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The Interrelationship of Covid-19 Towards Financial Services Sector: Evidence from Malaysia

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Abstract

With the outbreak of the pandemic Covid-19 that started in the city of Wuhan, China back in December 2019, the government of Malaysia announced a movement control order (MCO) after there were local active cases recorded in March 2020. Many parties got affected by the MCO implementation from the shutdown of small-medium enterprises (SMEs) to people being prohibited from travelling to the workplace. These shocks had given a huge impact on many industries in Malaysia, mainly the financial services sector. Banks have their hands full in the light of the pandemic since borrowers and businesses are likely to start seeking financial relief due to job losses, slowed sales, and declining profits. Bank Negara Malaysia (BNM) had taken an initiative as one of the efforts to ensure Malaysia's financial stability by generating a moratorium for borrowers, those who got affected financially due to the Covid-19 lockdowns. This in turn has affected the volatility of the financial services sector. This study focuses on the interrelationship of Covid-19 cases in Malaysia, China, and the United States, as well as Malaysia's non-performing loans, towards the financial services sector in Malaysia. The method used in this study is multiple linear regression, descriptive analysis, and correlation coefficient. The findings show that all independent variables have a positive relationship and are significant to the dependent variable which was proven by the p-value

resulting in less than a 5% level of significance. For further studies, researchers can extend the research by changing the dependent variable from the financial sector to another sector that was affected due to Covid-19.
Keywords: Covid-19, Financial Services, Malaysia Stock Market, Covid-19 Cases, Non-Performing Loan.

Introduction

Since the onset of Coronavirus (COVID-19) on December 31, 2019, dozens of mysterious pneumonia cases emerging in the city of Wuhan, in the Hubei region of China (Sohrabi et al., 2020). In less than 3 months, the outbreak then has spanned rapidly to the rest of the world. As on 25th April 2020, COVID-9 hit 2.8 million of infections and has tragically taken the lives of more than 195,000 death globally (Mahajan, 2020). Since then, COVID-19 cases have been reported in more than 200 countries and on March 11th, 2020, the World Health Organization declared the COVID- 19 as "a global pandemic" (World Health Organization [WHO], 2020). In Malaysia, the first COVID-19 cases were recorded on January 25, 2020 and increased to 25 cases by the end of February 2020. The number of cases increased dramatically to 2,626 cases on March 31, 2020. Due to the outbreak, Malaysian government has implemented a movement control order (MCO) as a measure to control the spread of COVID-19.

Malaysia's Prime Minister announced the enforcement of a fourteen (14)-day movement control order (MCO) across the country effective from March 18 to March 31, 2020, followed by an extended until April 14, 2020 in order to combat the spread of the COVID-19 virus. This MCO is enacted under the Control and Prevention of Infectious Diseases Act 1988 and the Police Act 1967, and it includes, among other things, the closure of all government and private buildings except those that provide essential services. Those essential services are water, electricity, energy, telecommunications, post, oil and gas fuel, finance, banking, health, pharmacy, ports, and food supply (Durgahyeni, 2020).Since the announcement, various parties have been affected by the MCO implementation, not only people were prohibited from attending mass gatherings such as sports, cultural events, and religious (Elengoe, 2020) but small-medium enterprise (SME) is forced to be shutting down their business operations during the period immediately. At that particular crucial phase, there has been a reduction of oil consumption due to the restriction in travelling to the workplace as well as between states. These events had given a huge impact on most industries in Malaysia as well as the performance of the stock market beginning in February 2020.

Bursa Malaysia chief executive officer Datuk Muhammad Umar Swift highlighted that despite the uncertain global environment arising from the Covid-19 pandemic, trading activity by retail investor has remained strong, contributing significantly to the performance of the Securities Market. Well run and profitable companies' prices on stock exchanges will adjust accordingly based on the external environments (Yusof, 2020). The effects of the outbreak have caused the deaths and morbidity of the people (McKibbin & Fernando, 2020) and encouraged people to practice social distancing that led to the financial markets, corporate offices, business and events collapse (Ozili & Arun, 2020). Another issue has risen since the increasing numbers in the Covid-19 cases, which is slowing economic growth due to the movement control order. The financial market, which includes the stocks market and bond markets, was also badly impacted by Covid-19 (Basistha, 2020). With respect to volatility, Baker et al (2020) point out that COVID-19 has resulted in the highest stock market volatility among all recent infectious diseases including the Spanish Flu of 1918. Black Swan events, including terrorist attacks and epidemics, will cause shock, fear and panic among international investors and result in a sharp panic-selling response (Burch et al., 2016). Interestingly, the extant research on financial markets has started to view news as the information supply side and investor attention, measured using Internet search volumes, as the information demand side (e.g., Vlastakis & Markellos, 2012; Moussa et al., 2017).

Due to the enforcement, Bursa Malaysia, KLCI, and financial services show the same trend which is bearish or downtrend movement. The entire national economy was tremendously affected by a significant upsurge in unemployment rate and many small and medium-sized enterprises (SME) due to the forced closure that led to permanent shutdowns as well as individuals losing their incomes and going bankrupt (Cheng, 2020). Similarly, the financial sector, which includes the banking institutions also suffered the same fate. Various efforts have been made by the Malaysia government as well as Bank Negara Malaysia (BNM) in terms of fiscal and monetary policies to safeguard the country's economy from continuing to plummet. Among them was the six months' moratorium. Moratorium is a period of time during which borrowers are not expected to pay their equated monthly instalment according to their recent schedule (Somasundaram, 2020).

This research aims to study the relationship between the Covid-19 cases in Malaysia, China, and United States of America with those country's respective financial services index. Besides that, the researcher also aims to examine the relationship between the non—performing loan and financial services index in Malaysia. Hopefully this research will contribute to the studies in the effect of Covid-19 outbreak towards the financial sector, in addition to the availability of information that can be use by the financial institutions in determining the impact of the pandemic towards their vitality.

Literature Review on Financial Services Sector

The capability of the Malaysian financial system to utilize the financial resources effectively and efficiently will be vital in order to enable Malaysia's to evolve into a high-value-added and high-income economy. The financial services sector is currently in an excellent position to grow and benefit from the opportunities driven by a more dynamic and integrated environment. Bursa Malaysia had several different sectors that operated under the Kuala Lumpur Composite Index (KLCI). The financial services sector is one of the industries represented on the Bursa Malaysia stock exchange that offers financial services to both individuals and businesses. For instance, the financial businesses that make up this economic sector include banks, investment houses, lenders, finance companies, real estate agents, and insurance companies. In terms of both earnings and the capitalization of the equity markets, the industry has grown into a crucial one for the economy.

The Malaysian financial industry has maintained its stability during the period of the Global Financial Crisis (GFC). Due to the financial system's sufficient liquidity, the financial sector was able to continue providing financial intermediation and other services to the whole economy. Both real and financial sectors were significantly harmed by the prolonged regulatory lockdowns, global economic slowdown, and demand and supply disruptions during the pandemic's first wave (Chakraborthy & Thomas, 2020; Guru & Das, 2021; Kizys et al., 2021). Even though the financial sector includes many other businesses, only insurance firms benefit from Covid-19 since they are making more money and attracting more clients as a result of the current financial crisis. People are scared of facing personal financial difficulties, as the expenses of visiting a hospital or clinic must be high. The Financial Services Agency (FSA) recommended insurers to update the policy terms and allow flexibility when interpreting the insurance contracts' terms and conditions in the 10 contexts of Covid-19 (FSA, 2020).

Financial institutions are now looking at innovative ways to function and adapt to the new normal as a result of Covid-19. When they are adjusting to the new normal, they might easily be using digital platforms to deliver sales campaigns, client services, and client support. A technological relationship with other vendors is one of the options that might be employed to enhance the capabilities and participation in Fintech. By doing this, a stable foundation and preparation for a black swan occurrence like the Covid-19 pandemic will be built.

Literature Review on Covid-19 cases in Malaysia

Globally, the epidemic curve ranges from a slow rising, tightly managed pandemic in Singapore to an exponential, uncontrolled spread in Italy. Malaysia is positioned in the middle, however (WHO,2019). Three Chinese nationals who had previously had intimate contact with an infected person in Singapore reported the first case of Covid-19 in Malaysia on January 25, 2020. They travelled into Malaysia through Singapore on January 24, 2020. The Ministry of Health (MOH) reports that through April 17, 2020, there were 5,251 cases of Covid-19 including 86 deaths and 2,967 cases of recovery. As of this date, Selangor had recorded the highest number of confirmed Covid-19 with 1,338 cases. The government then announced 27 districts as red zones including Lembah Pantai (592); Hulu Langat (446), Petaling Jaya (366), Seremban (288), Kuching (255), and Kluang (221), as these areas detected the highest cumulative number of positive cases (Elengoe, 2020). According to Salim (2020), Covid-19 is fast spreading in Malaysia to a larger cluster and is connected to Tabligh gatherings that took place in late February and involved more than 10,000 people.

Due to the urgent need to stop the pandemic and prevent the healthcare system from collapsing, the government has been forced to take more drastic action (Surico, 2020). The Malaysian government was acting quickly to halt an exponential rise in cases and has put in place a number of containment measures to try and stop the virus' spread, including social distancing, mobile software applications for digital contract tracing, which is known as MySejahtera in Malaysia, lockdowns which is known as MCO in Malaysia and travel restrictions. Lockdowns and travel restrictions are the two main containment measures used by the government to combat Covid-19 (Phan & Narayan, 2020). A Movement Control Order (MCO) with restrictions was announced by the Malaysian Prime Minister and it went into force on March 18, 2020. During the MCO, people are fully prohibited from leaving their houses, including going to work for a period of months. Small and medium-sized enterprises (SMEs) and non-essential industries must immediately cease operations.

Covid-19 cases have been chosen as the independent variable since the objective of this study is to investigate the interrelationship of Covid-19 with the financial services sector. It demonstrates that the Covid-19 cases have a significant impact on the financial services sector.

Literature Review on Covid-19 cases in China

The Covid-19 virus was discovered on November 17, 2019, as a result of a cluster of four novel coronavirus-infected pneumonia cases in Wuhan, China. This virus is currently considered a global pandemic (Evans et al., 2020). It was formally declared Covid-19 by the World Health Organization (WHO). China has seen an exponential rise in the number of Covid-19 infections, with a peak of 30,893 cases documented on February 5, 2020, which was precisely 14 days after Wuhan was placed under lockdown on January 23, 2020. Wuhan, meanwhile, had a marginal decline in daily infections cases, to around 10,000 cases. However, the pandemic's severity varied significantly between the Wuhan region and the rest of China. The 11 million population who live in Wuhan were a significant factor in the country's average daily confirmed Covid-19 cases (Xu et al., 2020).

According to a study by O'Neill et al (2020), contact-tracing apps have been adopted in at least 47 countries in an effort to restrict the pandemic by assessing the exposure risks. Using two platforms, Alipay and WeChat, the China government created Health Code, a tracking program that attempts to help governments identify people who may have been exposed to Covid-19. This Health Code can evaluate a person's risk of contracting an infection based on their travel history, the amount of time they spend in high-risk places, and their associations with possible carriers (Mozur et al., 2020). This demonstrates unmistakably that China imposes travel restrictions that have an impact on both domestic and international trade.

Covid-19 cases in China have been chosen as one of the independent variables since China is one of Malaysia's most important trading partners in terms of foreign direct investment and international trade, and the largest effect was first noticed in China's stock equities (Al- Awadhi et al., 2020). In conclusion, the Covid-19 cases in China have had a hugely significant on Malaysia's financial sector.

Literature Review on Covid-19 cases in the United States

Aside from China, Washington State reported the first Covid-19 case in the United States (US) that was confirmed by a serological test on January 20, 2020, the same day the first case was reported in South Korea (Madrigal and Meyer, 2020). The virus spread rapidly across the US, and twelve weeks later, on April 11, 2020, the US overtook Italy as the country with the most confirmed deaths from Covid-19 infections. According to Shioda et.al (2020), from March 1, 2020, to May 30, 2020, 95,235 deaths were legally linked to Covid-19. With 46,501,534 cases as of October 2021, the US has now been listed by WHO as the nation with the biggest total number of confirmed cases. For instance, between 90,000 and 180,000 cases per day have been recorded daily.

The Covid-19 pandemic outbreak has had a significant impact on the nation's economy, which has driven financial markets to already react to the spectacular changes. The circuit breaker mechanisms on the US stock exchange were triggered four times in 10 days in March 2020. Since the US was founded in 1987, the breaker has only been tripped once, back in 1997. Stock markets in Europe and Asia have collapsed in line with the US catastrophe. Al-Awadhi (2020) stated that the Financial Times Stock Exchange (FTSE), United Kingdom's (UK) primary index, experienced a downturn of more than 10% on March 12, 2020, which was possibly the worst day since 1987.

In examining the interrelationship between Covid-19 cases and the Malaysian financial services sector, the US was selected as an independent variable. This is due to the fact, in accordance with earlier studies by Smales (2020), Covid-19 significantly affected global stock markets, with no sectors escaping its consequences. Additionally, the stock market in

Malaysia is significantly influenced by the stock market in the US (Kevin et al, 2020). It highlights that the Covid-19 cases have a significant influence on the financial services sector.

Literature Review on non-performing loan

Non-performing loans are those where the borrower has been in default for a certain amount of time and has not properly scheduled their payments. Non-performing loans happen when a loan cannot be repaid within the time frame given by a respective law (Islam et al., 2005). The most common definition of non-performing loans is when the debtor is more than a predetermined number of days overdue on the loans' scheduled payments. According to the Bank for International Settlement (BIS), non-performing loans are classified into five categories.

Table 1
Five categories of non-performing loans

Categories	Descriptions
Passed	Solvent credits
Special Mention	Loans to businesses may bring several issues, such as continuation of income losses.
Substandard	Loans whose interest or principal payments are past due by more than a quarter of a year are simplified.
Doubtful	Complete liquidation of outstanding debts appears to be flawed, and the record suggests that there will be a loss, the precise amount of which is yet resolved. Banks reserved 50% provision for doubtful loans.
Loss	Loss and virtual loss (Unrecoverable). Outstanding debts that are uncollectible are often loans to businesses that have applied for legal objectives and assurance under liquidation regulations. Banks allocate 100% provision for loan losses.

Source: Bank for International Settlement.

In Malaysia, to categories the general rule of impaired loans and credit facilities, Bank Negara Malaysia issued the Guideline of Impaired Loans/Financing and Provisioning for bad and Doubtful Debts in 2005. Table 2 below shows the classification of problem loans.

Table 2
Classification of Problems Loans

Period of Default	Classification
Six months* however, undermine months (*3 months in the case of trade financing instruments and credit cards)	Substandard, except there is verification a worse-off classification
Nine months however under 12 months	Doubtful, except there is verification a worse-off classification
A year and above	Bad

Source: Bank Negara Malaysia (2005)

The increase in NPL in banking advances is one of the most significant critical indicators of the financial crisis. A non-performing loan is a measure of a bank's asset quality and asset quality, among the other performance indicators, is a crucial indicator of the performance of a financial services sector (European Central Bank (ECB), 2017). One of the elements that may affect a bank's performance is the ratio of non-performing loans to total loans. According to (Beck et al, 2015), the ratio of impaired loans to gross loans, which measures the total amount of non-performing loans in a financial services sector, determines the asset quality of that financial services sector. This ratio assessed the bank's credit risk as well as the caliber of its outstanding loans. If the unpaid loan sum is not collected, the bank is more likely to suffer a financial loss with a larger ratio than with a lower proportion of outstanding loans.

NPLs have received significant attention from the government and bank management in the wake of the financial crisis since they are associated with the collapse and crisis of the banking industry (Ghosh, 2015). Due to its involvement in the failure of several systemic and non-systemic financial institutions throughout the world, notably during the 2007 until 2008 financial crisis, the proportion of non-performing loans is of serious concern to bank regulators and government (Bank for International Settlement (BIS), 2017).

Method

This study used time series analysis to investigate the interrelationship of Covid-19 disease towards Malaysia financial services sector. COVID-19-related data will be extracted from the database on the official WHO website. Specifically, the number of confirmed cases of Malaysia, United States, and China from 25 January 2020 to 30 June 2021. Then the data were run through e-view.

The regression model to be applied in this study as follow

$FSI = \beta 0 + \beta 1MCi + \beta 2CCi + \beta 3UCi + \beta 4NPLi$

(Eq 1)

Where:

FSI = financial services index

MC = number of Covid-19 cases in Malaysia

CC = number of Covid-19 cases in China

UC = number of Covid-19 cases in United States

NPL = non-performing loan

Result and Discussion

Descriptive Analysis

Table 3

Descriptive Statistic of selected factor that affect the Financial Services Sector

	FSI	MC	CC	UC	NPL
Mean	13924.44	1363.020	216.6417	60918.80	1.522038
Median	14313.32	235.0000	40.00000	43383.00	1.551000
Maximum	16046.13	9020.000	15152.00	293561.0	1.625000
Minimum	10885.45	0.000000	0.000000	0.000000	1.365000
Std. Dev.	1253.552	1912.551	827.4966	62607.11	0.080063
Skewness	-0.202348	1.644067	11.98217	1.510973	-0.778485
Kurtosis	1.562199	5.079891	199.0932	4.502848	2.148966
Jarque-Bera	50.84933	345.0151	889486.1	259.6133	71.75768
Probability	0.000000	0.000000	0.000000	0.000000	0.000000

Descriptive analysis helps to explain and understand the behaviour of a given data set with brief summarizations of the said sample and data set. Table 3 displays the descriptive statistic for the entire variable used in this study which are financial services index (FSI), number of covid-19 cases in Malaysia (MC), number of covid-19 cases in China (CC), number of covid-19 cases in United States (UC) and non-performing loan respectively. As shown in the table above, the mean value for FSI is 13924.44 meanwhile for MC, CC, UC and NPL are 1363.020,216.6417, 60918.80, and 1.522038. UC have the highest standard deviation with a value of 62607.11, while the second highest is MC with a value of standard deviation is 1912.551. Furthermore, the skewness has a positive value except for FSI and NPL shows a negative value of -0.202348 and -0.778485. There are rightly skewed.

Correlation Analysis

Table 4

Correlation Analysis

Correlation t-Statistic Probability	FSI	MC	CC	UC	NPL
FSI	1.000000				
MC	0.519715 14.20147 0.0000**	1.000000			
CC	0.124513 2.929589 0.0035**	-0.040679 -0.950447 0.3423	1.000000		
UC	0.248344 5.985143 0.0000**	0.171414 4.061822 0.0001**	-0.160782 -3.802980 0.0002**	1.000000	
NPL	0.598172 17.42579 0.0000**	0.589595 17.04128 0.0000**	0.093733 2.197887 0.0284**	0.150230 3.547415 0.0004**	1.000000

Correlation analysis is to determine the connection or relationship between dependent variable and independent variable. Table 4 represents the result of the correlation analysis. It shows that MC and NPL are strongly positive correlated with the dependent variable which is financial services index (FSI) with a value of 0.519715 and 0.598172. (FSI, MC), (FSI, CC), (FSI, UC) and (FSI, NPL) have a significant relationship as their p-value is lower than 5%.

Multiple Regression Analysis

A regression analysis was performed, and the results are summarized in Table 5 and in equation (2) below:

Table 5

Multiple Regression Analysis

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3619.956	942.9225	3.839082	0.0001
MC	0.166076	0.026501	6.266839	0.0000
CC	0.185195	0.050221	3.687605	0.0002
UC	0.003254	0.000667	4.877127	0.0000
NPL	6464.846	635.4371	10.17386	0.0000

R-squared	0.434260	Mean dependent var	13924.44
Adjusted R-squared	0.430085	S.D. dependent var	1253.552
S.E. of regression	946.3409	Akaike info criterion	16.55218
Sum squared resid	4.85E+08	Schwarz criterion	16.59153
Log likelihood	-4522.022	Hannan-Quinn criter.	16.56756
F-statistic	104.0093	Durbin-Watson stat	0.131828
Prob(F-statistic)	0.000000		

The table above show the effect of covid-19 cases and NPL towards financial service index (FSI). As a result, the finding of regression analysis can be transformed into an econometric equation as follows:

FSI = 3619.956 + 0.166076MC + 0.185195CC + 0.003254UC + 6464.846NPL
(Eq 2)

The result indicates that all variables are significant when the p-value is less than 5 per cent significant level. The coefficient for MC, CC, UC and NPL is positive and significant with the value of 0.166076, 0.185195, 0.003254 and 6464.846. The F-test for this study is 104.093 with the p-value of 0.0000 with 5% significant level. Therefore, it indicates the overall model is fit. In addition, the coefficient of determination (R2) is 0.434260. It shows that 43.4260% of the total variation in the financial services index (FSI) can be explain by independent variables while another 56.574 can be explain by other factors.

Conclusion

This study contributes to examine the interrelationship of Covid-19 and NPL towards Malaysia financial services sector. Variables that have been used to meet the research objectives of this study is financial services index (FSI) as dependent variable while for independent variables are Covid-19 cases in Malaysia (MC), Covid-19 cases in China (CC), Covid-19 cases in United States (UC), and Malaysia's non-performing loan (NPL). This study has carried out multiple tests generated by using the Eviews software to test the hypothesis between the dependent variable and independent variable. The tests mentioned are descriptive analysis, correlation analysis, regression analysis that involve T-test, F-test, and Ordinary Least Square (OLS), as well as Normality Test. Based on the findings, all independent variables which are Covid-19 cases in Malaysia (MC), Covid-19 cases in China (CC), Covid-19 cases in United States (UC), and non-performing loan (NPL) are significant to the dependent variable, financial services index (FSI) which was proven by the p-value resulted less than 5% level of significance. This result is supported by previous findings (Yilmazkuday, 2020; Xu, 2021; Xu et al., 2020; Kelvin et al., 2020).

Contribution

These studies may assist individuals or institution in identifying or learning more about the effect of the outbreak of Covid19 towards the financial services sector, specifically on its volatility in the period of the pandemic. Additionally, this research may assist the financial services industry in determining the impact of the pandemic on their volatility. It may aid them in boosting their performance and always be able to overcome any obstacle either internal or external. This study also contributes to literature that empirically measured the interrelationship of Covid-19 towards the financial service sector.

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