

# **Covid-19, Financial Market Vulnerabilities and Dynamics Monetary Policy: Comparative Analysis**

*Sri ANDAIYANI\*<sup>1</sup>  
Ariodillah HIDAYAT<sup>2</sup>  
Fida MUTHIA<sup>3</sup>  
Dirta Pratama ATIYATNA<sup>4</sup>*

---

## **ABSTRACT**

*This study aims to analyze a comparative study of the response of the Indonesian and Malaysian Financial Markets to the dynamics of Monetary Policy implemented during the COVID-19 Pandemic during January 2019 to June 2021. This study builds three e.i interbank money market, bond market, and stock market. The methodology of this study is Ordinary Least Square (OLS). The result shows that COVID-19 has no effect on financial markets, either in Indonesia or in Malaysia. However, when the lockdown was implemented in Malaysia, it had a significant effect on the Malaysian bond market. Furthermore, monetary policy with interest rate instruments has a significant and negative effect on the stock market in Indonesia. The monetary policy through the reserve ratio has a significant and positive effect on the Malaysian bond market. It suggests that there are differences in the dynamics of monetary between Indonesia and Malaysia so that they have different impacts on their respective financial markets.*

**KEYWORDS:** *monetary policy, financial market, stock market, interest rate*

**JEL CLASSIFICATION :** *E40, E44, E52*

---

## **1. INTRODUCTION**

Coronavirus 2019 (COVID-19) is an infectious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The case was first discovered in Wuhan, China, in December 2019. Currently, the disease has spread around the world, and the number of positive cases of Covid-19 continues to increase globally. Based on the worldometers report on March 16, 2021, the total confirmed cases globally amounted to 120,771,050 with the number of deaths as many as 2,672,073 people. The COVID-19 pandemic has spread at a fairly high rate and brought economic activity to a near standstill as countries imposed strict restrictions to stop the spread of the virus. As the number of cases grows, the number of deaths and a slowing economy prove that this is the biggest economic shock the world has experienced in this decade. Global economic conditions that are experiencing contraction make the government continue to try to overcome by issuing various policies both fiscal and monetary. According to Barua (2020), pandemics have an impact on the duration of economic recovery, low investment, job losses, hampered schools, and the onset of trade problems. This pandemic requires rapid action to address public health and economic conditions, not least for developing countries.

According to the World Bank (2020), each country has experienced a substantial decline in economic growth. East Asia and the Pacific will grow 0.5%. South Asia will contract by

---

<sup>1</sup> Universitas Sriwijaya (Faculty Of Economics), Indonesia, sriandaiyani@fe.unsri.ac.id, corresponding author

<sup>2</sup> Universitas Sriwijaya (Faculty Of Economics), Indonesia, ariodillahhidayat@fe.unsri.ac.id

<sup>3</sup> Universitas Sriwijaya (Faculty Of Economics), Indonesia, fidamuthia@fe.unsri.ac.id

<sup>4</sup> Universitas Sriwijaya (Faculty Of Economics), Indonesia, dirtapratama@fe.unsri.ac.id

2.7%, Sub-Saharan Africa by 2.8%, the Middle East and North Africa by 4.2%, Europe and Central Asia by 4.7%, and Latin America by 7.2%. Emerging markets and developing countries are experiencing economic headwinds from multiple sides: weak health, loss of trade and tourism, reduced capital inflows, and tight financial conditions amid rising foreign debt. The response of each ASEAN member country to Covid-19 has been mixed. ASEAN countries restrict cross-border cooperation in trade and economic integration.

**Table 1. The development of coronavirus in several ASEAN countries**

No	Country	Confirm Cases	Recoveries	Deaths	Population	% of Total Population
1	Indonesia	1,425,044	1,249,947	38,573	271,349,889	0.53
2	Malaysia	324,971	308,247	1,213	32,724,000	0.99
3	Thailand	27,005	26,154	87	69,799,978	0.04
4	Vietnam	2,557	2,115	35	97,338,579	0.00
5	Philippines	62,693	560,577	12,837	111,992,100	0.06
6	Singapore	60,117	59,974	30	5,850,342	1.03

Source: <https://www.worldometers.info/coronavirus/> (taken on March 16, 2021).

The number of Covid-19 cases in Indonesia continues to increase even number 3 after Malaysia from its total population. The first confirmed case of coronavirus in Indonesia was announced by President Joko Widodo on March 2, 2020. As Indonesia's economy was at high risk of entering recession, the government ended the PSBB and introduced a 'new normal' policy in early June 2020 to slowly continue economic activity. The government will gradually open nine sectors of the economy in July 2020, although the number of new cases of Covid-19 continues to rise. As of March 16, 2021, the number of confirmed Covid-19 positive cases amounted to 1,425,044 cases with a death rate of 2.7%. Malaysia with a population of about 32 million people was already on the list of countries with the coronavirus when the first case was confirmed on January 25, 2020.

Global economic conditions are weakening significantly. Measures to contain the COVID-19 pandemic have disrupted economic activity in most countries. Recent indicators show that the global economy is already contracting, with global growth projected to be negative for the year. Financial conditions are also tightening amid increasing risk aversion and uncertainty. The substantial policy stimulus introduced by many countries, coupled with the gradual easing of containment measures globally, will partially mitigate the economic impact of COVID-19. Growth prospects will improve by 2021 with pandemic response forecasts. To mitigate the negative economic impact of Covid-19, ASEAN countries announced fiscal stimulus packages and monetary economic policy packages. In Indonesia, the Central Bank of Indonesia (BI) implements an expansionary monetary policy to boost the economy. From January 2020 to the end of September 2020, BI has cut the BI 7day reverse repo rate by 100 basis points (bps) in total to 4.00%. BI lowered the minimum Reserve Ratio (RR) of conventional banks by 200 bps to 3.5% and Islamic banks by 50 bps to 3.5% (effective from May 1, 2020), as well as implementing various other macro-prudential policies. BI cut the minimum RR of USD from 8% to 4%, effective March 16, 2020. BI has also carried out quantitative easing policies to inject liquidity in the economy which have been implemented since the beginning of the year until the end of September 2020. On July 6, 2020, BI and the government announced a burden-sharing scheme in which BI will help partly to finance the government's budget deficit by purchasing SBN instruments and bearing some of the interest payments for them.

Similarly to Indonesia, since March 2020, the Central Bank of Malaysia (BNM) has provided additional liquidity of around RM42 billion to the domestic financial market, through various tools including direct purchase of government securities, reverse repo, and RR reduction. BNM is ready to provide liquidity in the interbank market to ensure orderly market conditions, conducive to supporting financial intermediation activities. In May 2020, the BNM's Monetary Policy Committee (MPC) decided to lower the Overnight Policy Rate (OPR) by 50 basis points to 2.00 percent. The upper and basic limit tariffs of the OPR corridor were also lowered to 2.25 percent and 1.75 percent.

The Covid-19 pandemic has affected financial markets and monetary policy dynamics in emerging markets and developing countries, especially ASEAN. However, the study on the impact of Covid-19 on the ASEAN economy and the policy response of ASEAN authorities has mainly focused on the real sector of the economy and aspects of fiscal policy. It was recorded in the study of Sahoo & Ashwani (2020), and Saunders & Evans (2020) which discussed increasing poverty due to pandemics; and (Feranika & Haryati, 2020) discussing fiscal policy measures to address pandemics.

Based on this background, the study aims to analyze a comparative study between Indonesia and Malaysia financial market responses to the dynamics of monetary policy implemented during the Covid-19 pandemic from January 2021 to June 2021. Research contributions are divided into three, namely: (1) understanding the impact of COVID-19 on Indonesia and Malaysia's financial markets, (2) this research discusses the dynamics of monetary policy on financial markets in the Covid-19 pandemic; (3) analyze differences in monetary policy dynamics in financial markets, particularly Indonesia and Malaysia.

## 2. LITERATURE REVIEW

Several studies related to the Covid-19 pandemic were reviewed in several empirical studies. The study discussed the impact of Covid-19 on the economy, transmission lines, and economic costs incurred from the Covid-19 pandemic (Susilawati, Falefi & Purwoko, 2020); (McKibbin & Fernando, 2020) (Hossain, 2021). In addition to several studies such as (Zhang, Hu & Ji, 2020); (Baker et al., 2020); (Phan & Narayan, 2020); (Naidenova, Parshakov & Shakina, 2020) examines the impact of Covid-19 on financial markets. In general, pandemics affect economies both through the supply side and the demand side of each country's economy and can be transmitted to different countries through trade, finance, and travel/tourism routes. Correia, Luck, and Verner (2020) point out that the decline of the U.S. economy during the Great Influenza pandemic of 1918 was driven by the demand and supply side. Liu, Yue & Tchounwou (2020), the more integrated into a region's world economy, the more likely it is to be exposed to a pandemic. (Song & Zhou, 2020) also found that global economic activity would be more affected by pandemics with high infection rates than high levels of virulence.

There are several lines of monetary policy transmission mechanisms in influencing financial markets, namely the interest rate path, exchange rate line, balance sheet line, expectation line, credit line and asset price line. On the path of interest rates, changes in the benchmark interest rate affect deposit rates and bank loan rates. Central banks can use tight monetary policy through increased interest rates that impact aggregate demand, thereby lowering inflationary pressures. Conversely, a reduction in the benchmark interest rate will lower the interest rate on credit, so that the demand for credit from companies and households increases. A reduction in credit interest rates also lowers a company's capital costs to make investments. This increases consumption and investment activities, thus boosting the economy.

Changes in the benchmark interest rate can affect the exchange rate path. A rise in the benchmark interest rate, for example, would increase the difference between domestic interest rates and foreign interest rates. The widening interest rate gap encourages foreign investors to invest in financial instruments in Indonesia, as they will get a higher rate of return. This foreign capital inflow will, in turn, encourage the appreciation of the Rupiah exchange rate. Rupiah appreciation results in cheaper prices of imported goods and our export goods abroad become more expensive or less competitive so that it will encourage imports and reduce exports. The appreciation of the exchange rate will have an impact on the decrease in inflationary pressures.

The changes in the benchmark interest rate also affect the macro economy through changes in asset prices. Rising interest rates will lower the prices of assets such as stocks and bonds, thereby reducing the wealth of individuals and companies, which in turn reduces their ability to carry out economic activities such as consumption and investment. This will reduce aggregate demand, thereby lowering inflationary pressures. This monetary policy transmission mechanism requires time lag. The time lag of each path can be different. Under normal conditions, banks will respond to the increase / decrease in the benchmark interest rate with an increase / decrease in banking interest rates. However, if banks see that the economic risks are high enough, the banking response to the decline in the benchmark interest rate will be slower. Conversely, if banks are consolidating to improve capital, credit rate cuts, and increased demand for credit are not always responded to by increasing credit distribution. On the demand side, the decline in banking credit rates is also not always responded to by increased demand for credit from the public if the economic outlook is sluggish. The effectiveness of monetary policy transmission is influenced by external conditions, the financial and banking sectors, as well as the real sector (Yarovaya, Brzezczynki, Goodell, Lucey & Lau, 2022).

The study (Suryahadi, Al Izzati & Suryadarma, 2020) examined the impact of Covid-19 on poverty in Indonesia. The results showed that the mildest impact of COVID-19 on economic growth, the poverty rate will increase from 9.2 percent in September 2019 to 9.7 percent by the end of 2020. Several studies examined the impact of Covid-19 on banking (Seelye & Ziegler, 2020) (Djalante et al., 2020). In the book written (UNCTAD, 2020) many developing countries have shallow financial and banking systems that make them unprepared to respond to the potential scale and duration of a crisis. Central banks in developing countries do not have the capacity to act as lenders of last resort as banks do in developed countries. Increased leverage ratio, and short-term activity ratio but decreased liquidity ratio and profitability ratio of public companies during the COVID-19 pandemic. There is no significant difference between the liquidity ratio and the leverage ratio. However, public company profitability ratios and short-term activity ratios differ significantly between before and during the COVID-19 pandemic. Sectors that experience increased liquidity ratios, profitability ratios, and short-term activity ratios but decreased leverage ratios are consumer goods sectors. While the sectors that experienced a decrease in liquidity and profitability ratios were the property, real estate, and building sectors, finance, trade, services, and investment (Devi, Sanasniasih & Masdiantini, 2020; Barua & Barua, 2021), the COVID-19 pandemic is causing devastating consequences for banks that have largely experienced a rise in default rates. Significant decreases in income, increased unemployment, and disruptions in the transportation, services, and manufacturing industries are some of the consequences of disease mitigation measures that have been implemented in many countries (Pak et al., 2020).

Tahajuddin & Sulaiman (2021) believes that in dealing with Covid-19 cases, there needs to be government intervention through fiscal and monetary policy. Lee, Jais & Chan (2020) review the impact of the COVID-19 outbreak on the Malaysian stock market. The bound variable

used in this study is the Composite Index. The findings suggest that a higher number of COVID-19 cases in Malaysia is likely to adversely impact the performance of the KLCI index and the entire sectoral index, except Real Estate Investments. The results also showed that Brent oil prices and volatility indices tended to affect the performance of the Malaysian stock market. It was also supported by research (Haldar & Sethi, 2021) using data from the 10 worst affected countries during the period from December 2019 to May 2020. The study showed that market speculation leads to negative stock returns and higher stock market volatility. Sharia stock indexes were also found to be more volatile compared to conventional sham indices during the COVID-19 outbreak (Ali, Anwar & Haseeb, 2021).

According to Sugandi (2020), the Covid-19 pandemic caused a different impact from certain monetary policy instruments in Indonesia's financial markets during the pandemic compared to that in the non-pandemic period. Market participants are concerned that this "burden-sharing" scheme, which is part of the central bank's Quantitative Easing programme, could be extended beyond the end-of-2020 deadline. However, there is also a limit to how much a central bank can buy. BI has a capital clause that requires a capital of at least Rp2 trillion and a capital ratio of at least 10.0% of total monetary liabilities. With liquidity not as problematic as originally feared, BI prohibits commercial banks from returning excess liquidity to the central bank, aggressively lowering its monetary operating rates. The futures structure is reversed for the first time in history due to a combination of sufficient liquidity and a cost-conscious central bank (Habir & Wardana, 2020).

### 3. RESEARCH METHODOLOGY

The study is based on three Ordinary Least Square (OLS) models for the case of Indonesia and Malaysia by testing the effect of monetary policy on financial market volatility: (1) interbank money markets (Model 1); (2) Government Bonds (Model 2); (3) stock price index (Model 3). The period of this study is from January 2019 to June 2021. The selection of countries observed in this study is based on the percentage of cases of COVID-19 against the population of each country. The percentage taken is above 0.5% of the total population, namely Malaysia and Indonesia. The Monetary Policy variables used in the study are each country's benchmark interest rate and minimum reserve ratio.

Three COVID-19 related control variables are used across all models: (i) dummy variables Covid-19; (ii) dummy lockdown variables; (iii) dummy variable fiscal policy packages; and (iv) the New Normal dummy variable. In addition to these Covid-19-related control variables, each model has other control variables. The COVID-19 dummy variable has a value of 1 for each date from January 30, 2020 (the day when who declared a global emergency for the COVID-19 outbreak) until March 30, 2020, and 0 vice versa. The Lockdown variable is used to distinguish between the period before the government imposes a large-scale social distance (lockdown = 0), the period of application of social distance (lockdown = 1), and the period the government officially ends social distance and replaces it with a 'new normal' policy (lockdown = 2).

To determine the impact of the COVID-19 pandemic on the relationship between monetary policy instruments and dependent variables in each model, two interaction variables were introduced into the model: (i) the interaction variable between the benchmark interest rate and COVID-19; and (ii) the interaction variable between RR and COVID-19 variables; Each interaction variable is obtained by multiplying the variable of the monetary policy instrument by the dummy variable of the COVID-19 period.

To find out if there are differences in the influence of monetary policy dynamics on financial markets in Indonesia and Malaysia, the study used the Ordinary Least Square regression test. The general forms of the regression equations in Models 1, 2, and 3, and the OLS tests performed in each of the observed states are as follows:

$$Y_t = \alpha + \beta_1 \text{Variable Control}_{t \text{ or } t-1} + \beta_2 \text{Covid\_Con}_{j,t} + \beta_3 \text{MPOL}_{k,t, \text{ or } t-1} + \beta_4 \text{MPOL} * \text{Covid}_{k,t \text{ or } t-1} + \varepsilon_t \quad (1)$$

where Y is a dependent variable (interbank money market, Government Bonds and Stock Price Index);  $\alpha$  is a constant; Variable controls are some control variables that affect dependent variables; COVID\_CON are some control variables specifically related to the COVID-19 pandemic; MPOL is a variable instrument of Monetary Policy (which is the main interest of this research, namely the benchmark interest rate and reserve ratio); MPOL\*COVID is the interaction variable between monetary policy and COVID-19; and  $\varepsilon$  is a term error. Indices i, j, and k are the indexes for the variables in the model, and t is the time index;  $\beta_1$ ,  $\beta_2$ ,  $\beta_3$ , and  $\beta_4$  are the coefficients for each of the variables in the model.

**Table 2. Variables used in the Model**

	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>
<b>Dependent Variable</b>	Interbank Money Market	Government Bond Yields	Stock Price Index
<b>Independent Variable</b>			
Variable Control	Inflation	Inflation Exchange Rate Stock Price Index	Inflation Exchange Rate Stock Price Index VIX index S&P 500 index (1-day lag) Strait Times index Shanghai Composite index
Covid_Con	<ul style="list-style-type: none"> <li>▪ COVID-19 dummy</li> <li>▪ Lockdown dummy</li> </ul>	<ul style="list-style-type: none"> <li>▪ COVID-19 dummy</li> <li>▪ Lockdown dummy</li> </ul>	<ul style="list-style-type: none"> <li>▪ COVID-19 dummy</li> <li>▪ Lockdown dummy</li> </ul>
MPOL	Interest Rate Policy Reserve Ratio	Interest Rate Policy Reserve Ratio	Interest Rate Policy Reserve Ratio
MPOL_Covid	Benchmark Interest Rate *COVID-19 Reserve Ratio *COVID-19	Benchmark Interest Rate *COVID-19 Reserve Ratio *COVID-19	Benchmark Interest Rate *COVID-19 Reserve Ratio *COVID-19

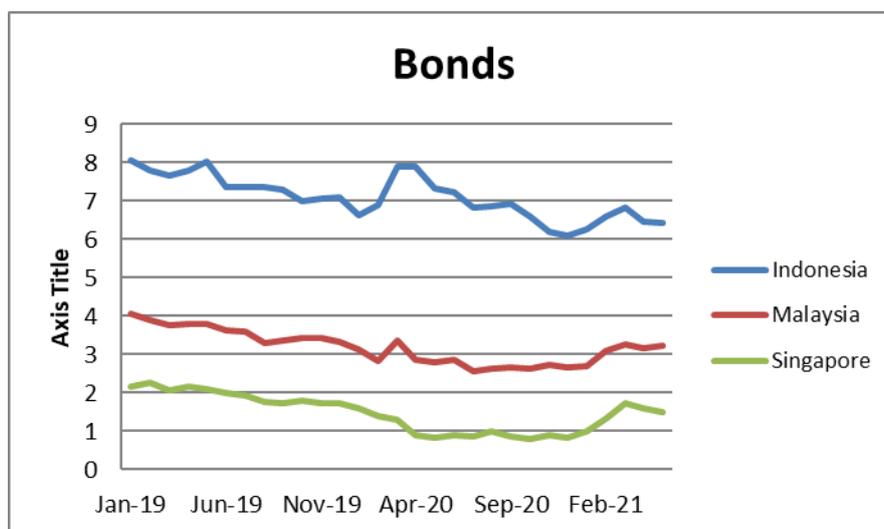
Source: authors' own conception

## 4. RESULT AND DISCUSSION

### 4.1 Financial Market Developments

In 2020 is a bad start to the year for the opening of stock trading, where this year the stock indexes of the three countries are the same" entering the red zone which can be shown by data in Table 2 which is where the JCI level of 5940.0, then KLSE at the level of 1531.1, and lastly STI at the level of 3153.7, the decline was due to several factors. Which suppresses the performance of the Stock Index in January 2020, one of which is the potential for the outbreak of a third world war. The spread of coronavirus infection becomes a factor that suppresses the performance of JCI. Based in China, cases of coronavirus infection have also been reported in other countries. Now, at least 21 countries have confirmed coronavirus infections in their regions. In the condition of the COVID-19 pandemic in February, the stock indexes of the three countries are still in a weakening condition where JCI touched 5452.7, then KLSE 1482.6, and STI at the level of 3011.1.

The COVID-19 outbreak in China that continues to take its toll, including in Indonesia, Malaysia, and Singapore, threatens the economy and simultaneously hits global stock markets, resulting in the stock indexes of the three countries affected. Where the JCI experienced a very high fall can be seen in Chart 2, which is at the level of 4538.9, then KLSE at the level of 1350.9, and also STI at the level of 2481.2, it made the trade plummet that day. The delay continued until June 2020 trade began to rebound, as it can be seen in Table 2 increases that occurred in Indonesia, Singapore, and Malaysia.



**Figure 1. Bond Yield Movement**

Source: the authors

In September the stock index fluctuated again where JCI returned to the level of around 4000s at 4870.0, KLSE 1504.8, then STI leveled 2466.6 it can be seen on chart 2. The decline in big-cap stocks during September 2020 helped put pressure on JCI. Entering the following months, trading experienced an improved rebound in October, November, and December. The three countries are recorded both entering the green zone, where it is seen in Table 2 of stock index data that can be seen by JCI at the level of 5979.1, then KLSE at the level of 1627.2, then STI at the level of 2843.8.

As previously explained, since the COVID-19 pandemic began to strike, the world economy began to falter. As seen in Figure 1, the development of bonds above which in January 2020

bond rates in these three countries simultaneously fell due to the response from the emergence of this virus outbreak. Although first found in China, Indonesia, Malaysia, and Singapore also felt the impact because China is one of the countries that has a great influence on international trade. However, in 2021 the first quarter seems to be improving, as the bond rate for three consecutive months in the first quarter continues to rise. This is influenced by the policies made by the government together with the central bank. According to (Junaedi & Norman, 2021), Bank Indonesia also adjusts Macroprudential regulations to ease liquidity conditions and support bond market stability.

#### 4.2 Discussion

Table 3 below shows how the independent variables influence the dependent variables. Statistically, the Consumer price index negatively and insignificantly affects the three models above, namely, the interbank money market, government bond yield, and the stock market index. It means that during the research period the consumer price index has no effect on the three dependent variables, and when the CPI rises, then the interbank money market, the government bond yield and the stock market index will fall and vice versa when the CPI falls, then the three dependent variables will rise. This is related to the ups and downs of the CPI variable that does not affect the interbank money market, the yield, and the stock market index. As in model 2, the volatile change in the rate of inflation (CPI) has an impact on the securities investment because an increase in inflation means that the investment in securities will be at risk.

**Table 3. Summary of Regression Results for Indonesia**

Dependent Variable Regressor	MODEL 1	MODEL 2	MODEL 3
	Interbank money market	Government bond yield	Stock market
CPI	Insignificant (-)	Insignificant (-)	Insignificant (-)
COVID DUMMY	Insignificant (-)	Insignificant (-)	Insignificant (+)
LOCKDOWN DUMMY	Insignificant (+)	Insignificant (-)	Insignificant (+)
POLICYRATE	Insignificant (-)	Insignificant (+)	Insignificant (+)
GMW RATIO	Insignificant (+)	Insignificant (-)	Insignificant (+)
COVID*POLICYRATE	Insignificant (+)	Insignificant (+)	Significant (-)
COVID*GMWRATIO	Insignificant (-)	Insignificant (-)	Insignificant (+)
EXRATE	Insignificant (-)	Significant (+)	Significant (-)
JCI	-	Insignificant (+)	-
YIELD	-	-	Insignificant (+)
VIX	-	-	Insignificant (+)
S&P500INDEX	-	-	Insignificant (+)
SHANGHAI_CI	-	-	Insignificant (+)

Source: Author Computation (2021)

Similar to CPI, the Covid Dummy does not have a significant influence on the three models above. It means that statistically COVID-19 does not greatly affect the changes that occur in the interbank money market (JIBOR), government bond yield (YIELD), and stock price index (JCI) during the research period, which distinguishes between the CPI and COVID-19 Dummy is in JCI variables that have a positive relationship, although not significant. The relationship between the CPI and the stock market index is not as significant as research conducted by Mok (1993), which states that profits or stock receipts have no significant effect on inflation. When inflation is still below 10 percent, it can still be accepted by the market. However, when it exceeds 10 percent it will disrupt the capital market. The results of this study which show that the CPI has no significant effect on the stock market index can be caused because the CPI level during the study period did not exceed 10 percent and does not interfere with the capital market (Kewal, 2012). Similarly, the results of research conducted by (Nugroho, 2013; Tobing, 2009; Della Maryanne, 2009; Lubis & Riyadi, 2013) stated that the CPI had no significant effect on the stock market index. In addition, research conducted by Limpanithiwat & Rungsombudpornkul, (2010), which shows the results that investors tend not to consider inflation because it is not a direct variable. In addition, investors who think about the long term are more concerned about the value of the company, so that inflation is not an important part in determining decisions. It is also supported by the fact that in March 2020, the Fed (Federal Reserve) conducted a policy of lowering its benchmark interest rate, a 0.5 basis point reduction in the target range for the federal funds rate, bringing the range to 1-1.25% due to the impact of the COVID-19 pandemic. The decline in interest and non-interest income of banks in the Southeast Asian region is also expected to slow. The ratio of cheap funds in Southeast Asia is in the range of 48 percent, and results in pressure on NIM as the benchmark interest rate cuts. The countries in Southeast Asia that have been the most affected by this policy are Thailand, Malaysia, and Singapore. Indonesia is also not spared the impact of this policy, although it is not too influential because many banks in Indonesia still have satisfactory income and large capital buffers with an average return on asset of banks in Indonesia around 2 percent and an average tier 1 ratio of 21.9 percent at the end of 2019. Dummy lockdown has a positive and significant influence on the interbank money market and the stock market index. This positive relationship shows that when the COVID-19 dummy rises, the stock market index will go up. This is not significant because actually the lockdown did not really affect the stock market but the increase in confirmed cases caused a negative reaction from the stock market (Khan et al., 2020). Investors tend to invest in countries that have low levels of economic problems, the lockdown itself causes sluggishness in the economy.

While for model variable 2, government yield bond, Dummy Lockdown has a negative and insignificant influence which means that when Lockdown increases, the bond yield will fall instead when Lockdown goes down then yield goes up. The Policy Rate is not significant for the interbank money market and stock market, but significant for the bond yield. This means that during the period of research, the policy rate affects the change in yield and a positive relationship means that when the policy rate increases, the yield will increase because when the interest rate is rising, the price of government bonds will fall. When policy rates increase, the yield on deposits and bonds becomes more attractive, as a result, many capital market investors choose to shift their stock portfolios. An increase in sales and a decrease in demand will reduce stock prices and vice versa (Prastowo, 2007). In addition, in the midst of the COVID-19 pandemic, the Indonesian bond market is supported by the dynamics of a supportive domestic market. When policy rate are low, bonds will be one of the choices or alternatives for investors to invest. The higher the demand for bonds.

After all, the expected profit rate or yield also rises. The GMW Ratio and COVID-19\*GMW Ratio do not significantly affect the interbank money market, the bond yield, and stock market. For COVID-19\*Policy rate does not have a significant effect on Models 1 and 2, but is significant to Model 3, namely, the stock market index.

Exchange Rate has a negative and insignificant effect on INTERBANK MONEY MARKET, while for BOND YIELD, Exchange Rate has a positive and significant effect. When a country's local currency depreciates or weakens against the US Dollar exchange rate, it will drive high interest rates which will then lower bond prices and increase yields. Research conducted by Gadanecz et al., (2018) states that when exchange rate volatility increases, investors need higher yield compensation. Likewise research in Rachmat Wibisono, (2010) which states that investors will demand higher yields when the Rupiah depreciates against the US Dollar.

This indicates that the change in bond yield during the research period was influenced by Indonesia's exchange rate which also depends on the state of the global economy, especially the Chinese economy and the monetary policy of the United States which makes the increasing receipt of owned by companies towards other countries. The last model with the JCI variable, is also influenced by the Exchange Rate because it has a negative and significant relationship. These results show that when the Exchange Rate decreases, then the JCI will rise. For investors, the movement of the Rupiah against the Dollar (IDR/USD) indicates the fundamental situation of the Indonesian economy. Therefore, when the value of the dollar increases, it shows that the rupiah is weakening and the Indonesian economy is not in a stable condition.

Next is the JCI variable, which is only tested on model 2 with a positive and insignificant effect on bond yield. Then in the 3rd model, the independent variables tested in this model are bond yield, vix, s&p500index, and shanghai ci where the four variables are not significant to JCI and have a positive influence. The Bond yield and jci did not affect each other during the research period. for the vix and s&p500index originating from the Americas, this positive influence means that when the vix and s&p500index rise, JCI tends to rise, as well as the numbers. When the vix and s&p500index go down, the stock market goes up while this is nothing to worry about because the vix and s&p500index do not have a significant influence on JCI. Lastly, the Shanghai stock index variable originating from China, the negative relationship between these two variables shows that there is competition between the two markets, so it is utilized by investors to diversify.

**Table 4. Monetary Policy Instruments in the Malaysian Case Model**

	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>
	<b>Interbank Money Market</b>	<b>Government bond yield</b>	<b>Malaysian Stock Index</b>
LOG_CPI	Insignificant (-)	Significant (+)	Insignificant (-)
COVID_DUMMY	Insignificant (-)	Insignificant (-)	Insignificant (-)
LOCKDOWN_DUMMY	Insignificant (-)	Significant (+)	Insignificant (-)
POLICYRATE	Significant (+)	Insignificant (-)	Insignificant (-)
GMWRATIO	Insignificant (-)	Significant (+)	Insignificant (-)
COVID*POLICYRATE	Insignificant (-)	Insignificant (-)	Insignificant (-)
COVID*GMWRATIO	Insignificant (-)	Significant (+)	Insignificant (-)
LOG_EXRATE	Insignificant (-)	Insignificant (-)	Insignificant (-)
LOG_BMINDEX	-	Significant (+)	Insignificant (-)
YIELD	-	-	Insignificant (-)

	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>
	<b>Interbank Money Market</b>	<b>Government bond yield</b>	<b>Malaysian Stock Index</b>
VIX	-	-	Insignificant (-)
S&P500INDEX	-	-	Insignificant (-)
SHANGHAI_CI	-	-	Insignificant (-)

Source: Author computation (2021)

Table 4 above presented three models with different variables, namely Model 1 has MMO variables, Model 2 has YIELD variables, and Model 3 has LOG variables BMINDEX. There are several variables that affect the three models above, including: CPI or Consumer Price Index. As can be seen in the table above, cpi only has a significant effect and is marked positively on the YIELD variable. The increase in consumer prices (CPI) makes the level of producer profits decrease. When the producer profits, the price of government bond securities decreases. If the price of government bonds decreases, the yield of government bonds will increase (Jurksas & Kropiene, 2015). This means that the CPI has a positive influence on yield changes. This indicates that when cpi rises, the yield will also go up, and vice versa, if the CPI goes down, then the yield will also fall. According to Tandelilin, (2010) an increase in the CPI can result in a decrease in the real value of bond interest income that will be obtained by investors. Therefore, when the CPI increases, investors tend to expect a higher yield value. With the risk that the real value of bond interest income will decrease, the demand for bonds will decrease, resulting in lower bond prices, while the value of bond yields will increase. The results of this study are in line with research conducted by (Saputra, Tiyas Ardian, 2014; Hsing, 2015; Gruber & Kamin, 2012; Bhat, Shanmugasundaram & Fahad, 2016) which states that when the CPI increases, bond yields will tend to increase as well. As for Model 1 and Model 3, the CPI has an insignificant effect and is marked negative to MMO and BMINDEX. These empirical results prove that at every MMO and BMINDEX change, the CPI has no significant influence on that change. This can be caused by changes in the CPI every time, indicating that the package of goods and services consumed by the public is experiencing movement. And the price of goods in Malaysia at the time of the COVID-19 pandemic did not increase completely because the government always tries to stabilize the prices. Furthermore, the COVID-19 Dummy variable, based on the table above, the number of people exposed to the COVID-19 virus has no significant effect on MMO, YIELD, and BMINDEX. This means that although the number of COVID-19 cases in Malaysia has increased or decreased, the condition has not caused significant changes in the three dependent variables. Dummy lockdowns have a positive and significant influence on YIELD. This positive relationship shows that when COVID-19 Dummy rises, yield will go up. At the time of the lockdown, the economy stalled, which made the profits of companies experience a decline, this led to a decrease in government bond prices, where when there was a decrease in bond prices it would cause an increase in bond yields. While for model variables 1 and 3, YIELD, Dummy Lockdown has a negative and insignificant influence which means that when Lockdown increases then MMO and BMINDEX will go down instead when Lockdown goes down then MMO and BMINDEX will rise. However, this is not significant.

The Policy Rate is not significant for YIELD and BMINDEX, but significant for MMO. This reflects that during the research period, the Policy Rate affects MMO changes. A positive relationship means that when the Policy Rate increases, the MMO will increase. Furthermore, the variables GMW Ratio and COVID\*GMW Ratio, both of these variables, have the same influence on all three models, namely positive and significant effect on YIELD and negative and insignificant effect on MMO and BMINDEX. The COVID\*POLICYRATE variable

negatively and insignificantly affects all three models. This indicates that the changes that occurred in MMO, YIELD, and BMINDEX during the study period were not affected by COVID\*POLICYRATE. Just like the previous variables, the LOG EXRATE or exchange rate also does not significantly affect the model in the table above. This reflects that the Malaysian currency exchange rate had no effect on the changes in MMO, YIELD, and BMINDEX during the observation period.

The next variable is the same variable as the third model, the Malaysian stock index. It has a positive and significant influence on yield changes. This indicates that yield changes during the research period are an influence of Malaysian stock index changes. If BMINDEX goes up, then the YIELD will also rise, and vice versa. YIELD, VIX, S&P500INDEX, and SHANGHAI\_CI in the table above are only tested on the third model, MALAYSIAN STOCK INDEX, where the results are the same, which has a positive and insignificant effect on BMINDEX.

## 5. CONCLUSIONS

Based on the results and discussions above, it can be concluded that COVID-19 has no effect on financial markets both in Indonesia and Malaysia. But at the time the lockdown was implemented in Malaysia, it had a significant influence on the Malaysian bond market. Furthermore, monetary policy with interest rate intrusion has a significant and negative influence on the stock price index in Indonesia, while in Malaysia it is the opposite. In contrast to monetary policy, with minimum mandatory current account instruments have a significant and positive influence on the Malaysian bond market, whereas in Indonesia they do not. It means that there is a difference in the dynamics of monetary policy on the path of interest rates and mandatory current accounts between Indonesia and Malaysia so as to have a different impact on their respective financial markets.

## REFERENCES

- Ali, M., Anwar, U., & Haseeb, M. (2021). The impact of covid-19 on islamic and conventional stocks in Indonesia: a wavelet-based study. *Bulletin of Monetary Economics and Banking*, 24(Special Issue), 15-32.
- Lubis, T. A., & Riyadi, A. (2013). Pengaruh inflasi, suku bunga, dan kurs terhadap indeks LQ45 di Bursa Efek Indonesia Priode 2007-2011. *Jurnal Dinamika Manajemen*, 1(3), 183-197.
- Baker, S. R., Bloom, N., Davis, S. J., Kost, K., Sammon, M. C., & Viratyosin, T. (2020). The Unprecedented Stock Market Impact of COVID-19. *Review of Corporate Finance Studies*.
- Barua, B., & Barua, S. (2021). COVID-19 implications for banks: evidence from an emerging economy. *SN Business & Economics*, 1(1), 1-28. <https://doi.org/10.1007/s43546-020-00013-w>
- Barua, S. (2020). Understanding Coronanomics: The Economic Implications of the Coronavirus (COVID-19) Pandemic. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3566477>
- Bhat, S., Shanmugasundaram, G., & Fahad, P. (2016). Impact of interest rate, exchange rate, and consumer price index on government bond returns of India. *Research Dimensions*, 3(2).
- Della Maryanne, D. M. (2009). *Pengaruh Nilai Tukar Rupiah, Suku Bunga SBI, Volume Perdagangan Saham, Inflasi, dan Beta Saham Terhadap Harga Saham (Studi Empiris Pada Perusahaan Sektor Perbankan Di Bursa Efek Indonesia Periode 2004 – 2007)*. Semarang: Universitas Diponegoro.

- Devi, S., Warasniasih, N. M. S., & Masdiantini, P. R. (2020). The Impact of COVID-19 Pandemic on the Financial Performance of Firms on the Indonesia Stock Exchange. *Journal of Economics, Business, & Accountancy Ventura*, 23(2), 226-242. <https://doi.org/10.14414/jebav.v23i2.2313>
- Djalante, R., Nurhidayah, L., Minh, H. Van, Thi, N., Phuong, N., Mahendradhata, Y., ... Ann, M. (2020). COVID-19 and ASEAN responses: Comparative policy analysis. *Progress in Disaster Science*, 8(January).
- Feranika, A., & Haryati, D. (2020). Strategi Kebijakan Fiskal Terhadap Output dan Inflasi pada Perekonomian Indonesia dalam Menghadapi Dampak Virus Covid 19. *Business Innovation and Entrepreneurship Journal*. <https://doi.org/10.35899/biej.v2i3.154>
- Gadanecz, B., Miyajima, K., & Shu, C. (2018). Emerging market local currency sovereign bond yields: The role of exchange rate risk. In *International Review of Economics and Finance*, 57 (474), <https://doi.org/10.1016/j.iref.2018.02.004>
- Gruber, J. W., & Kamin, S. B. (2012). Fiscal Positions and Government Bond Yields in OECD Countries. *Journal of Money, Credit and Banking*, 44(8), 1563-1587. <https://doi.org/10.1111/j.1538-4616.2012.00544.x>
- Habir, M. T., & Wardana, W. (2020). COVID-19's Impact on Indonesia's Economy and Financial Markets. *ISEAS Perspective*, (142), 1-13. Retrieved from <https://www.csis.org/programs/southeast-asia-program/southeast-asia-covid-19-tracker-0>
- Haldar, A., & Sethi, N. (2021). The news effect of Covid-19 on global financial. *Bulletin of Monetary Economics and Banking*, 24(Special Issue), 33-58.
- Hossain, M. (2021). The effect of the Covid-19 on sharing economy activities. *Journal of Cleaner Production*. <https://doi.org/10.1016/j.jclepro.2020.124782>
- Hsing, Y. (2015). Determinants of the Government Bond Yield in Spain: A Loanable Funds Model. *International Journal of Financial Studies*.
- Junaedi, D., & Norman, E. (2021). *Al-Kharaj : Jurnal Ekonomi , Keuangan & Bisnis Syariah Dampak Pandemi Covid-19 terhadap Stabilitas Moneter Indonesia Al-Kharaj : Jurnal Ekonomi, Keuangan & Bisnis Syariah*. 3(1), 17-36. <https://doi.org/10.47467/alkharaj.v3i1.149>
- Kewal, S. S. (2012). Pengaruh Inflasi, Suku Bunga, Kurs, dan Pertumbuhan PDB Terhadap Indeks Harga Saham Gabungan. *Sekolah Tinggi Ilmu Ekonomi Musi Palembang, Indonesia.*, 53-64.
- 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.
- Limpanithiwat, K., & Rungsombudpornkul, L. (2010). Relationship between Inflation and Stock Prices in Thailand. In *Unpublished master's thesis, University of Umeå, Umeå, Sweden*.
- Liu, W., Yue, X. G., & Tchounwou, P. B. (2020). Response to the covid-19 epidemic: The chinese experience and implications for other countries. *International Journal of Environmental Research and Public Health*. <https://doi.org/10.3390/IJERPH17072304>
- McKibbin, W. J., & Fernando, R. (2020). The Global Macroeconomic Impacts of COVID-19: Seven Scenarios. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3547729>
- Mok, H. M. (1993). Causality of interest rate, exchange rate and stock prices at stock market open and close in Hong Kong. *Asia Pacific Journal of Management*, 10(2), 123-143. <https://doi.org/10.1007/BF01734274>
- Naidenova, I., Parshakov, P., & Shakina, E. (2020). Idiosyncratic and Systematic Shocks of COVID-19 Pandemic on Financial Markets. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3574774>
- Nugroho, I. J. & T. (2013). Pengaruh Risiko Sistematis dan Faktor Fundamental Terhadap Return Saham Perusahaan Otomotif. *Jurnal Ilmu & Riset Manajemen*, 2(12), 1-22.
- Pak, A., Adegboye, O. A., Adekunle, A. I., Rahman, K. M., McBryde, E. S., & Eisen, D. P. (2020). Economic Consequences of the COVID-19 Outbreak: the Need for Epidemic Preparedness. *Frontiers in Public Health*, 8(May), 1-4. <https://doi.org/10.3389/fpubh.2020.00241>

- Phan, D. H. B., & Narayan, P. K. (2020). Country Responses and the Reaction of the Stock Market to COVID-19—a Preliminary Exposition. *Emerging Markets Finance and Trade*. <https://doi.org/10.1080/1540496X.2020.1784719>
- Prastowo, N. J. (2007). *Dampak BI Rate Terhadap Pasar Keuangan: Mengukur Signifikansi Respon Instrumen Pasar Keuangan Terhadap Kebijakan Moneter*.
- Rachmat Wibisono. (2010). *Pengaruh Variabel Makroekonomi Dan Kecepatan Penyesuaian Keseimbangan Dalam Memilih Obligasi Pemerintah Berdasarkan Tenor*. Jakarta. Skripsi Universitas Indonesia.
- Sahoo, P., & Ashwani. (2020). COVID-19 and Indian Economy: Impact on Growth, Manufacturing, Trade and MSME Sector. *Global Business Review*. <https://doi.org/10.1177/0972150920945687>
- Saputra, Tiyas Ardian, and P. (2014). Analisis faktor-faktor yang mempengaruhi yield obligasi konvensional di Indonesia (Studi Kasus Pada Perusahaan Listed di BEI). *Jurnal Studi Manajemen & Organisasi*, 67-77.
- Sarah, & Sulasmiyati. (2018). Pengaruh inflasi, ekspor dan tenaga kerja terhadap Produk Domestik Bruto (Malaysia, Singapura, dan Thailand). *Jurnal Administrasi Bisnis (JAB)*, 63(1), 8-16. <http://administrasibisnis.studentjournal.ub.ac.id/index.php/jab/article/view/2694>
- Saunders, M. J., & Evans, C. A. (2020). COVID-19, tuberculosis and poverty: Preventing a perfect storm. *European Respiratory Journal*. <https://doi.org/10.1183/13993003.01348-2020>
- Seelye, N., & Ziegler, P. W. (2020). *Impacts of COVID-19 on Banking*. Search (Vol. 20).
- Song, L., & Zhou, Y. (2020). The COVID-19 Pandemic and Its Impact on the Global Economy: What Does It Take to Turn Crisis into Opportunity? *China and World Economy*. <https://doi.org/10.1111/cwe.12349>
- Sugandi, E. A. (2020). *Indonesia's Financial Markets and Monetary Policy Dynamics amid the Covid-19 Pandemic* (ADB Working Paper Series INDONESIA'S).
- Suryahadi, A., Al Izzati, R., & Suryadarma, D. (2020). *The Impact of COVID-19 Outbreak on Poverty: An Estimation for Indonesia (Draft)*. SMERU Working Paper (Vol. April). Retrieved from <http://smeru.or.id/en/content/impact-covid-19-outbreak-poverty-estimation-indonesia>
- Susilawati, S., Falefi, R., & Purwoko, A. (2020). Impact of COVID-19's Pandemic on the Economy of Indonesia. *Budapest International Research and Critics Institute (BIRCI-Journal): Humanities and Social Sciences*. <https://doi.org/10.33258/birci.v3i2.954>
- Tahajuddin, S., & Sulaiman, N. N. (2021). Malaysian Government Choice of Fiscal and Monetary Policies during Covid-19 Pandemic: Preliminary Insight. *International Journal of Advances in Engineering and Management (IJAEM)*, 3(1), 248-253. <https://doi.org/10.35629/5252-0301248253>
- Tandelilin, E. (2010). *Portofolio dan Investasi (Teori dan Aplikasi)* (Pertama). Kanisius.
- Tobing, R. L. (2009). *Pengaruh Nilai Tukar, Inflasi dan Suku Bunga Sertifikat Bank Indonesia Terhadap Pergerakan Indeks Harga Saham Gabungan di Bursa Efek Indonesia Periode 2004-2008*.
- UNCTAD. (2020). Impact of the COVID-19 pandemic on trade and development. United Nations.
- World Bank. (2020). The Global Economic Outlook During the COVID-19 Pandemic: A Changed World.
- Yarovaya, L., Brzeszczyński, J., Goodell, J. W., Lucey, B., & Lau, C. K. M. (2022). Rethinking financial contagion: information transmission mechanism during the COVID-19 pandemic. *Journal of International Financial Markets, Institutions and Money*, 101589.
- Zhang, D., Hu, M., & Ji, Q. (2020). Financial markets under the global pandemic of COVID-19. *Finance Research Letters*. <https://doi.org/10.1016/j.frl.2020.101528>