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The Impact of the Covid-19 Pandemic and Macroeconomics on the Sharia Stock Indexes in Indonesia

Dampak Pandemi Covid-19 dan Makro Ekonomi Terhadap Indeks Saham Syariah di Indonesia

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ABSTRACT

The Covid-19 pandemic has changed economic conditions in various countries, including Indonesia. One of the sectors affected is the capital market sector which can also describe the economic condition of a country through the stock index. This article aimed to analyze the impact of Covid-19 and the macroeconomics on the Islamic stock index in Indonesia (ISSI and JII). Macroeconomic variables are included in the model as an update. This study used a quantitative method using the VECM model. Research variable data were obtained from investing websites (ISSI and JII), Indonesian covid-19 task force websites (Covid-19 Cases), Statistics Indonesia (BPS),and BI (BI Rate, Inflation, Exchange rates, etc.) from March 2020 to December 2022. Based on the research results, covid-19 and the macroeconomics have no effect on the sharia stock index in Indonesia, except for the BI Rate. This is due to the fairly tight fundamental selection of constituent issuers of the Islamic stock index, the speed and accuracy of Covid-19 control and the massive education. This result has implications for the selection of investors in stocks that are included in the Islamic stock index in Indonesia, because it is proven that ISSI and JII are quite immune to the Covid-19 pandemic.

Keywords: Islamic Stock, ISSI, JII, Covid-19 Pandemic, Macroeconomic.

ABSTRAK

Pandemi covid-19 telah merubah kondisi perekonomian di berbagai Negara, termasuk Indonesia. Salah satu sektor yang terdampak adalah sektor pasar modal yang juga dapat menggambarkan kondisi perekonomian suatu Negara melalu indeks saham. Artikel ini bertujuan untuk menganalisis dampak covid-19 dan makro ekonomi terhadap indeks saham syariah di Indonesia (ISSI dan JII). Variabel ekonomi makro yang dimasukkan ke dalam model sebagai pembaharuan, karena indeks saham dapat mencerminkan kondisi ekonomi suatu Negara. Penelitian ini menggunakan metode kuantitatif dengan menggunakan model VECM. Data variabel penelitian diperoleh dari website investing (ISSI dan JII), website satgas covid-19 Indonesia (Total Kasus Covid-19), BPS (BI Rate, Inflasi) dan BI (Kurs, Cadangan Devisa, Jumlah Uang yang Beredar) dari bulan Maret 2020 sampai dengan Desember 2022. Hasilnya pandemi covid-19 dan makro economi tidak berpengaruh terhadap indeks saham syariah di Indonesia, kecuali BI Rate. Hal tersebut dikarenakan cukup ketatnya seleksi fundamental emiten konstituen indeks saham syariah, kecepatan dan ketepatan pengendalian covid-19 serta edukasi pasar modal syariah yang masif. Hasil ini berimplikasi pada pemilihan investor pada saham-saham yang masuk ke dalam indeks saham syariah di Indonesia, karena terbukti bahwa ISSI dan JII cukup kebal dengan adanya pandemi covid-19.

Kata Kunci: Saham Syariah, ISSI, JII, Pandemi Covid-19, Makro Ekonomi

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I. INTRODUCTION

The Covid-19 pandemic has hit Indonesia for approximately 2 years. Various sectors have been affected, especially the economic and financial sectors. At the beginning of the pandemic, millions of Indonesians were exposed to the covid-19 virus. This made the government have to limit community activities related to gatherings or crowds outside the home. Starting from office activities to activities in educational and recreational environments. The restrictions on community activities that have been in place for approximately two years have had an impact on the economy in Indonesia.

Some of Indonesia's macroeconomic indicators have undergone significant changes (table 1). Indonesia's inflation during 2021 was around 1.87% (yoy). This figure is still below the inflation target range of 3.0% ± 1.0%. Meanwhile, Indonesia's GDP or Gross Domestic Product (GDP) per capita stands at IDR62.2 million (US$4,349.5). In addition, the amount of money in circulation amounted to IDR7,867.1 trillion or grew by 13.9% yoy. Indonesia's foreign exchange reserves amounted to USD 144.9 billion. Although down from the previous month, the foreign exchange reserves are still able to finance 8 months of imports or 7.8 months of imports and servicing of government external debt. This amount is still above the international adequacy standard of around 3 months of imports. Bank Indonesia considers that the foreign exchange reserves are able to support external sector resilience and maintain macroeconomic and financial system stability (BI, 2022).

Table 1. Indonesia Macroeconomic Data in 2021

Indicator	2021
CPI Inflation (yoy)	1,87%
GDP per Capita	IDR 62.236.441 (US$4.349,5)
GDP	US$1.150,25 Billion
GDP at current prices 2021	IDR 16.970,8 trillion
Money in Circulation	IDR 7.867,1 trillion (+13,9% yoy)
Foreign Exchange Reserves	USD144,9 Billion
BI Rate	3,50%

Source: BI (2021); BPS (2021)

The capital market sector was one of the many sectors that were impacted during the COVID-19 pandemic. The Composite Stock Price Index (JCI) touched its lowest position at Rp3,911.7. Apart from the JCI, the Indonesia Sharia Stock Index (ISSI) and the Jakarta Islamic Index (JII) also hit their lows during covid-19, namely IDR114.41 (ISSI) and IDR381.63 (JII) since March 2020. The condition of the Indonesian capital market is inversely proportional to the condition of investment in Indonesia during the covid-19 pandemic. Based on Statistics Indonesia data (2022), Indonesia's investment conditions during the covid-19 pandemic have increased year on year (yoy).

Table 2. Investment Condition in Indonesia During the Covid-19 Pandemic

Year	Investment Amount (Billion Rupiah)
2020	Rp413.535,5
2021	Rp447.063,6
2022	Rp552.769,0

Source: BPS (2021)

In this study, the authors used ISSI and JII as the variables used in the study. ISSI and JII were chosen because the two Islamic stock indices are often used as a reference by investment managers and Islamic investors in various Islamic products in the capital market, especially mutual funds. In addition to the Islamic stock index, an additional variable included is the macroeconomy as a description of Indonesia's economic conditions during the Covid-19 pandemic. Ahyar & Yasin (2023) and also Tandelilin (2013) stated that the stock index can be a picture of economic conditions in a country.

Research conducted by Ganar et al., (2020) dan Saputro (2020) stated that the covid-19 pandemic has an impact on the Islamic stock index in Indonesia. However, this statement is different from the results of research conducted Siregar (2020) and Suryaputri & Kurniawati (2020). They stated that the covid-19 pandemic had no effect on the movement of the Islamic stock index in Indonesia. The results of the research they conducted contradict each other, thus creating a research gap which is the background for researchers to raise this theme. Does the covid-19 pandemic and macroeconomic conditions during the covid-19 period affect the Islamic stock index in Indonesia? This study aimed to analyze the impact of the covid-19 pandemic and macroeconomics on Islamic stock indices in Indonesia, namely ISSI and JII.

Based on this, there are differences between the data and research statements that contradict each other between the results of research conducted by Ganar et al., (2020) and Saputro (2020) with research

conducted by Siregar (2020) and Suryaputri & Kurniawati (2020). In addition, there are still few previous studies that involve macroeconomic variables in their research. Indonesia, which is one of the countries with the largest Muslim population in the world, is an important position for the development of Islamic capital markets in the world. This is evidenced by the acquisition of an award at the Global Islamic Finance Award (GIFA) in the category of The Best Islamic Capital Market for the last few years. Therefore, the focus of this research is to further explore the impact of the Covid-19 pandemic on the Islamic capital market in Indonesia.

II. LITERATURE REVIEW

The covid-19 pandemic is a virus that can be transmitted from one human to another. The covid-19 virus was officially announced to enter Indonesia in March 2020. Since then Indonesia has officially required the use of masks to the public, especially when doing activities outside the home. The wider the spread of the covid-19 virus in Indonesia, the government carried out Large Scale Social Restrictions (PSBB) which later turned into PPKM. The spread of the covid-19 virus in Indonesia and the implementation of PSBB resulted in all community activities being disrupted. This also has an impact on important sectors, such as the economy, education, community services and so on.

Investment in the Capital Market

Investment can be interpreted as an action or behavior to delay current spending for future purposes (Ahyar & Yasin, 2023). The main purpose of investment is to increase or develop assets owned. The forms of investment at this time are very diverse, due to the times and massive innovation. One that is currently developing is financial asset investment. One of the investment models in financial assets is through the capital market.

The various forms of investment that are carried out basically have the same goal, namely making the assets owned more productive. There are several motives that cause a person to invest, namely to get a decent life in the future, reduce inflationary pressures and as an effort to save taxes (Hery, 2021b; Kholipah & Kurniasih, 2017; OJK, 2016). In addition, there are several things that need to be done when investing, namely determining investment policies, analyzing securities, forming portfolios, revising portfolios, and evaluating portfolios.

The capital market can be seen from two different sides, namely from the issuer / actor side and also from the public / investor side. When viewed from the side of the issuer/industry players, the capital market can be interpreted as a forum for companies/issuers or the government to seek additional capital and to finance an activity/project. In addition, when viewed from the public/investor side, the capital market can be interpreted as a place for investors to invest. The Islamic capital market has several instruments that can be used by the public to invest, namely Islamic stocks, Islamic mutual funds, sukuk, Islamic ETFs and so on.

Islamic stocks

Sharia stocks are securities in the form of proof of individual or group ownership of companies that fall into the sharia category. According to Abdalloh (2018) and Puspitasari (2018), sharia stocks are securities in the form of proof of ownership of companies that comply with sharia criteria. Stocks that fall into the sharia category must pass several screenings first, so that later the shares will become constituents of the Sharia Securities List or abbreviated as DES (Abdalloh, 2018; Amsi, 2022). Based on the rules set by OJK together with DSN-MUI, there are several conditions that must be met in order for a stock to become a DES constituent. The Sharia Securities List (DES) will be published by the Financial Services Authority (OJK) twice a year, in May and December (Abdalloh, 2018).

The benchmark for the movement of Islamic stocks can be seen through the Islamic stock index. Indonesia has at least 4 Islamic stock indices, namely ISSI, JII, JII70 and IDX-MES SOE 17. ISSI is an Islamic stock index that contains shares of companies that have been listed on the IDX and fall into the sharia category based on the screening results of the Sharia Securities List (DES). Unlike the ISSI, the JII is an Islamic stock index containing 30 Islamic stocks with the largest capitalization value and the most liquid in the ISSI. If the JII is only 30 Islamic stocks, then the JII70 is 70 Islamic stocks whose market capitalization value is the largest and most liquid in ISSI. The latest sharia stock index owned by the Indonesia Stock Exchange is IDXMESBUMN. IDXMESBUMN is a sharia index formed as a result of cooperation between the Indonesia Stock Exchange and the Sharia Economic Society (MES). This sharia index measures the share price performance of 17 sharia stocks which are state-owned companies and their affiliates that have good liquidity and large capitalization value and are supported

by good company fundamental performance.

The capital market sector is one that was also affected during the covid-19 pandemic (Lathifah et al., 2021). Siregar (2020) stated in his research that on average, the conventional stock index (JCI and LQ45) decreased during the pandemic. Not only conventional stocks, but the Islamic stock index has also decreased during the pandemic (Alawiyah & Setiyaningsih, 2021; Ganar et al., 2020; Saputro, 2020). Shocks to the Islamic stock index due to the pandemic have also occurred in the global Islamic stock index (Abdullahi, 2021; Adediran et al., 2022; Hasan et al., 2021). According to Abdullahi (2021), the movement of the Islamic stock index during a crisis is the same as that of the conventional stock index. The entire stock market is affected by the crisis in terms of trading volatility and other linkages affected by the covid-19 pandemic.

H1: The Number of Covid-19 Cases Has an Influence on the Movement of the Sharia Stock Index in Indonesia

Macroeconomics

The capital market is a place where buying and selling transactions are carried out in instruments called securities in the form of securities such as stocks, bonds, mutual funds and various other derivatives. The stock exchange is a system in the capital market that functions as a means of meeting sellers and buyers of securities either directly or indirectly (Rorizki et al., 2022). Price movements in the capital market are very dynamic and depend on the economic situation of a country (Tandelilin, 2013). This is often taken into consideration by investors in making a decision when investing in the capital market.

There are various variables that measure the macroeconomy of a country. However, explicitly the variables that have an influence on price fluctuations in the capital market include interest rates, foreign exchange rates, international economic conditions, a country's economic cycle, inflation rates, tax regulations, and the amount of money in circulation (Samsul, 2008). There are several studies that examine these macroeconomic variables including exchange rates, interest rates, inflation, foreign exchange reserves, and money supply variables that have inconsistent conclusions with each other. The exchange rate is a value that shows the value of a country's currency expressed in the value of another country's currency (Sukirno, 2013). The exchange rate variable studied by Waryati & Solaiman (2022) and also Hamzah et al., (2021) stated that there was a significant effect on stock price fluctuations in the capital market. Meanwhile, Elfiswandi & Hendri (2021) stated that it has no effect on stock prices in the capital market.

H2: The Exchange Rate Has an Influence on the Movement of the Sharia Stock Index in Indonesia

In addition to the currency exchange rate, the benchmark interest rate is a macroeconomic indicator that is no less important. The benchmark interest rate is a cost burden in percentage units which is a reference for banks in setting the cost of borrowing money for a certain period of time (Febrina et al., 2018; Prastio & Muhani, 2022; Sukirno, 2013). The interest rate variable studied by Waryati & Solaiman (2022) and also Hamzah et al., (2021) stated that there was a significant effect on stock price fluctuations in the capital market. The opposite statement occurred in research conducted by Febrina et al., (2018). The results of his research indicate that there is no significant effect on stock price fluctuations originating from interest rates.

H3: Interest Rate (BI Rate) Has an Influence on the Movement of the Islamic Stock Index in Indonesia

Inflation is a macroeconomic indicator that is most often discussed in society. According to Sukirno (2013), inflation is a continuous increase in the price of goods and services that has an impact on other prices. The inflation variable studied by Elfiswandi & Hendri (2021) and also Wibowo & Aminda (2021) stated that there is a significant effect on stock price fluctuations in the capital market. Research conducted by Waryati & Solaiman (2022) has different results. Waryati & Solaiman (2022) in their research results state that inflation has no significant effect on stock price fluctuations.

H4: Inflation Has an Influence on the Movement of the Sharia Stock Index in Indonesia

According to Boediono (2018), circulating money is all the currency and demand deposits that are available for use by the public. This meaning is the narrow meaning of money supply or commonly known as M1. In addition, according to Sukirno (2013), money in circulation is all types of money in the economy or it can also be called the entire amount of currency in circulation plus demand deposits in the banking system. The money supply variable studied by Elfiswandi & Hendri (2021) and also Wibowo & Aminda (2021) stated that there was a significant influence on stock price fluctuations in the capital market. Conversely, research conducted by Febrina et al., (2018) states that the money supply

does not have a significant effect on stock price fluctuations. Unlike the case with the foreign exchange reserve variable where there is consistency in the research results of several researchers. The foreign exchange reserve variable has the same results in several studies (Elfiswandi & Hendri, 2021; Fikri & Anis, 2019; Rizki, 2021). The results of the three studies stated that there is a significant effect on foreign exchange reserves on stock price fluctuations in the capital market.

H5: The Amount of Money in Circulation Has an Influence on the Movement of the Islamic Stock Index in Indonesia

In general, the stock price index in a country can be a picture of the economic conditions in a country (Abdalloh, 2018; Ahyar & Yasin, 2023; Hery, 2021a). This is also reflected in the movement of the stock price index which will react when the monetary authority (Bank Indonesia), the Statistics Indonesia (BPS) and other authorized institutions when submitting data releases. Various forms of movement reactions will occur as investors' response to the data release. Therefore, it is necessary to study the impact of the covid-19 pandemic on the macro economy in Indonesia and the movement of Islamic stocks in Indonesia.

III. RESEARCH METHODS

This study used quantitative methods using secondary data. The data used in the research were obtained from various sources. Sharia stock index data were obtained from the investing website (www.investing.com), while Indonesia's macroeconomic data were obtained from the Statistics Indonesia (BPS) website (www.bps.go.id). Covid-19 daily case data was obtained from the Indonesian covid-19 task force website (www.covid19.go.id). The data period used in this study started from March 2020 to December 2022 on a monthly basis. All of the data was processed using the EViews 12 analysis tool.

The analytical model used in this study was Vector Autoregression (VAR). Vector autoregression is a regression model that can be used using two dependent variables (Hakim, 2017). This regression model was selected because the data used by the author was time series data. This model was used in order to capture the phenomena between the variables used in the research properly (Widarjono, 2018). In addition, this model was used since the results can analyze short-term and long-term relationships (Romadhon & Mutmainah, 2023).

The analysis phase started from the data stationarity test, then the optimal lag test, and the model test. If there are several variables that are stationary in the differentiation category and cointegration occurs, then the model used is the VECM. The VAR model can transform into a Restricted VAR or Vector Error Correction Model (VECM) as a result of data used in stationary analysis in data differentiation and cointegration occurs. The VAR model equation used in this study can be written as follows (Gujarati et al., 2013):

$$M_{1t} = \alpha + \sum_{j=1}^{k} \beta_j M_{t-j} + \sum_{j=1}^{k} \gamma_j R_{t-j} + u_{1t} \quad (1)$$

This equation can also be written as follows (Widarjono, 2018):

$$Y_{nt} = \beta_0 + \sum_i^p = 1\beta_i Y_{nt-i} + \sum_i^p = 1\alpha_i Y_{nt-i} + \sum_i^p = 1\gamma_i Y_{nt-i} + e_{nt} \quad (2)$$

$$Y_{1t} = \beta_0 + \sum_i^p = 1\,\beta_i Y_{1t-i} + \sum_i^p = 1\ \alpha_i Y_{2t-i} + \sum_i^p = 1\ \gamma_i Y_{3t-i} + \sum_i^p = 1\ \gamma_i Y_{4t-i} + \sum_i^p = 1\ \gamma_i Y_{5t-i} + \sum_i^p = 1\,\gamma_i Y_{6t-i} + \sum_i^p = 1\,\gamma_i Y_{7t-i} + \sum_i^p = 1\,\gamma_i Y_{8t-i} + e_{1t} \quad (3)$$

$$Y_{2t} = \beta_0 + \sum_i^p = 1\,\beta_i Y_{1t-i} + \sum_i^p = 1\ \alpha_i Y_{2t-i} + \sum_i^p = 1\ \gamma_i Y_{3t-i} + \sum_i^p = 1\ \gamma_i Y_{4t-i} + \sum_i^p = 1\ \gamma_i Y_{5t-i} + \sum_i^p = 1\,\gamma_i Y_{6t-i} + \sum_i^p = 1\,\gamma_i Y_{7t-i} + \sum_i^p = 1\,\gamma_i Y_{8t-i} + e_{2t} \quad (4)$$

$$Y_{3t} = \beta_0 + \sum_i^p = 1\,\beta_i Y_{1t-i} + \sum_i^p = 1\,\alpha_i Y_{2t-i} + \sum_i^p = 1\ \gamma_i Y_{3t-i} + \sum_i^p = 1\ \gamma_i Y_{4t-i} + \sum_i^p = 1\ \gamma_i Y_{5t-i} + \sum_i^p = 1\,\gamma_i Y_{6t-i} + \sum_i^p = 1\,\gamma_i Y_{7t-i} + \sum_i^p = 1\,\gamma_i Y_{8t-i} + e_{3t} \quad (5)$$

$$Y_{4t} = \beta_0 + \sum_i^p = 1\,\beta_i Y_{1t-i} + \sum_i^p = 1\,\alpha_i Y_{2t-i} + \sum_i^p = 1\ \gamma_i Y_{3t-i} + \sum_i^p = 1\ \gamma_i Y_{4t-i} + \sum_i^p = 1\ \gamma_i Y_{5t-i} + \sum_i^p = 1\,\gamma_i Y_{6t-i} + \sum_i^p = 1\,\gamma_i Y_{7t-i} + \sum_i^p = 1\,\gamma_i Y_{8t-i} + e_{4t} \quad (6)$$

$$Y_{5t} = \beta_0 + \sum_i^p = 1\,\beta_i Y_{1t-i} + \sum_i^p = 1\,\alpha_i Y_{2t-i} + \sum_i^p = 1\ \gamma_i Y_{3t-i} + \sum_i^p = 1\ \gamma_i Y_{4t-i} + \sum_i^p = 1\ \gamma_i Y_{5t-i} + \sum_i^p = 1\,\gamma_i Y_{6t-i} + \sum_i^p = 1\,\gamma_i Y_{7t-i} + \sum_i^p = 1\,\gamma_i Y_{8t-i} + e_{5t} \quad (7)$$

$$Y_{6t} = \beta_0 + \sum_i^p = 1\,\beta_i Y_{1t-i} + \sum_i^p = 1\,\alpha_i Y_{2t-i} + \sum_i^p = 1\ \gamma_i Y_{3t-i} + \sum_i^p = 1\ \gamma_i Y_{4t-i} + \sum_i^p = 1\ \gamma_i Y_{5t-i} + \sum_i^p = 1\,\gamma_i Y_{6t-i} + \sum_i^p = 1\,\gamma_i Y_{7t-i} + \sum_i^p = 1\,\gamma_i Y_{8t-i} + e_{6t} \quad (8)$$

$$Y_{7t} = \beta_0 + \sum_i^p = 1\,\beta_i Y_{1t-i} + \sum_i^p = 1\,\alpha_i Y_{2t-i} + \sum_i^p = 1\ \gamma_i Y_{3t-i} + \sum_i^p = 1\ \gamma_i Y_{4t-i} + \sum_i^p =$$

$$1\ \gamma_i\ Y_{5t-i} + \sum_i^p = 1\,\gamma_i\ Y_{6t-i} + \sum_i^p = 1\,\gamma_i\ Y_{7t-i} + \sum_i^p = 1\,\gamma_i\ Y_{8t-i} + e_{7t} \quad (9)$$

$$Y_{8t} = \beta_0 + \sum_i^p = 1\,\beta_i Y_{1t-i} + \sum_i^p = 1\,\alpha_i\ Y_{2t-i} + \sum_i^p = 1\ \gamma_i\ Y_{3t-i} + \sum_i^p = 1\ \gamma_i\ Y_{4t-i} + \sum_i^p = 1\ \gamma_i\ Y_{5t-i} + \sum_i^p = 1\,\gamma_i\ Y_{6t-i} + \sum_i^p = 1\,\gamma_i\ Y_{7t-i} + \sum_i^p = 1\,\gamma_i\ Y_{8t-i} + e_{8t} \quad (10)$$

Description:
Y1 = Total Covid-19 Cases
Y2 = ISSI
Y3 = JII
Y4 = Inflation
Y5 = Interest Rate (BI Rate)
Y6 = Rates
Y7 = Foreign Exchange Reserves
Y8 = Money in circulation

IV. RESULTS AND DISCUSSION

Results

The data stationarity test will determine the VAR model to be used in the study. Based on the results of the data stationarity test, it was found that the variables used in this study were on average stationary in the first difference category, using either the Augmented Dicky Fuller (ADF) method or using Phillips Perron (PP). Data can be said to be stationary if the probability value is below the critical value (1%, 5%, 10%). Because the majority of research variables are stationary in the differentiation category, it is necessary to proceed with the cointegration test to see the relationship between variables. Table 3 shows the results of the data stationarity test. Based on these test results, it can be concluded that the data used in the stationary research are in the differentiation category.

Table 3. Data Stationarity Test Results

	Augmented Dicky Fuller (ADF)			Phillips Perron (PP)		
	Level	1st Difference	2nd Difference	Level	1st Difference	2nd Difference
ISSI	0.1483	0.0002*		0.1241	0.0001*	
JII	0.1342	0.0002*		0.1342	0.0001*	
Total Covid-19 Cases	0.2444	0.0212*		0.4518	0.0803*	0.0000*
BI Rate	0.9993	0.1056	0.0003*	1.0000	0.1313	0.0000*
Inflation	0.0000*	0.0000*		0.0000*	0.0000*	
Rates	0.0099*	0.0001*		0.0151*	0.0000*	
Foreign Exchange Reserves	0.2081	0.0062*		0.2163	0.0063*	
Money in circulation	0.1355	0.0000*		0.1329	0.0000*	

Table 4. Cointegration Test Results

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.912381	229.5451	159.5297	0.0000*
At most 1 *	0.793855	151.6330	125.6154	0.0005*
At most 2 *	0.639133	101.0995	95.75366	0.0204*
At most 3	0.545107	68.48362	69.81889	0.0636
At most 4	0.476871	43.27745	47.85613	0.1260
At most 5	0.336400	22.54376	29.79707	0.2692
At most 6	0.248518	9.421322	15.49471	0.3278
At most 7	0.008670	0.278647	3.841465	0.5976

Trace test indicates 3 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized		Max-Eigen	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.912381	77.91206	52.36261	0.0000*
At most 1 *	0.793855	50.53355	46.23142	0.0163*
At most 2	0.639133	32.61588	40.07757	0.2705
At most 3	0.545107	25.20616	33.87687	0.3712
At most 4	0.476871	20.73369	27.58434	0.2926
At most 5	0.336400	13.12244	21.13162	0.4410
At most 6	0.248518	9.142675	14.26460	0.2745
At most 7	0.008670	0.278647	3.841465	0.5976

Max-eigenvalue test indicates 2 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Cointegration test is needed to see the relationship between variables and determine the analysis model used (VAR differential form or VECM) (Hakim, 2017; Widarjono, 2018). Table 4 is the result of the cointegration test processed using E-Views 12. Based on the results of the cointegration test, it is known that the probability value that has an asterisk (*) was below 5% (0.05), so it can be said that there is cointegration in the research data. Due to the cointegration in the data, the model used is the Vector Error Correction Model (VECM).

Table 5. Long-Term Regression Results

Cointegrating Eq:	CointEq1
ISSI(-1)	1.000000
JII(-1)	[-12.1022]*
Total Covid-19 Cases (-1)	[0.27796]
Inflation(-1)	[9.80401]*
BI Rate(-1)	[-1.06929]
Rates (-1)	[4.77335]*
Foreign Exchange Reserves (-1)	[3.92730]*
Money in circulation (-1)	[-9.03927]*
C	-6.337234

Table 5 is the result of the long-term VECM test. Based on table 5, there are several variables that have a significant effect in the long term, namely the JII, Inflation, Exchange Rate, Foreign Exchange Reserves and Total Money in Circulation. This indicates that variables that have an asterisk (*) in the long run have a significant effect in the study.

Table 6. VECM Estimation Results of ISSI Equation

D(ISSI(-1))							
D(ISSI)	D(JII)	D(Total Covid-19 Cases)	D(Inflation)	D(*BI Rate*)	D(Rate)	D(Foreign Exchange Reserves)	D (Money in circulation)
-0.75794	-0.83082	1.20725	-0.12243	-2.46994*	-0.71843	0.92191	-0.88323

Table 6 above is the result of short-term VECM estimation in the ISSI equation. Based on the t test, there is only 1 variable that affects the ISSI variable, namely the BI Rate. Likewise, in the JII equation in table 7 below which is the short-term estimation result. In the table, the VECM estimation result states that the variable that has a significant influence is only the BI Rate variable. Based on these two tables, in the short term, the only variable that has a significant influence on the movement of the Islamic stock index is the BI rate.

Table 7. VECM Estimation Results of JII Equation

D(JII(-1))							
D(ISSI)	D(JII)	D(Total Covid-19 Cases)	D(Inflation)	D(BI Rate)	D(Rate)	D(Foreign Exchange Reserve)	D(Money in circulation)
0.38487	0.74474	-1.36477	-0.84596	2.64950*	0.52142	-0.63059	1.10565

Table 8. VECM Estimation Results

Equation	Variable							
	D(ISSI)	D(JII)	D(Total Covid-19 Cases)	D(Inflation)	D(BI Rate)	D(Rate)	D(Foreign Exchange Reserve)	D(Money in circulation)
D(Total Covid-19 Cases(-1))	1.03992	1.32676	1.91481	0.66072	0.07298	-0.58937	0.79626	0.16221
D(Inflation(-1))	1.54023	0.52691	-1.57807	0.43009	0.43936	1.20408	-0.63556]	0.86729
D(BI Rate(-1))	-0.65193	-0.49516	0.63510	-2.40319	3.30251	-0.64029	0.66676	0.60158
D(Rate(-1))	-0.61794	-0.33861	0.23765	-2.43073	1.08493	0.58274	-0.20673]	0.69448
D(Foreign Exchange Reserve(-1))	-0.13900	-1.14259	-1.39901	1.84651	-0.56550	-0.07154	0.80923	1.32811
D(Money in circulation(-1))	-0.71683	-0.49677	-1.25530	0.42334	-0.47747	-0.73362	-0.66703	-1.71486

Table 8 is the result of VECM estimation on other equations, outside ISSI and JII. Based on the estimation results, it is known that other variables that have an influence on other equations are inflation and exchange rates. Each variable has an influence on the equation of D(*BI Rate*(-1)) and D(Rate(-1)).

Impulse response is one of the analytical techniques used to help interpret the VECM estimation results. This impulse response technique can be used to see or track the response of endogenous variables in the VAR/VECM system caused by changes in the disturbance variable (e). In this article, the impulse response method used was graphical.

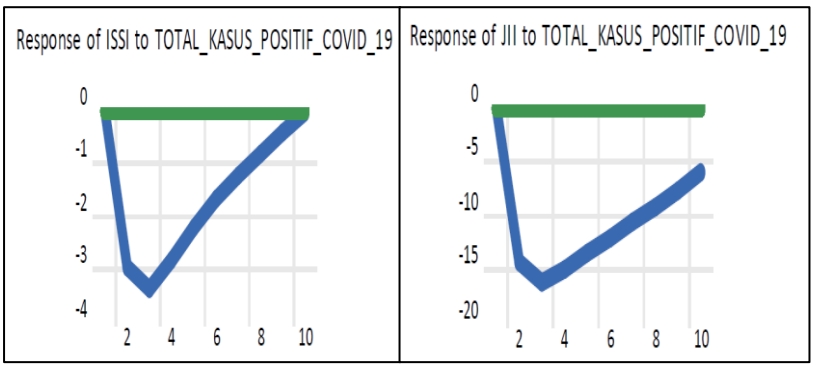

Figure 1. ISSI and JII Movement Response to Positive Covid-19 Cases

Figure 1 (left) shows the response of the Indonesian Sharia Stock Index (ISSI) to the shock that occurred in the positive covid 19 case. Based on the figure, it can be seen that the ISSI experienced a shock that occurred due to the positive covid-19 case. This can be seen from the line that moves away from the equilibrium point until the third period. In the fourth period to the tenth period, the ISSI movement experienced a recovery as seen from the line moving to the equilibrium point.

Figure 1 (right) shows the response of the Jakarta Islamic Index (JII) to the shock that occurred in the positive case of covid 19. Based on the figure, it can be seen that the JII experienced shocks that occurred due to the positive covid-19 case. This can be seen from the line that moves away from the equilibrium point until the third period. In the fourth period until the tenth period, the movement of the JII experienced a recovery as seen from the line moving towards the equilibrium point.

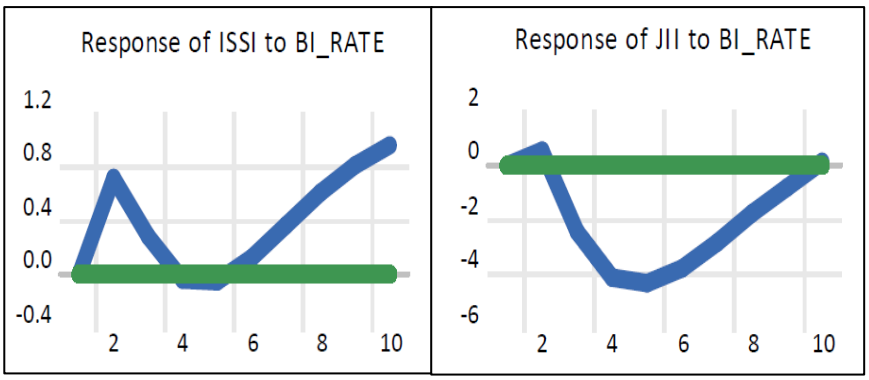

Figure 2. ISSI and JII Movement Response to BI Rate

Figure 2 (left) shows the response of the Indonesian Sharia Stock Index (ISSI) to shocks that occur in the macroeconomic variable BI benchmark interest rate. Based on the figure, it can be seen that the ISSI experienced shocks that occurred due to the BI benchmark interest rate that fluctuated. This can be seen from the line that moves away from the equilibrium point until the second period. In the second period, the ISSI movement began to approach the equilibrium point and in the fourth period the ISSI movement entered the equilibrium point until the fifth period. This is a sign that the ISSI movement is experiencing recovery. The ISSI movement moved away from the equilibrium point again in the fifth period until the tenth period.

Figure 2 (right) shows the response of the Jakarta Islamic Index (JII) to a shock that occurs on the macroeconomic variable BI benchmark interest rate. Based on the figure, it can be seen that the JII experienced shocks that occurred due to fluctuations in the BI benchmark interest rate. This can be seen from the line that moves away from the equilibrium point until the fifth period. In the sixth period, the movement of the JII began to recover towards the equilibrium point until the tenth period.

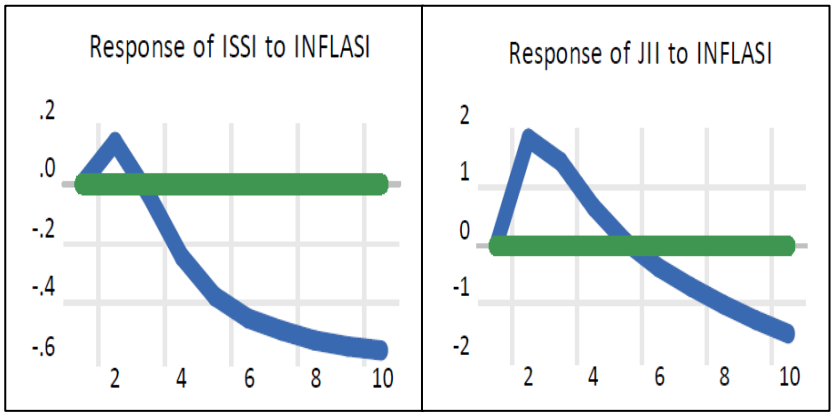

Figure 3. ISSI and JII Movement Response to Inflation

Figure 3 (left) shows the response of the Indonesia Sharia Stock Index (ISSI) to shocks that occur in the macroeconomic variable of inflation. Based on the figure, it can be seen that the ISSI experienced shocks that occurred due to fluctuating inflation. This can be seen from the line that moves away from the equilibrium point until the second period and then a recovery occurs which is indicated by the line being at the equilibrium point in the third period. In the fourth period, the ISSI movement again moved away from the equilibrium point until the tenth period.

Figure 3 (right) shows the response of the Jakarta Islamic Index (JII) to shocks that occur on macroeconomic variables of inflation. Based on the figure, it can be seen that the JII experienced shocks that occurred due to fluctuating inflation. This can be seen from the line that moves away from the equilibrium point until the second period. Then in the third period until the fifth period, the JII experienced a recovery as seen from the line heading towards and reaching the equilibrium point. In the sixth period, the movement of the JII moved away from the equilibrium point again until the tenth period.

Another analytical technique used in this study was the causality granger test. The causality granger test analyzed the causal relationship between variables in the VAR/VECM system.

Table 8. Granger Causality Test Results

No	Null Hypothesis:	F-Statistic	Prob.
1	ISSI does not Granger Cause Inflation	4.85206	0.0158**
2	JII does not Granger Cause Rate	4.08844	0.0281**
3	Total Positive Covid-19 Cases does not Granger Cause Inflation	3.76756	0.0360**
4	Total Positive Covid-19 Case does not Granger Cause Rate	2.76182	0.0810***
5	Money in circulation does not Granger Cause Total Positive Covid-19 Case	5.01089	0.0141**
6	Money in circulation does not Granger Cause Inflation	4.31516	0.0237**
7	Inflation does not Granger Cause Money in circulation	5.06804	0.0135**

Table 8 is a table of granger causality test results. Granger causality test analyzed the causal relationship between variables in the VAR system. The probability value that has an asterisk is a hypothesis that was rejected at the 1% (*), 5% (**) and 10% (***) significance levels. The first null hypothesis (H0) had a probability value of 0.0158. This value is smaller when compared to the significance value of 5% (0.05). It can be concluded that the hypothesis is rejected, so the Indonesian Sharia Stock Index (ISSI) variable has a causal relationship with inflation. The second null hypothesis (H0) had a probability value of 0.0281. This value is smaller than the significance value of 5% (0.05), which means that H0 can be rejected. This means that the Jakarta Islamic Index (JII) variable has a causal relationship with the exchange rate variable. The third null hypothesis (H0) had a probability value of 0.0360. This value is smaller than the significance value of 5%, which means that H0 can be rejected. These results mean that the total covid-19 cases variable has a causal relationship with the inflation variable. The next null hypothesis (fourth) had a probability value of 0.0810. This value is smaller when compared to the significance value of 10%, thus H0 can be rejected. This means that the total covid-19 cases variable has a causal relationship with the CUR variable.

The fifth null hypothesis had a probability value of 0.0141. This value is smaller than the significance value of 5%, which means that H0 can be rejected. This means that the money supply variable has a causal relationship with the total covid-19 cases variable. The last null hypothesis is the sixth and seventh H0 which have a causal relationship with each other. The H0 had a probability value of 0.0237 and 0.0135. Both probability values are smaller than the significance value of 5%, which means that H0 can be rejected. These results mean that the money supply variable has a causal relationship with the inflation variable and vice versa, the inflation variable has a causal relationship with the money supply variable.

Discussion

The Indonesian Sharia Stock Index or abbreviated as ISSI is one of the thematic indices published by the IDX in 2011. The index contains all shares of companies that have been listed on the IDX and meet sharia criteria and then set in DES by DSN and OJK. Based on the VECM estimation results, the positive case of covid-19 has no influence on the movement of ISSI. In addition, based on the results of the causality test, ISSI does not have a causal relationship with the covid-19 case. Thus, the two test results reinforce each other that the ISSI variable and the Total Positive Covid-19 Cases do not have a significant influence.

This result is in line with several previous studies which stated that the existence of positive covid-19 cases has no effect on the movement of ISSI (Lathifah et al., 2021; Pratitis & Setiyono, 2021; Siregar, 2020; Suryaputri & Kurniawati, 2020). Adekoya et al., (2022) explained in their research that on average the Islamic market tends to be more immune than the conventional market, even though in the stock market between indices are interconnected or related to covid-19 events. Since the beginning of the determination of ISSI constituents, issuers' shares that can be included as ISSI constituents are issuers that have an interest-based debt ratio of no more than 45% of total assets. This could be one of the factors that make ISSI constituent stocks stronger to face the covid-19 shock. When the debt owned by the issuer is lower, it is possible that the issuer will further strengthen business development through the issuer's capital, because interest costs can be reduced.

Figure 4 is a graph of ISSI movement over the last 5 years. Based on this figure, it can be seen that the ISSI had touched its lowest point in the range of IDR 124. That position occurred around March to April 2020, which was the initial period of the covid-19 pandemic in Indonesia. This figure is the lowest number of ISSI during the covid-19 pandemic in Indonesia. In addition, during the covid-19 pandemic, ISSI also touched its highest point in the range of IDR 218. This figure is also the highest position

during the covid-19 pandemic. Even when compared to the period before the pandemic, this figure is also the highest. Pratitis & Setiyono (2021) stated that there is no significant difference between the average ISSI share price before and during the covid-19 pandemic. The existence of a situation that causes the Indonesian economy to be shaken, does not cause the movement of the ISSI to change sharply. Basically, the shares of ISSI constituent issuers have a strong foundation, so they have good endurance when facing a shock (Nurdany et al., 2021; Pratitis & Setiyono, 2021; Romadhon & Mutmainah, 2023).

Source: IPOT Web x Trading View (2023)
Figure 4. ISSI Movement During Covid-19

The Jakarta Islamic Index (JII) is one of the thematic indices and sharia indices published by the IDX in 2000. This index contains 30 stocks of issuers that are included in sharia criteria and have the largest market capitalization value and are the most liquid and also supported by good financial performance. Based on the VECM estimation results, the positive case of covid-19 has no influence on the movement of the JII.

Figure 5 is a graph of the movement of the JII over the last 5 years. Based on this figure, there is a difference between the movement of the ISSI and JII stock indices. In the ISSI stock index, the highest price point was around the end of 2022 to the beginning of 2023 (before WHO announced the pandemic had ended). Meanwhile, the lowest point of the JII occurred in the range of 428-430 rupiah. This figure occurred during the early days of the COVID-19 pandemic in Indonesia. When viewed from the graph (Figure 5), this is in line with the results of research conducted by Siregar (2020) which stated that on average, the conventional stock index (JCI and LQ45) has decreased during the pandemic, while the Islamic stock index (JII) has increased during the pandemic.

Source: IPOT Web x Trading View (2023)
Figure 5. JII Movement During Covid-19

In the previous discussion, it was explained that the constituent issuers of the Islamic stock index must go through selection, including the JII. Unlike the ISSI, there are additional requirements for the selection of JII constituents, namely good issuer financial performance and the largest and most liquid capitalization value (Abdalloh, 2018; Ahyar & Yasin, 2023). The fairly strict selection requirements for entry into the JII index can be a trigger for the movement of the JII, because it makes the issuers' fundamentals more stable. Salisu & Shaik (2022) in their research stated that Islamic stocks can be used as hedging instruments, because they are not vulnerable to uncertainty due to the Covid-19 pandemic. Although the hedging effectiveness of Islamic stocks appears to be decreasing, it is still better when compared to the performance of conventional stocks.

When compared between the ISSI and JII, the movement of the JII has high volatility compared to the movement of the ISSI. These results are also in line with the results of a study conducted by Statistics Indonesia/BPS (2021), it can be seen from the graph that the ISSI index is more stable than the JII. In addition, Statistics Indonesia/BPS (2021) also stated that the JII movement contracted during the pandemic to the price level of 394, which is lower than in 2015 to 2021.

The covid-19 pandemic that spread across the globe in a short period of time broke almost all sectors of the economy. Not only large companies are affected, but micro, small, and medium enterprises (MSMEs) are also affected. This in turn will directly affect the income or economy of the people in Indonesia. The capital market through the stock market can illustrate the economic condition of a country, based on index price movements that can be monitored in real time online during trading time.

Based on the results of the study, several macroeconomic mi indicators have a significant influence on the movement of the Islamic stock index in Indonesia in the long term. These results are also confirmed by the results of research conducted by Pratitis & Setiyono (2021) which states that the existence of a situation that causes the economy to falter does not have an impact on sharp changes in the ISSI. The Islamic stock index in Indonesia only needs time for market adjustment when there is an economic shock during the co-19 pandemic. The performance of the ISSI can be seen in Figure 5, which over the past 5 years has tended to move steadily except during the early days of covid-19 which corrected deeply. Even after the covid-19 pandemic has been running for about 2 to 3 years, the ISSI movement can surpass its previous performance. If you look at research conducted by Salisu & Sikiru (2020), they stated that Islamic stocks have a high level of return and low volatility in the conditions of the Covid-19 pandemic. This is proof that the Islamic capital market (Islamic stocks) can be the main choice for investors in investing in the capital market.

These results are in line with the results of research conducted by several previous researchers, which stated that macroeconomic indicators have an influence on stock index movements in Indonesia (Elfiswandi & Hendri, 2021; Hamzah et al., 2021; Rizki, 2021; Waryati & Solaiman, 2022; Wibowo & Aminda, 2021). This is an affirmation of evidence that the stock index in the capital market can be a description of the economic conditions of a country. This depiction of the economic condition of a country through the capital market (stock index) can help investors to make investment decisions, as well as provide the fact that Islamic capital market investors (stocks) still prioritize fundamental factors in investing.

Although Indonesia's economic conditions were shaken by the health crisis (co-19 pandemic), it did not have a sharp impact on the movement/performance of the Islamic stock market in Indonesia. Islamic stocks only take a short time to recover or bounce back to their true performance. This is also inseparable from the role of the government through various policies so that the covid-19 case in Indonesia can remain under control, but does not neglect economic growth which is also important in crisis conditions. Retnoningsih et al., (2022) in their research stated that the government through its policies in overcoming the covid-19 case could reduce the negative impact on the Islamic stock market. This is the novelty of the results/findings in the recent study conducted by the author.

This research is very important to prove that the Islamic capital market has resilience to shocks in the short term. In addition, the Indonesian Islamic capital market can show its existence in taking a role in global Islamic finance. It is suggested to stakeholders that they can work more seriously in developing the Islamic capital market in Indonesia. As the results of research revealed by Salisu & Shaik (2022) that Islamic stocks can be a sharia hedging instrument, because they are not vulnerable to uncertainty due to the Covid-19 pandemic.

This research has limited references to articles using the same analysis model. In addition, access to the latest data issued with a fairly long time made the author a little hampered in the preparation of this article. So that researchers suggest to future researchers to develop similar research models using similar analysis models as well, in order to further complement the existing scientific treasures.

V. CONCLUSION

Based on the explanation that has been presented in the previous section, it can be concluded that the covid-19 pandemic has no influence on the Islamic stock index in Indonesia (ISSI and JII). In addition, the latest finding in the research conducted by the author is that macroeconomic indicators during the covid-19 pandemic have no effect on the movement of the Islamic stock index in Indonesia,

except for the benchmark interest rate. The results of this study have implications that investors can choose stocks that are included in the Islamic stock index, because they have proven to be quite immune in the face of the covid-19 pandemic.

There are several things that can help the movement of the Islamic stock price index in Indonesia move dynamically, so that the covid-19 pandemic does not affect the movement of the Islamic stock price index in Indonesia. One of the reasons is the screening of company fundamentals which was carried out quite strictly from the beginning. The maximum limit on the ratio of interest-based debt to total assets will automatically select issuers that have the potential for poor performance. In addition, the speed and accuracy of the government in controlling the covid-19 case makes investors optimistic that Indonesia can immediately get through the difficult times of the covid-19 pandemic. This is enough to convince investors to continue investing in the capital market, especially in Indonesia's Islamic capital market. Socialization and education that continues to be massively carried out by stock exchange regulators, stock exchange members and Islamicncapital market stockholders further strengthen Indonesia's Islamic capital market, especially Islamic stocks.

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