1817	6.3062	6.1910	6.2167	6.3847	6.5091	6.5608	6.6845	6.8388	6.7461	6.7319	6.5668	6.5623	6.6680	6.6822	6.5073	6.5152	6.5672	6.5045	6.6167
AR TTEST 14	-0.3252	-0.3252	-0.3252	-0.3252	-0.3252	-0.3252	-0.3252	-0.3252	-0.3252	0.1843	0.1843	0.1843	0.1843	0.1843	0.1843	0.1843	0.1843	0.1843	0.1843	0.1843	0.1843
AR TTEST 15	-1.7134	-1.6675	-1.7478	-1.7347	-1.7356	-1.7631	-1.7757	-1.7745	-1.8146	-1.8292	-1.8345	-1.8491	-1.8500	-1.8581	-1.8655	-1.8509	-1.8676	-1.8421	-1.8594	-2.0054	-1.9777
AR TTEST 16	-0.9945	-0.9945	-0.9945	-0.9945	-0.9945	-0.9945	-0.9945	-0.9945	-0.9945	0.9945	-0.9945	-0.9945	0.9945	-0.9945	-0.9945	-0.9945	-0.9945	0.9945	-0.9945	-0.9945	-0.9945
AR TTEST 17	9.0679	8.8733	8.8508	8.8634	9.1154	9.1599	9.1764	9.2305	9.2311	9.3020	9.3590	9.4148	9.4496	9.6693	9.7355	9.6948	9.7311	9.7419	9.8718	9.9531	9.8927
AR TTEST 18	7.7306	7.5572	7.6780	7.6732	8.1595	8.0542	7.9817	8.0634	8.1646	8.1648	8.1538	8.2237	8.2452	8.6062	8.6504	8.5457	8.6076	8.5649	8.9262	8.9182	8.8657
AR TTEST 19	2.8319	2.8322	2.8152	2.8358	0.2526	2.8239	2.8286	2.8268	2.8312	2.8258	2.8332	2.8278	2.8291	2.8274	2.8248	2.8304	2.8279	2.8309	2.8293	2.8268	2.8267
AR TTEST 20	4.7758	4.7785	4.7664	4.7826	4.7686	4.7683	4.7853	4.7823	4.7369	4.7229	4.7317	4.7155	4.7244	4.7015	4.7125	4.7288	4.7399	4.7718	4.7778	4.7645	4.7467
AR TTEST 21	9.4384	9.3644	8.9940	8.1067	8.0324	7.9584	7.5885	6.9226	6.6267	6.7006	6.6268	6.3307	6.3307	5.9607	6.3306	6.0348	6.4047	6.4048	6.5527	6.7746	6.9226
AR TTEST 22	3.9263	3.9312	3.9753	3.9937	3.9919	4.0215	4.0594	4.0593	3.9559	3.9492	3.9345	3.9509	4.0199	3.9936	3.9936	4.0084	4.0084	4.0282	4.0380	4.0495	4.0380
AR TTEST 23	6.9094	6.9094	6.9090	6.9095	6.9092	6.9092	6.9093	6.9093	6.9094	6.9092	6.9094	2.7935	2.7935	2.1504	2.7934	2.2791	2.9221	2.9222	3.1794	3.5652	3.8224
AR TTEST 24	14.7714	14.9986	14.1062	14.3350	13.7013	13.5501	13.2130	13.1513	11.3669	11.7470	11.2972	10.7426	11.5079	11.0154	11.2114	11.6232	12.1815	12.8654	12.8088	13.0058	12.5007

*Significant at the 10% level. ** Significant at the 5% level. *** Significant at the 1% level.

Conclusion and Implication

Conclusion

This study examined the impact of two wave events on the stock returns of 24 healthcare companies listed in Bursa Malaysia by employing the event study methodology. The results support that the lockdown event study affects the short-term market performance. According to the strict movement control, the second wave has the most significant positive on samples. Nevertheless, the first wave had a positive impact on samples except for one sample company, which had a negative impact. With the deregulation of movement control and the

apparent effect of stopping the COVID-19 virus from spreading in the first wave and as a highly demanded sector it showed a rebound and improvement in the performance of healthcare stocks. Healthcare sectors are expected to have different impacts by the event according to different providers. Firms belonging to healthcare equipment and services are affected more compared to other healthcare providers.

Gaining insight into how the COVID-19 pandemic affected the stock prices of Malaysia's healthcare industry will help determine how flexible and resilient the industry is during difficult times. Additionally, this analysis might assist in locating possible investment possibilities or risk-reduction tactics for comparable future occurrences. These findings may also be used by policymakers to create more efficient measures and regulations that will assist the healthcare sector and guarantee its stability in these kinds of extraordinary circumstances.

Primarily, gaining knowledge about how the pandemic impacted healthcare stock performance might help investors make better decisions when things get tough. Future investment decisions can benefit greatly from this information, particularly in the healthcare industry. Investors can spot developments and patterns that could help them make decisions in similar crisis scenarios by examining the stock behaviour in the healthcare industry throughout the epidemic. It can also teach us important lessons about flexibility and resilience that we can apply to our future investment plans by analysing how various healthcare organisations handled the epidemic.

At the same time, the healthcare industry's resilience and capacity to tolerate shocks from the outside world can be better understood by examining how the epidemic has affected stock behavior. Politicians and business stakeholders may use this knowledge to prepare for any problems in the future. It is possible to get insight into the stability of the healthcare industry generally and pinpoint areas in need of improvement by analyzing how it operated throughout the epidemic. With this knowledge, industry players and policymakers may devise plans that fortify the sector's resiliency and guarantee enhanced readiness for any crises in the future. Furthermore, by examining stock behaviors, investors can find possible investments in the healthcare industry and base their choices on the company's resilience to external shocks.

Also, it is possible to gain an understanding of how the healthcare sector responded to the issues presented by Covid-19 by analysing the pandemic's influence on stock behaviours. Enhancing industrial readiness for upcoming crises may be achieved with the use of this information. Those healthcare businesses who were able to swiftly create and deliver vaccinations or use telemedicine solutions to respond to the pandemic can be identified by examining the stock movements. Policymakers and business executives may use this data to help them create plans that will increase resilience and guarantee a better outcome in similar circumstances.

Implications

Although many countries have adopted similar measures to control the spread of the epidemic, these countries also have paid for the painful economic stagnation or retrogression. Once the first wave came, the panic spread quickly to the whole market investors behaved irrationally and the price fell drastically. However, the first wave effect gradually returned to normal in the following wave. The sample companies have more experience in responding to the waves and stabilizing the prices and investors reacted differently in regard to the news of the second wave.

References

- Ashraf, B. N. (2020). Stock markets' reaction to COVID-19: Cases or fatalities? *Research in International Business and Finance*, 54, 101249.
<https://doi.org/10.1016/j.ribaf.2020.101249>
- Aravind, M., & Manojkrishnan, C. G. (2020). COVID 19: Effect on leading pharmaceutical stocks listed with NSE. *International Journal on Research in Pharmaceutical Sciences*, 11(SPL1):31-36. <https://doi.org/10.26452/ijrps.v11iSPL1.2014>
- ASEAN Briefing. (2021). Malaysia's Healthcare Sector: A Rising Giant in ASEAN. ASEAN Business News. <https://www.aseanbriefing.com/news/malaysias-healthcare-sector-a-rising-giant-in-asean/>
- Bursa healthcare gauge top gainer on pandemic concerns. (2021). *The Edge Markets*. <https://www.theedgemarkets.com/article/health-care-gauge-most-covid19-drives-pharmaceutical-glove-share-gain>
- Davis, S. J., Hansen, S., and Seminario, C. (2020). Firm-Level Risk Exposures and Stock Price Reactions to COVID-19. NBER Working Paper 27867.
- HealthAnalytics. (2020). Second Wave: Malaysia battles new challenges. *Health Analytics Asia*. <https://www.ha-asia.com/second-wave-malaysia-battles-new-challenges/>
- Fama, E. F. (1991). *Efficient Capital Markets: II*. Wiley Online Library. <https://onlinelibrary.wiley.com/doi/10.1111/j.1540-6261.1991.tb04636.x>
<https://doi.org/10.1111/j.1540-6261.1991.tb04636.x>
- Li, M., Zhang, X. X., and Zhao, J. Z. (2020). The active fiscal policy trend and the finance-taxation system reform in China after the epidemic. *Management World* 4:26–34. <https://doi.org/10.19744/j.cnki.11-1235/f.2020.0050>.
- Liu, H., Manzoor, A., Wang, C., Zhang, L., Manzoor, Z. (2020). The COVID-19 outbreak and affected countries stock markets response. *International Journal of Environmental Research and Public Health*, 17(8), 1–19.
- Mohammed, A. A., Hussin, B. M., & Ying, T. C. (2010). Semi-strong form efficiency: Market reaction to dividend and earnings announcements in Malaysian Stock Exchange. Research Gate. https://www.researchgate.net/publication/228122538_SemiStrong_Form_Efficiency_Market_Reaction_to_Dividend_and_Earnings_Announcements_in_Malaysian_Stock_Exchange
- Mahmood, S., Irfan, M., Iqbal, S., Kamran, M., & Ijaz, A. (2014). Impact of political events on stock market: Evidence from Pakistan. *Journal of Asian Business Strategy*, 4(12), 163-174.
- Nippani, S., & Washer, K. M. (2004). SARS: a non-event for affected countries' stock market? *Applied Financial Economics*, 14(15), 1105-1110. <https://doi.org/10.1080/0960310042000310579>
- Ozili, P., & Arun, T. (2020). Spillover of COVID-19: Impact on the Global Economy, SSRN Electronic Journal. DOI: doi.org/10.2139/ssrn.3562570
- Sansa, N. A. (2020). The Impact of the COVID-19 on the Financial Markets: Evidence from China and USA. SSRN Electronic Journal. Published. <https://doi.org/10.2139/ssrn.3567901>
- Siu, A., & Wong, Y. C. R. (2004). Economic Impact of SARS: The Case of Hongkong. *Asian Economic Papers*, 3(1), 62-83. <https://doi.org/10.1162/1535351041747996>
- The World Bank. (2020). The Global Economic Outlook During the COVID-19 Pandemic: A Changed World. Retrieved from

- <https://www.worldbank.org/en/news/feature/2020/06/08/the-global-economic-outlook-during-the-covid-19-pandemic-a-changed-world>
- World Health Organization. (2021). Coronavirus. https://www.who.int/health-topics/coronavirus#tab=tab_1
- Worldometer. (2021). Coronavirus. Retrieved from <https://worldometers.info/coronavirus/country/malaysia/>
- Wang, Y.-H., Yang, F.-J., & Chen, L.-J. (2013). An investor's perspective on infectious Diseases and their influence on market behavior. *Journal of Business Economics and Management*, 14(1), S112-S127. <https://doi.org/10.3846/16111699.2012.71136>
- Yang, Z. H., Chen, Y. T., and Zhang, P. M. (2020). Macroeconomic shock, financial Risk transmission and governance response to major public emergencies. *Management World* 5:13–35. <https://doi.org/10.19744/j.cnki.11-1235/f.2020.0067>.
- Al-Awadhi, A. M., Alsaifi, K., Al-Awadhi, A., & Alhammedi, S. (2020). Death and contagious infectious diseases: Impact of the COVID-19 virus on stock market returns. *Journal of Behavioral and Experimental Finance*, 27, 100326.
- Anh, D. L. T., & Gan, C. (2020). The impact of the COVID-19 lockdown on stock market performance: evidence from Vietnam. *Journal of Economic Studies*, 48(4), 836-851.
- Huo, X., & Qiu, Z. (2020). How does China's stock market react to the announcement of the COVID-19 pandemic lockdown?. *Economic and Political Studies*, 8(4), 436-461.
- Khan, K., Zhao, H., Zhang, H., Yang, H., Shah, M. H., & Jahanger, A. (2020). The impact of COVID-19 pandemic on stock markets: An empirical analysis of world major stock indices. *The Journal of Asian Finance, Economics and Business*, 7(7), 463-474.
- Mishra, P. K., & Mishra, S. K. (2021). COVID-19 pandemic and stock market reaction: empirical insights from 15 Asian countries. *Transnational Corporations Review*, 13(2), 139-155.
- Mittal, S., & Sharma, D. (2021). The impact of COVID-19 on stock returns of the Indian healthcare and pharmaceutical sector. *Australasian Accounting, Business and Finance Journal*, 15(1), 5-21.
- Naseem, S., Mohsin, M., Hui, W., Liyan, G., & Penglai, K. (2021). The investor psychology and stock market behavior during the initial era of COVID-19: a study of China, Japan, and the United States. *Frontiers in Psychology*, 12, 626934.
- Phuong, L. C. M. (2021). How COVID-19 affects the share price of Vietnam's pharmaceutical industry: Event study method. *Entrepreneurship and Sustainability Issues*, 8(4), 250.
- Ramelli, S., & Wagner, A. F. (2020). Feverish stock price reactions to COVID-19. *The Review of Corporate Finance Studies*, 9(3), 622-655.
- Singh, B., Dhall, R., Narang, S., & Rawat, S. (2020). The Outbreak of COVID-19 and Stock Market Responses: An Event Study and Panel Data Analysis for G-20 Countries. *Global Business Review*, 1, 26.