Jurnal Ekonomi Malaysia 55(1) 2021 147 - 158
http://dx.doi.org/10.17576/JEM-2021-5501-11

Cyclical Industries' Stock Performance Reaction during COVID-19: A Systematic Literature Review

(Reaksi Saham Industri Kitaran Semasa COVID-19: Satu Tinjauan Sistematik Literatur)

Norhamiza Ishak
Universiti Malaysia Sabah

Hanita Kadir @ Shahar
Universiti Utara Malaysia

Ricky Chia Chee Jiun
Universiti Malaysia Sabah

ABSTRACT

This study explores the impact of COVID-19 on stock market reactions of cyclical and non-cyclical industries during the pandemic. This paper aims to provide a systematic literature review (SLR) of studies done on the effect of COVID-19 on stock price. The PRISMA Statement (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guided this study through an SLR within the month of October 2020. Under the PRISMA, the study was scrutinized through three process: 1) defining clear research questions that permit a systematic research, 2) identifying the inclusion and exclusion criteria, and 3) examining large databases of scientific literature in a defined time. A total of 18 out of 56 papers were identified and analysed to give better understanding of the pandemic's effect on industry companies and the methodologies adopted in past studies. This paper analyses the major theme, namely cyclical industries impacted by COVID-19. The industries experiencing such value destructions include tourism, airlines, restaurants and transportation. The findings of this review are expected to have implications on investors, academicians and the public at large, particularly with regards to how unprecedented events such as COVID-19 can inflict economic damage.

Keywords: Systematic review, COVID-19, industries, Stock price
JEL Codes: G, G14, G0, G1, G30, G3

ABSTRAK

Kajian ini menerokai kesan COVID-19 terhadap syarikat industri seperti reaksi pasaran saham kitaran dan bukan kitaran semasa wabak tersebut berlaku. Artikel ini bertujuan untuk memberikan tinjauan literatur sistematik (SLR) mengenai kesan COVID-19 terhadap harga saham syarikat. PRISMA atau (Item Pelaporan Pilihan untuk Ulasan Sistematik dan Meta-Analisis) menumpukan kajian ini melalui SLR dalam bulan Oktober 2020. Di bawah PRISMA, kajian ini diteliti melalui tiga proses iaitu 1) menentukan persoalan penyelidikan yang jelas berpandukan penyelidikan yang sistematik, 2) mengenal pasti kriteria dalaman dan pengecualian, dan 3) memeriksa pangkalan data besar literatur ilmiah dalam waktu yang ditentukan. Sebanyak 18 daripada 56 artikel telah dikenal pasti dan dianalisis untuk memberi pemahaman yang lebih baik dalam mengenal kesan pandemi terhadap syarikat industri dan metodologi yang digunakan dalam kajian lepas. Artikel ini menganalisis tema utama iaitu kesan COVID-19 terhadap industri kitaran yang dipengaruhi oleh COVID-19. Industri yang mengalami kerosakan nilai termasuk pelancongan, syarikat penerbangan, restoran dan pengangkutan. Dapatan kajian ini diramalkan mempunyai implikasi ke atas pelabur, akademik dan orang ramai mengenai peristiwa yang belum pernah terjadi seperti COVID-19 yang akan menyebabkan kerosakan kepada ekonomi.

Kata kunci; Kajian sistematik, COVID-19, industri, harga saham

INTRODUCTION

On 11 March 2020, the World Health Organization (WHO) declared the coronavirus 2019, or COVID-19, a global pandemic due to its devastating effect on more than 100 countries involving more than 100,000 people. As of 3 March 2020, the virus has affected 172 out of 195 countries worldwide. Many countries, including top financial hubs, have been put under total lockdown. Meanwhile, some other countries have imposed travel bans and lockdowns of certain cities and provinces (Shaw, Kim & Hua, 2020).

This novel virus has not only posed a challenge to pandemic disease prevention, but it has also significantly disrupted the global economy, business, social development, loss of employee productivity, disrupted

economic activities due to social distancing, loss in international tourism revenue, and a fall in foreign direct investments, financial asset classes (sovereign bonds, commodities and major exchange rates), etc. (Hanspal, Weber & Wohlfart, 2020; Khoo & Lantos, 2020; Yu, Du & Dang, 2020; Kinateder, Campbell & Choudhury, 2021). As reported by Vaughan (2020), the Organisation for Economic Co-operation and Development (OECD) stated that the financial impact caused by COVID-19 is much more prominent than the financial impact of the 2008 financial crash, when by approximately USD 5 trillion was wiped off in the global share markets in just one week (March 2020). Additionally, the OECD also predicted that the global GDP forecast for 2020 could fall from 2.9% to 2.4% and may become lower if the outbreak persists for a longer period. Similarly, Kabir et al. (2020) argued that the impact of the COVID-19 outbreak on the world economy is even worse than the 2007–2008 Great Financial Crisis (GFC) now that most of the countries in the world are revising their expenditures, cutting interest rates, and even possibly cutting funding to events. Additionally, insurance companies whose finances are strained will propose further reimbursement cuts. Ferneini (2020) also argued that COVID-19 could lead to an ultimate global and US economic recession due to large-scale quarantines, travel restrictions, and social-distancing measures.

The contributions of the private sector or/industry are undeniable, since they contribute substantially to the gross domestic product (GDP) of each country, for example, tourist-related industries have reported a severe drop in revenue. Hassan, Rabbani and Abdulla. (2021) found that tourism and travel declined in the Middle East and Africa by USD$179B and USD$120B of the countries' gross domestic product (GDP), respectively. Hence, there are several instances of COVID-19's effect toward certain industries. To illustrate, the textile industry loss revenue of USD$467 million in Vietnam due to the severe effects of COVID-19 (Turton & Bopha, 2020). Meanwhile, Singapore's airline industry lost about $2.34 billion Singapore dollars, whilst Japan airlines lost about USD$770 million (Iwamoto, 2020). A study by Shaw et al. (2020) stated that the COVID-19 pandemic has directly hit business sectors, especially those in the tourism, hospitality, and micro, small, and medium enterprises in most tourism-oriented economies. To the knowledge of the author, there are no previous studies that attempted to segregate companies into volatile and non-volatile business cycles. The study by He et al., (2020) and Mazur et al. (2020) focused on the effects of COVID-19 on industrial companies' stock price in general. Two categories of industries are under examination in this study, namely cyclical and non-cyclical, which comprise companies included in SIC industries classifications (Eikon with DataStream). Specifically, this definition infers that companies like high-tech firms, retailers, restaurants, hotel chains, airlines, furniture, and automotive firms fluctuate with business cycle, whilst firms in the utilities, railroad, and food industries are less dependent on the cycle (Ross, Westerfield, Jaffe & Jordan, 2018).

There have been various studies on the effect of COVID-19 on stock market reactions (for example, Erdem, 2020; Cepoi, 2020; Heyden & Heyden, 2020; Baig et al., 2020; Harjoto et al., 2020; Hassan et al., 2021). From a financial viewpoint, the investors are claimed as panic or stock sell-off securities due to the expected economic impact caused by the virus (Choe, Troise & Veiga, 2020) as a result of the fear created by COVID-19 and the additional stress on financial markets (Sun et al., 2021), where price volatility is continuously increasing (Albulescu, 2020). Following the COVID-19 outbreak, share prices drop substantially during middle of March, leading to loss in investors' existing investment value in numerous markets and businesses (Monetary & Capital Markets Department-IMF, 2020). Meanwhile, the S&P500 lost an unprecedented third of its value during the sharp drop in stock prices in February and March 2020 (Hanspal et al., 2020). This situation was described by Fama (1970) as an efficient market, defined as when, "security prices always fully reflect available information." He added, "Investors can be confident that a current market price fully reflects all available information about a security and, therefore, the expected return based upon this price is consistent with its risk." Supported by Sun et al. (2021), Yong and Laing (2020), Ishak, Taufil Mohd, and Shahar (2020a), (2020b) and Sayed and Eledum (2021) claimed that the efficiency, with respect to public information, of stock prices quickly adjusts following any announcement, such as mergers, stock slips, bonus issues, or an unprecedented event, such as COVID-19, incorporating any expected value changes. In addition, Fama (1998) stated that "consistent with the market efficiency hypothesis that the anomalies are chance results, apparent overreaction of stock prices to information is about as common as under-reaction. And post-event continuation of pre-event abnormal returns is about as frequent as post-event reversal."

This paper will show that several disease-related outbreaks such as food-related pandemics, SARS, and Ebola pose negative impacts on industrial stock prices due to investor expectations on market performance. A recent study by Kim et al. (2020) investigated the stock returns of restaurant firms traded in the US stock market. These restaurant firms were affected by four food-related epidemic disease outbreaks (i.e., avian flu, swine flu, BSE, and Salmonella infants) from 2004 to 2016. They found that all 91 restaurant firms under study were affected by these four events, especially the Salmonella infant event in 2012. The events posed a significantly negative impact on the firms' cumulative abnormal return surrounding 16-day event windows (CAR -5, 10) and the value was due to public fear. Similarly, Chen et

al. (2007) examined the effect of the SARS epidemic on seven traded Taiwanese hotel stock prices. They found that the hotels' stock prices experienced immediate negative reactions right after the SARS outbreak in the event window of 10 days (1, 10) and 20 days (1, 20). The results indicate that since the first case was detected, more infection and death cases were reported, and that these cases reinforced the debilitating impact of the outbreak on the hotel companies' stock values. Other industry segments such as restaurants, travel agencies, and rental car companies could also be directly exposed to significantly negative stock market returns. Ichev and Marinč (2018) investigated the effect of the 2014–2016 Ebola outbreak on financial markets. By using 103 events in three states hit by the Ebola outbreak, i.e., the US, West African countries (WAC), and Europe, they found that the healthcare equipment, pharmaceutical, biotechnology, and food and beverage industries were positively and significantly affected by the Ebola outbreak during an 11-day event window (CAR -5,5). They contended that investors expected an increment in cash stream for the businesses due to, amongst others, ventures in R&D or offering of new medicines targeted to fight against new pandemic disease. They too found that the negative impact of the Ebola outbreak events was more severe for small companies as compared to big companies due to favourable information dissemination in large companies compared to companies.

This research investigates the effect of the infectious COVID-19 disease on the cyclical and non-cyclical industries stock market by capturing abnormal changes in firm values during specific time periods. Existing studies have different identifications of event day, for example, Sayed and Eledum (2021) defined the event day as being the first announcement of a confirmed case in Saudi Arabia, while Mazumder (2020) defined event day as the first day an announcement made by the Federal Reserve Board (Fed) concerning the COVID-19 outbreak. Hence, this paper provides a comprehensive review on the stock performance of industries, such as cyclical and non-cyclical industries, that are closely related to the global economic and negatively impacted during the outbreak (Chen et al., 2007; Goodell, 2020; Ichev & Marinč, 2018; Kim et al., 2020; Shaw et al., 2020). The study findings are expected to have implications on investors, academicians, and the public at large, particularly with regards to how unprecedented events such as COVID-19 can inflict economic damage and how COVID-19 can potentially and permanently change firms' financing and investing strategies.

The remainder of this paper is henceforth organized as follows. First, this paper presents the research method and the systematic literature review (SLR). This is followed by a discussion of the results. Finally, the paper concludes and provide the possible directions for future research.

METHODOLOGY

In this section, the SLRs are designed to be targeted, extensive database searches (Müller et al., 2020). Lagorio and Pinto (2020) defined SLRs as being studies that clearly formulate questions, identify relevant studies, appraise their quality, and summarize the evidence by using a specific methodology. In the research, detailed protocols have been created to structure SLRs. The method used to retrieve articles related to cyclical stock companies that could lead to the value destruction of shareholders during the COVID-19 outbreak is discussed. The author used a method called PRISMA, which includes resources taken from Scopus and ScienceDirect, to run the systematic review, determine the eligibility and exclusion criteria, perform the steps of the review process (identification, screening, eligibility), and conduct the data abstraction and analysis.

PRISMA

This review was guided by the PRISMA Statement (Preferred Reporting Items for Systematic Reviews and Meta-Analyses). PRISMA is often utilized within the social sciences field. According to the developer of PRISMA, Petticrew and Roberts (2008) and Dezi et al. (2018), the method offers three unique advantages, namely: 1) defining clear research questions that permit a systematic research 2) identifying the inclusion and exclusion criteria, and 3) examining large databases of scientific literatures in a defined time following studies from Shaffril et al., (2018), Shaffril et al. (2019), Müller et al. (2020), and Li and Hasson (2020).

RESEARCH QUESTIONS

The literature search was guided by the research questions: (1) Do cyclical stock companies lead to shareholders' value destruction during COVID-19? and (2) Do non-cyclical companies lead to shareholders' value creation during COVID-19? In particular, the goals of this research are to analyse relevant studies that determine if a cyclical stock company leads to shareholder value destruction during COVID-19 and to determine if a non-cyclical stock company leads to shareholder value creation during COVID-19. The research questions are answered by scoping the previous studies via PRISMA (see Figure 1).

ELIGIBILITY AND EXCLUSION CRITERIA

Several eligibility and exclusion criteria were determined. With regards to literature type, only journal articles with empirical data were selected, which means

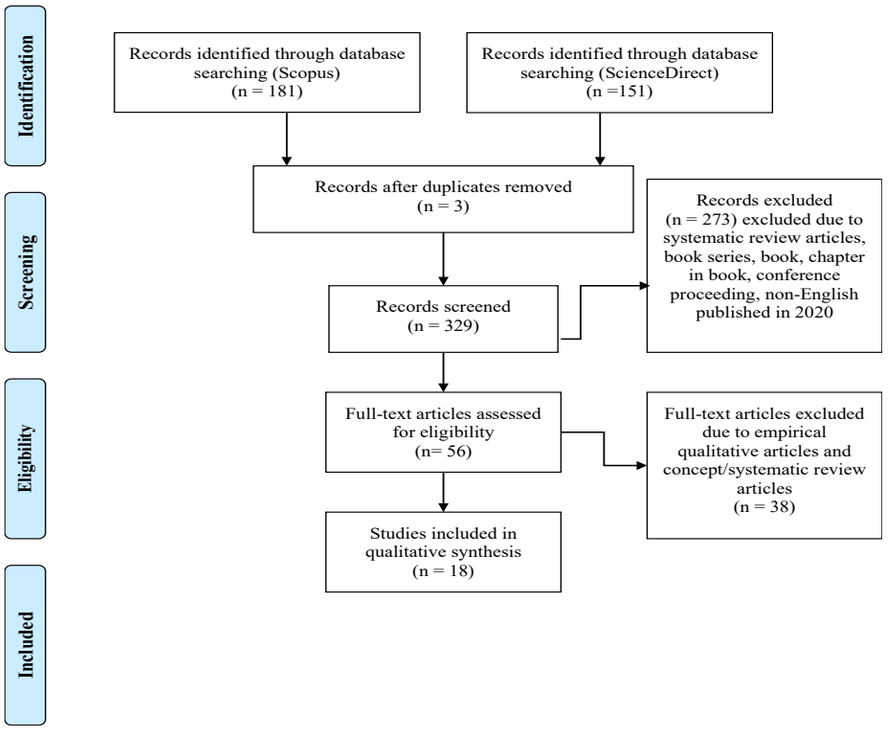

FIGURE 1. The flow diagram of the study adopted by The PRISMA Group (Moher et al., 2009).

TABLE 1. The inclusion and exclusion criteria

Criterion	Eligibility	Exclusion
Literature type	Journal (research articles)	Journals (systematic review), book series, books, chapters in books, conference proceedings.
Language	English	Non-English
Timeline	2020-2021	<2020

that review articles, book series, books, chapters in books, editorials, notes, and conference proceedings were all excluded. Secondly, to avoid any confusion and difficulty in translating, only articles published in the English language were considered. In terms of the timeline, as mentioned in Table 1, a period of two years was selected (2020 to 2021), which is in line with the occurrence of COVID-19.

SOURCES OF DATA

This review relied on two main journal databases, namely Scopus and ScienceDirect, including Finance and Economics studies. However, it should be noted that no database is perfect and comprehensive, including Scopus and ScienceDirect. According to Younger (2010), authors should conduct their search processes utilizing more databases to extend the probability of getting significant articles. Therefore, the present study conducted manual searching efforts on several established sources, such as Springer and Wiley. ScienceDirect is a robust database consisting of 1.2 million open access articles covering 24 disciplines, including subjects related to business, management, and accounting and economics, econometrics, and finance. Scopus is one of the largest abstracts and citation databases of peer-reviewed literature, with more than 22,800 journals from 5,000 publishers worldwide. Scopus consists of 27 multidisciplinary fields, including economics, econometrics, and finance.

SYSTEMATIC REVIEW SEARCHING PROCESS

Four stages were involved in the systematic review process performed within the month of October 2020. The first phase involved the identification of keywords in the search process. As depicted in Table 2, the researcher searched using keywords such as “COVID-19” and companies’ stock price. After careful screening, three duplicate articles were removed.

TABLE 2. The search string used for the systematic review process

Database	Keywords used
Scopus	TITLE-ABS-KEY ((„covid19*“) AND (effect* OR influence OR reaction*) AND (stock* OR share*) AND (industry* OR sector* OR firm*) AND (event-study*))
ScienceDirect	((„covid19“) AND (effect OR influence OR reaction) AND (stock OR share) AND (industry OR sector OR firm) AND (event-study))

The second stage involved the screening process. At this stage, out of the 329 articles eligible to be reviewed, a total of 277 articles were removed. The third stage involved 56 eligible articles where the full articles were accessed. After careful examination, a total of 38 articles were omitted, whereby 28 articles did not focus on the impact of COVID-19 on stock prices and the other 10 articles only focused on qualitative research papers. The last stage of the review resulted in a total of 18 empirical quantitative articles that were used for further analyses. As shown in Table 3, an empirical qualitative method (case study/multiple case study) was used most often, with 28 papers applying this type of sample section criteria. The empirical quantitative method was used 18 times, while the concept and systematic literature review method was the least used, with only 10 papers using that method.

TABLE 3. Sample selection criteria

Research Design	No. of papers	(%)
Empirical quantitative research	18	32.14
Empirical qualitative research	28	50.00
Concept/systematic review	10	17.86
Total research design	56	100

RESULTS

The journals that address the title of this research were extracted from keying certain criteria such as title, abstract and keywords are presented in Table 2, the first step is to identify the journals in which the papers are published. In total, 42 different journals were found to address this topic. As shown in Table 4, the journal with the largest number of publications was *Finance Research Letters,* which had six papers (10.71%). *The International Journal of Hospitality Management and Sustainability (Switzerland)* had three papers (5.36%). *The Emerging Markets Finance and Trade, The European Journal of Risk Regulation, The International Journal of Environmental Research and Public Health* and *The Journal of Public Economics* had two papers each. The other 25 journals had only one paper (1.78%) each.

Our extensive and systematic literature review revealed that the appropriate theme used in this study was industrial stock market reaction with COVID-19 on cyclical industries. This was achieved through observation of the common patterns reported in previous literature. For example, the authors observed that there is variation in reaction of the stock price showing a positive or negative abnormal return in cyclical and non-cyclical industries. As shown in Table 5, five articles examined China's stock market (He et al., 2020; Liew, 2020; Akhtaruzzaman et al., 2020; Liu et al., 2020; Sun et al., 2021) while another three articles studied various markets stock returns (Lee et al., 2020; Maneenop et al., 2020; Sayed et al., 2020). The remaining articles investigated the US stock market returns (Mazumder, 2020; Mazur et al., 2020; Song et al., 2021; Yong et al., 2020).

CYCLICAL INDUSTRIES IMPACTED BY COVID-19

Twelve out of 18 articles reviewed examined the effect of COVID-19 on cyclical industries, including transportation, mining, tourism, aviation, and restaurant firms, which experienced substantial stock price losses as a result of the adverse reactions demonstrated by investors who lost confidence in sustaining their investments. Six articles were excluded because the articles only focused on the effect of COVID-19 on stock price in general. In the context of China, He et al. (2020) studied the effect of the pandemic on the stock prices of numerous industries. By utilizing the event-study approach on the stock market of companies in Shanghai and Shenzhen, the authors found that the abnormal returns of the companies listed on the Shanghai Stock Exchange dropped significantly, whilst the excess returns of the companies listed on the Shenzhen Stock Exchange soared. Additionally, the pandemic posed grave effects on traditional industries in China, including transportation, mining, electric and heating, and environmental; meanwhile, the manufacturing, information technology, education, and health industries (high-tech industries) created significant positive prospects and development in response to the pandemic. This scenario could result from the fact that the major companies listed on the Shanghai Stock Exchange are primarily Chinese central and state-owned enterprises, which are largely traditional industries, while the main entities listed on the Shenzhen Stock Exchange are generally high-tech companies. Liew (2020) revealed that investors who invested in all the tourism counters in the Shenzhen Stock Exchange (SZSE), particularly GL (Guilin Tourism Corp Ltd), YL (Lijiang YuLong Torism Co Ltd), and CS (Caissa Travel Group Co Ltd), had incurred value losses. Additionally, TM (Jiangsu

TABLE 4. List of journals examined

No.	Name of Journal	No. of papers	(%) of papers
1	Accident Analysis and Prevention	1	1.78
2	Applied Economics Letters	1	1.78
3	Applied Economics	1	1.78
4	Austrian Journal of South-East Asian Studies	1	1.78
5	China and World Economy	1	1.78
6	CSEE Journal of Power and Energy Systems	1	1.78
7	Current Issues in Tourism	1	1.78
8	Electronic Commerce Research and Applications,	1	1.78
9	Emerging Markets Finance and Trade	2	3.57
10	Energies	1	1.78
11	European Journal of Risk Regulation	2	3.57
12	Evaluation and the Health Professions	1	1.78
13	Finance Research Letters	6	10.71
14	International journal of Business and Society	1	1.78
15	International Journal of Finance and Economics	1	1.78
16	International Journal of Contemporary Hospitality Management	1	1.78
17	International Journal of Economics and Management	1	1.78
18	International Journal of Energy Economics and Policy	1	1.78
19	International Journal of Environmental Research and Public Health	2	3.57
20	International Journal of Hospitality Management and Sustainability (Switzerland)	3	5.36
21	International Journal of Pervasive Computing and Communications	1	1.78
22	International Journal of Surgery	1	1.78
23	International Review of Financial Analysis	2	3.57
24	Journal of Air Transport Management,	1	1.78
25	Journal of Behavioural and Experimental Finance,	1	1.78
26	Journal of Business Research,	1	1.78
27	Journal of Econometrics,	1	1.78
28	Journal of Evidence-Based Medicine	1	1.78
29	Journal of Public Affairs	1	1.78
30	Journal of Public Budgeting, Accounting and Financial Management	1	1.78
31	Journal of Public Economics	2	3.57
32	Journal of Sustainable Tourism	1	1.78
33	Regional Science Policy and Practice	1	1.78
34	Research in Transportation Business and Management	1	1.78
35	Science of The Total Environment,	1	1.78
36	Sustainability (Switzerland)	3	5.36
37	The BMJ	1	1.78
38	Journal of Economic and Social Geography	1	1.78
39	Tourism Geographies	1	1.78
40	Transport Policy,	1	1.78
41	Transportation Research Interdisciplinary Perspectives	1	1.78
42	Worldwide Hospitality and Tourism Themes	1	1.78

TABLE 5. Summary of articles

Industries	Author (s) /Results											
	He et al., (2020) (*Emerging Markets Finance and Trade*)	Liew (2020) (*International Journal of Economics and Management*)	Akhtaruzzaman et al., (2020) (*Finance Research Letters*)	Mazur et al., (2020) (*Finance Research Letters*)	Mazumder (2020) (*Journal of Behavioural and Experimental Finance*)	Lee et al., (2020) (*International Journal of Business Society*)	Maneenop et al., (2020) (*Journal Air Transport Management*)	Song et al., (2021) (*International Hospitality Management*)	Yong et al., (2020) (*International Review of Financial Analysis*)	Sun et al. (2021) *Finance Research Letters*)	Sayed et al., (2021) (*International Journal of Finance & Economics*)	Liu et al., (2020). (*Applied Economics*)
Cyclical Industries (negative (-ve) cumulative abnormal returns)												
Agriculture	-ve											
Mining									-ve			
Electric & Heating	-ve											
Wholesale trade									-ve			
Construction	-ve				-ve				-ve			
Transportation	-ve				-ve				-ve		-ve	-ve
Lodging & Catering	-ve											-ve
Real Estate	-ve			-ve			-ve			-ve		
Environment	-ve											
Scientific Research	-ve											
Education	-ve											
Health	-ve					-ve			-ve			
Tourism		-ve										
Financial			-ve								-ve	
Oil Service				-ve								
Hospitality				-ve								
Entertainment				-ve	-ve							
Plantation							-ve					
Airlines								-ve				

cont.

cont.

Non-cyclical Industries (positive (+ve) cumulative abnormal returns)							
Manufacturing	+ve			+ve			+ve
Wholesale & retail	+ve	+ve	+ve			+ve	
Business Service	+ve		+ve				+ve
Information technology	+ve	+ve		+ve	+ve	+ve	+ve
Sport & Entertainment	+ve						
Public Management	+ve						
Natural gas		+ve					
Chemical		+ve					
Restaurant			+ve				
Hotel and motels			+ve				
Pharmaceutical					+ve		+ve

Tianmu Lake Tourism Co Ltd), BB (Beibu Gulf Tourism Co Ltd), and CIT (China International Travel Service Corp Ltd) of the Shanghai Stock Exchange (SSE) also experienced negative abnormal returns of between 18% and 20% on 31 December, 2019. The author claimed that the COVID-19 outbreak had posed widespread adverse effects on the tourism industry. Investors had been advised to avoid tourism-related shares whenever an outbreak seemed to be developing in future situations. Akhtaruzzaman et al. (2020) studied the effect of the pandemic on financial and non-financial firms in China and G7 countries and found that the Chinese market (financial sector) experienced an increase of 0.2949 pre-outbreak to 0.4199 during the outbreak. This suggests that the Chinese markets have started recovering, while the western markets continue to deteriorate. Financial firms in Italy faced the most significant negative returns, while non-financial firms in the UK recorded a 40% value destruction during the outbreak just as the stock markets in other G7 countries were facing a major fall within the same period. Moreover, a study by Liu et al. (2020) found that pharmaceutical (0.03) and information technology (1.58%) industries had positive and significant cumulative abnormal returns surrounding a five-day event window (0,4), whereas transportation, warehousing, and lodging and catering (-0.03%) industries were negatively significant at the 1% level at least. They argued that the investor responses to the epidemic were being reflected in stock fluctuations in the Shanghai Composite Index (SSEC), the Shenzhen Composite Index (SZCS), CSI 300 Index (CSI300), the iShares MSCI all country Asia ex Japan ETF Index (AAXJ), and Japan's Nikkei 225 Index (N225), especially in cyclical industries, and investors benefitted more by holding shares in non-cyclical industries. A similar study by Sun et al. (2021) found that the pharmaceutical industry (23.12%) and information technology (7.62%) generate higher and significantly more positive cumulative abnormal returns surrounding ten days (-3,3). They argued that investors could get excess returns by holding bellwether stocks in the pharmaceutical industry as well as stock in information technology.

In the context of various stock markets, such as Malaysia, Lee et al. (2020) found that the number of COVID-19 cases is significantly and negatively correlated to the KLCI and all the sectors, with the exception of the Plantation and REIT sectors, over the period from 31 December, 2019 to 18 April, 2020. This suggests that the Plantation and REIT sectors are non-cyclical or defensive during the outbreak. Furthermore, during the major spill-over effects of the increasing number of COVID-19 cases in China over the duration from 31 December, 2019 to 18 April, 2020, the Malaysian market reacted indifferently, whereby the healthcare, industrial product, and telecommunications and utilities sectors experienced positive access returns. Meanwhile, the increasing number of COVID-19 cases in the US had increased the performance of the industrial product and utilities sectors in Malaysia but lowered the nation's telecommunication and transportation sectors' performance. Maneenop and Kotcharin (2020) found that 52 listed airline companies in Asia, Australia, Europe, and North America experienced negative stock prices of between 7.84% and 24.42% during the (-5,5) event window for all three events (Event 1: first reported case outside of China, i.e., 13 January, 2020; Event 2: outbreak in Italy, i.e., 21 February, 2020; and Event 3: international travel ban by President Trump, i.e., 11 March, 2020). Additionally, airline stocks in Australia, Canada, the UK, and the US performed the worst during the pandemic caused by under-reactions and over-reactions to Event 1 and Event 3. Sayed and Eledum (2021) investigated industries' stock market reactions in Saudi Arabia (Tawadul). They found that industries such as financial (banks) (-0.62%), transportation (-0.14%), and commercial services (-0.14%) reacted negatively and significantly at the 5% level, whereas telecommunication services (0.12%) and food and beverage (0.96%) were significantly positive at the 1% level with cumulative abnormal return for a 10-day event window (CAR1, 9). They argued that industries' stock was negative and significantly impacted when the announcement of the first confirmed case of COVID-19 in Saudi Arabia was made.

According to Mazur et al. (2020), the effect of COVID-19 on the US stock performance has been historical. Oil services, real estate, hospitality, and entertainment industries performed the worst, with a considerable loss of over 70% of their market capitalization. On the contrary, companies involved in natural gas, the food industry, chemicals, software, and technology as well as crude petroleum stocks faced abnormal high returns for a single day, between 20% and 60%. Mazumder (2020) examined 1,709 US firms that reacted rather sensitively to the announcement made by the Federal Reserve Board (Fed) concerning the COVID-19 outbreak. Utilizing the event-study approach, the author found that companies involved in entertainment, construction, automobiles and trucks, aircraft, ships, personal services, business services, transportation, wholesale, retail, restaurants, hotels and motels demonstrated negative returns of between 4.4% and 4.8% during the pre-Fed Intervention period but showed positive returns of between 3.9% and 6.2% in the post-Fed Intervention. According to the author, the firms recorded positive stock prices as they enjoyed affordable financing loans from other sources on top of the Fed facilities. On the contrary, Song et al. (2021) found that the outbreak posed a negative effect on the stock returns of all publicly traded US restaurant firms, whereby a unit of increase during COVID-19 resulted in a decrease in returns of -5.028% at the 1% significant level. Yong and Elaine (2020) examined the US stock

market reaction to the WHO's announcement declaring COVID-19 a global health emergency by using the event study methodology. They found that several industries were impacted by COVID-19. Industries such as the wholesale trade industry (-56.7%) and mining industry (-52.4%) experienced greater negative loss around the 11-day announcements CAR (-5,5). They argued that these two industries are highly exposed to the global economy due to reliance on global supply chains for imports and exports. As for the mining industry, the price of the commodity depends on global supply and demand of the commodity.

DISCUSSION

This study attempted to systematically analyse existing literatures on the effect of COVID-19 events in causing value destruction to shareholder's share price in cyclical industries. A total of seven studies mentioned that the pandemic could bring massive negative impacts on the financial returns of industries or/sectors, especially cyclical industries such as tourism, aviation, restaurants, hotels and motels, mining, transportation, and entertainment (He et al., 2020; Maneenop & Kotcharin, 2020; Liew, 2020; Mazumder, 2020). Companies under these industries are expected to be affected negatively due to society's fear of the spread of the virus when they physically interact with the business activities of these companies. Furthermore, the exercise of a Movement Control Order (MCO) has, to some extent, limited the involvement of stakeholders to stimulate the business activities. Nevertheless, non-cyclical industries such as manufacturing, health industries (pharmaceutical), and telecommunications (information technology) created positive returns to shareholder's wealth. Possible justification for this finding is the progressive strategies promoted by the various governments over the globe or private companies to find creative alternatives to reach out to stakeholders. For instance, in information technology industries, the shift to online learning and teaching has remarkably substituted for the normal face-to-face medium. In manufacturing industries, more companies have leveraged the digital marketing platform to deliver their products to customers.

CONCLUSION

In this paper, we employed a systematic literature review (PRISMA) to review studies that were conducted to examine the industrial stock market reaction to the WHO's announcement of COVID-19 being a global health emergency. Our findings show that cyclical industries performed negatively with abnormal returns and were severely affected by COVID-19, while non-cyclical industries performed positively with abnormal returns, as investors could benefit from holding these companies' stock price. The research findings could be beneficial to investors, as they provide insights on which stocks could create value for their shares. For risk-averting investors, investing in non-cyclical industries is a good way to avoid losses, especially during unprecedented events. In addition, studies on pandemics like COVID-19 could contribute a new perspective to finance literature, particularly in determining whether the effect on stock returns is similar across all types of pandemics occurring worldwide. Future research can investigate in two other scopes. First is the stock performance of sectoral companies that are closely related to world economic stimulus packages and those that had been negatively impacted during the outbreak. This research direction could help regulators or policy makers to exercise recovery stimulus packages targeted to certain industries Secondly, future studies should examine the claims of Albulescu (2020), that stock prices and oil prices are highly correlated and could lead to financial stress that would, in turn, affect stock market returns and create volatility. The drop in oil price has jeopardized this companies since financial institutions anticipated loss from non-performing loan of these firms. This scenario creates significant risks for non-financial companies and non-bank financial institutions in several major countries. Lastly, future research could also be conducted to examine market reaction when the COVID-19 pandemic-affected industries begin to come out from the trough in their business cycle.

ACKNOWLEDGEMENT

We would like to thank our colleagues from both universities who provided insight and expertise that greatly assisted the research and publication. This study was partially supported by Universiti Malaysia Sabah research grant (Project Code: SDK0239-2020).

REFERENCES

Akhtaruzzaman, M., Boubaker, S., & Sensoy, A. 2020. Financial contagion during COVID–19 crisis. *Finance Research Letters* 101604.

Albulescu, C. 2020. Coronavirus and Oil Price Crash. *SSRN Electronic Journal* 1–13.

Baig, A. S., Butt, H. A., Haroon, O., & Rizvi, S. A. R. 2020. Deaths, panic, lockdowns and US equity markets: The case of COVID-19 pandemic. *Finance Research Letters April*, 101701.

Cepoi, C. O. 2020. Asymmetric dependence between stock market returns and news during COVID-19 financial turmoil. *Finance Research Letters 36*, 101658.

Chen, M. H., Jang, S. C., & Kim, W. G. 2007. The impact of the SARS outbreak on Taiwanese hotel stock performance: An event-study approach. *International Journal of Hospitality Management 26*(1), 200–212.

Choe, S., Troise, D., J., & Veiga, A. 2020. Stocks drop as coronavirus crunches the job market, economy. https://

sg.finance.yahoo.com/news/asian-stocks-tumble-wall-street-055620365.html

Datastream International. 2021. Available: Refinitiv.

Dezi, L., Battisti, E., Ferraris, A., & Papa, A. 2018. The link between mergers and acquisitions and innovation: A systematic literature review. *Management Research Review* 41(6), 716–752.

Erdem, O. 2020. Freedom and stock market performance during Covid-19 outbreak. *Finance Research Letters* 101671.

Fama, E. F. 1970. Efficient Capital Markets: A Review of Theory and Empirical Work. *Journal of Finance* 25(2), 383-417.

Fama, E. F. 1998. Market efficiency, long-term returns, and behavioral finance. *Journal of Financial Economics* 49, 283–306

Ferneini, E. M. 2020. The Financial Impact of COVID-19 on our Practice. *Journal of Oral and Maxillofacial Surgery*.

Goodell, J. W. 2020. COVID-19 and finance: Agendas for future research. *Finance Research Letters* 101512.

Hassan, M. K., Rabbani, M. R., & Abdulla, Y. 2021. Socioeconomic Impact of COVID-19 in MENA region and the Role of Islamic Finance. *International Journal of Islamic Economics and Finance* (IJIEF), 4(1), 51-78.

Hanspal, T., Weber, A., & Wohlfart, J. 2020. *Income and wealth shocks and expectations during the covid-19 pandemic.* CESifo Working Paper no.8210.

Harjoto, M. A., Rossi, F., & Paglia, J. K. 2020. COVID-19: stock market reactions to the shock and the stimulus. *Applied Economics Letters 00*(00), 1–7.

He, P., Sun, Y., Zhang, Y., & Li, T. 2020. COVID–19's Impact on Stock Prices Across Different Sectors—An Event Study Based on the Chinese Stock Market. *Emerging Markets Finance and Trade 56*(10), 2198–2212.

Heyden, K. J., & Heyden, T. 2020. Market Reactions to the Arrival and Containment of COVID-19: An Event Study. *Finance Research Letters* 101745.

Ichev, R., & Marinč, M. 2018. Stock prices and geographic proximity of information: Evidence from the Ebola outbreak. *International Review of Financial Analysis* 153–166.

Ishak, N., Taufil Mohd, K. N., & Shahar, H. K. 2020. Effects of ownership and board structures on acquisitions returns. *Pertanika Journal of Social Sciences & Humanities* 28(3), 2325-2341.

Ishak, N., Taufil Mohd, K. N., & Shahar, H. K. 2020. Does investors react in long-term? The case of Malaysian acquisition. *Cogent Business & Management* 7(1), 1857593.

Iwamoto. 2020. Loss-hit Asian airlines rush to cut assets for faster turnarounds. https://asia-nikkei-com.ezproxy.ums.edu.my/Business/Transportation/Loss-hit-Asian-airlines-rush-to-cut-assets-for-faster-turnarounds (accessed 8 March 2021)

Lagorio, A., & Pinto, R. 2020. Food and grocery retail logistics issues: A systematic literature review. *Research in Transportation Economics* 100841.

Lee, K. Y. M., Jais, M., & Chan, C. W. 2020. Impact of covid-19: Evidence from malaysian stock market. *International Journal of Business and Society 21*(2), 607–628.

Liew, V. K. Sen. 2020. Abnormal returns on tourism shares in the Chinese stock exchanges amid the COVID-19 pandemic. *International Journal of Economics and Management 14*(2), 247–

Liu, H., Wang, Y., He, D., & Wang, C. 2020. Short term response of Chinese stock markets to the outbreak of COVID-19. *Applied Economics* 52(53), 5859-5872.

Li, Z. S., & Hasson, F. 2020. Resilience, stress, and psychological well-being in nursing students: A systematic review. *Nurse education today* 104440.262.

Kabir, M., Afzal, M. S., Khan, A., & Ahmed, H. 2020. COVID-19 pandemic and economic cost; impact on forcibly displaced people. *Travel Medicine and Infectious Disease*, *April*, 101661.

Kinateder, H., Campbell, R., & Choudhury, T. 2021. Safe haven in GFC versus COVID-19: 100 turbulent days in the financial markets. *Finance Research Letters* 101951.

Kim, J., Kim, J., Lee, S. K., & Tang, L. (Rebecca). 2020. Effects of epidemic disease outbreaks on financial performance of restaurants: Event study method approach. *Journal of Hospitality and Tourism Management* 32–41.

Khoo, E. J., & Lantos, J. D. 2020. Lessons learned from the COVID-19 pandemic. *Acta Paediatrica (Oslo, Norway : 1992)*, 0–2.

Maneenop, S., & Kotcharin, S. 2020. The impacts of COVID-19 on the global airline industry: An event study approach. *Journal of Air Transport Management* 101920.

Mazumder, S. 2020. How important is social trust during the COVID-19 crisis period? Evidence from the Fed announcements. *Journal of Behavioral and Experimental Finance 28*.

Mazur, M., Dang, M., & Vega, M. 2020. COVID-19 and the march 2020 stock market crash. Evidence from S&P1500. *Finance Research Letters* 101690.

Müller, F., Denk, A., Lubaway, E., Sälzer, C., Kozina, A., Perše, T. V.,& Jurko, S. 2020. Assessing social, emotional, and intercultural competences of students and school staff: A systematic literature review. *Educational research review* 29, 100304

Moher, D., Liberati, A., Tetzlaff, J., Altman, D.G., The PRISMA Group. 2009. Perrefered reporting items for systematic review and meta-analyses: the PRISMA statement. Plos Med. 6 (7), e1000097.

Monetary and Capital Markets Department.-IMF 2020. Global Financial Stability Overview: Market in the Time of COVID-19.https://www.elibrary.imf.org/view/IMF082/28683-9781513529196/28683-9781513529196/ch01.xml?language=en&redirect=true

Petticrew, M., & Roberts, H. 2008. Systematic Reviews in the Social Sciences: A Practical Guide. In *Systematic Reviews in the Social Sciences: A Practical Guide*.

Ross. S. A., Westerfield, R, W., Jaffe. J & Jordan, B.D. 2018. *Corporate Finance, 12th edition*, McGraw-Hill Irwin.

Sayed, O. A., & Eledum, H. 2021. The short-run response of Saudi Arabia stock market to the outbreak of COVID-19 pandemic: An event-study methodology. I*nternational Journal of Finance & Economics.*

Shaffril, H. A. M., Krauss, S. E., & Samsuddin, S. F. 2018. A systematic review on Asian's farmers' adaptation practices towards climate change. *Science Of The Total Environment*, 644, 683-695.

Shaffril, H. A. M., Samah, A. A., Samsuddin, S. F., & Ali, Z. 2019. Mirror-mirror on the wall, what climate change adaptation strategies are practiced by the Asian's fishermen of all?. *Journal of Cleaner Production*, 232, 104-117.

Song, H. J., Yeon, J., & Lee, S. 2021. Impact of the COVID-19 pandemic: Evidence from the U.S. restaurant industry. *International Journal of Hospitality Management* 102702.

Sun, Y., Wu, M., Zeng, X., & Peng, Z. 2021. The impact of COVID-19 on the Chinese stock market: Sentimental or substantial?. *Finance Research Letters* 38, 101838.

Shaw, R., Kim, Y., & Hua, J. 2020. Progress in Disaster Science Governance , technology and citizen behavior in pandemic : Lessons from COVID-19 in East Asia. Progress in Disaster Science, 6, 100090.

Turton & Bopha. 2020. Coronavirus pandemic tears holes in Asia's garment industry. https://asia-nikkei-com.ezproxy.ums.edu.my/Business/Business-Spotlight/Coronavirus-pandemic-tears-holes-in-Asia-s-garment-industry. (accessed 8 March 2021)

Yong, H. H. A., & Laing, E. 2020. Stock market reaction to COVID-19: Evidence from US Firms' International exposure. *International Review of Financial Analysis* 101656.

Younger, P. 2010. Using Google Scholar to conduct a literature search. *Nursing Standard* 24(45).

Yu, L., Du, J., & Dang, H. 2020. Special issue on FDI and integration of Chinese economy. *China Economic Review*.

Vaughan, A. 2020. World braces for economic impact. *New Scientist* 245(3272), 10.4079(20)30477-2

Norhamiza Ishak*
Faculty of International Finance
Universiti Malaysia Sabah
Labuan International Campus
87000 Federal Territory of Labuan
MALAYSIA.
E-mail: norhamizaishak@ums.edu.my

Hanita Kadir @ Shahar
School of Economics, Finance and Banking
Universiti Utara Malaysia
06010 UUM Sintok, Kedah
MALAYSIA.
E-mail: hanita@uum.edu.my

Ricky Chia Chee Jiun
Faculty of International Finance
Universiti Malaysia Sabah
Labuan International Campus
87000 Federal Territory of Labuan
MALAYSIA.
E-mail: ricky_82@ums.edu.my

* Corresponding author