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Apakah Faktor Makroekonomi Berpengaruh terhadap Harga Saham Syariah di Indonesia?

Do Macroeconomic Factors Matter for Islamic Stock Market Prices In Indonesia

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Abstrak

Tujuan dari penelitian ini adalah untuk menguji faktor-faktor ekonomi makro yang mempengaruhi pergerakan harga saham syariah di Indonesia, dan variabel-variabel tersebut adalah Jumlah Uang Beredar, Indeks Produksi Industri, Inflasi, Tingkat Suku Bunga, dan Nilai Tukar. Metodologi dalam penelitian ini adalah metode kuantitatif dengan menerapkan pendekatan Vactor Autoregression (VAR), yang meliputi uji Kausalitas Granger dan uji Kointegrasi Johansen, yang dilanjutkan dengan mengestimasi Vector Error Correction Model (VECM) dan melakukan peramalan melalui analisis Impulse Response Function (IRF), dan Forecast Error Variance Decomposition (FEDV). Hasil analisis VECM menunjukkan bahwa dalam jangka pendek, variabel Ln_M2 pada lag 2 memiliki hubungan yang positif dan signifikan dan nilai tukar (Ln_Rate) pada lag 1 mempengaruhi Harga Saham ISSI secara negatif dan signifikan. Hasil jangka panjang dari variabel Jumlah Uang Beredar (Ln_M2) dan Tingkat Suku Bunga (BI Rate) berpengaruh negatif terhadap harga saham ISSI. Sebaliknya, variabel IPI dan Nilai Tukar (Ln_Kurs) berpengaruh positif terhadap Harga Saham ISSI. Hasil IRF menunjukkan bahwa Harga Saham ISSI masih mengalami kestabilan meskipun terjadi guncangan, yaitu sebagai respon dari guncangan jumlah IPI. Hasil analisis FEVD menunjukkan bahwa masing-masing variabel memiliki kontribusi yang berbeda terhadap keragaman Harga Saham ISSI. Dari dua periode pengamatan hingga periode pengamatan terakhir, nilai tukar (Ln_rate) memiliki kontribusi yang paling signifikan, sementara jumlah uang beredar (Ln_M2) memiliki induksi yang paling kecil.

Kata Kunci : Ekonomi Makro; Harga Saham; Saham Syariah; VECM

Abstract

The purpose of this study is to measure and analyze the effects of macroeconomic factors on the movement of Islamic stock prices in Indonesia. the macroecomic variables tested in the study money supply, industry production index, inflation, interest rate, and exchange rate. The methodology in this study is a quantitative method by applying the Vactor Autoregression (VAR) approach, which includes the Granger Causality test and the Johansen Cointegration test, which is continued by estimating the

Vector Error Correction Model (VECM) and forecasting through Impulse Response Function (IRF) analysis, and Forecast Error Variance Decomposition (FEDV). The results of the VECM analysis show that in the short term, Money supply in lag 2 has a positive and significant relationship of magnitude, and the exchange rate (Ln_Rate) in lag 1 affects the ISSI Stock Price negatively and significantly. The long-term outcome of the Money Supply (Ln_M2) and Interest Rate (B.I. Rate) variables negatively affect ISSI's share price. In contrast, the IPI and Exchange Rate (Ln_Kurs) variables positively affect ISSI's Share Price. The IRF results show that ISSI's Share Price is still experiencing stability despite the shock, namely in response to the shock in the number of IPI. The results of the FEVD analysis show that each variable has a different contribution to the diversity of ISSI Stock Prices. From the two observations to the final observation period, the exchange rate (Ln_rate) has the most significant contribution, while the money supply (Ln_M2) has the smallest induction.

Keywords : *Macroeconomics; share Price; Sharia Stocks; VECM*

INTRODUCTION

Changes in macroeconomic variables constitute stock market behaviour and are a well-established theory in the financial economics literature. However, researchers have empirically attempted to calibrate these macroeconomic effects in the last two decades (Majid & Yusof, 2009). The capital market is one of the most critical factors in Indonesia's economic development and is used by many companies as a medium for additional capital (Simbolon & Purwanto, 2018; Mustika et al. 2019). This is related to the capital market, which plays a role as a means for companies (issuers) to obtain funds from public investors and as a means for people to invest in monetary instruments, such as stocks, bonds, mutual funds, and others (Simbolon & Purwanto, 2018). In Indonesia, shares are publicly traded on the Indonesia Stock Exchange (IDX). Companies issue shares to raise capital to increase profits (Simbolon & Purwanto, 2018). Generally, a company will become a public company and offer a portion to investors for a certain amount of money to make a profit.

Sharia stocks are based on OJK regulation 35/POJK.04/2017: The company has two business processes: calculating debt to asset contribution of debt to asset ratio and the gift of non-halal company income (BAPPENAS, 2018). Business activities should be based on sharia principles such as avoiding gambling (*maisir*), uncertainty (*gharar*), and trading with false supply or demand for goods or services, and the ratio of the company's interest-based liabilities to total assets is less than 45% or the percentage of interest income and other non-Islamic income to overall income is no more than 10%. The Indonesia Sharia Stock Index (ISSI), released on May 12, 2011, is a composite index of Sharia-based stocks listed on the IDX. ISSI is an indicator of Sharia stock market performance in Indonesia.

According to Wahyudi & Sani (2014), the volatility or tendency of the Indonesian stock market is influenced by the state of the national macro economy and changes in the world economic situation. This agrees with Hengchao & Hamid (2015), who investigated

the effects of the U.S. crisis on the Asia-Pacific stock market, both from an Islamic view and a conventional view. The sample in their study includes the U.S., Japan, China, Malaysia, and Indonesia. The study says that if there are changes in the stock markets of these five countries after the U.S. subprime crisis, it shows that these stock markets are vulnerable to external financial and macroeconomic changes. The decline in the development of the ISSI sharia market in 2020 was due to the pandemic experienced by the world.

Peiró (2016) adds that a country's future perspective also contributes to the impact on the stock market. The study shows that firm formation and interest rates affect stock prices in European countries. Narayan & Phan (2019) explain that economic development and stock market capabilities tend to move in the same direction. As a result, investment decisions by fund managers and investors are in line with stock market capabilities. When the stock market situation is unfavourable or deteriorating, investors react more negatively, i.e., they sell shares, which can decrease stock prices (Phan et al., 2015). Conversely, an increase in performance in the stock market results in investors reacting positively, increasing the stock price. Narayan et al. (2014) examined whether oil prices predict economic growth in 28 developed and 17 developing countries, including Indonesia. The study revealed inconsistent results between out-of-sample and in-sample data, reflecting that there are many possibilities on how oil prices affect economic growth. Overall, previous studies' results imply a significant relationship between the macroeconomic situation and the stock market, particularly stock prices.

Several studies have shown that macroeconomic conditions determine stock price volatility. With the revival of the Islamic stock market in Indonesia, attention is increasingly turning to differentiating Islamic and conventional stocks. This fact shows an interesting case to be researched relating to the factors or causes that affect stock price volatility on the ISSI by looking at macroeconomic variables, including money supply, industrial production index (IPI), Inflation, interest rates, and exchange rates. Indonesia has the world's largest Muslim population and the largest economy in Southeast Asia (Chang & Rajput, 2018), so it can be a good research subject.

Narayan & Phan (2019); Dariati, et al (2023), in a survey of Islamic banking and finance literature, found that market interaction is the third most popular research topic after bank performance and equities. This study aims to expand the existing literature on Islamic stock prices. The results will enhance the regulatory framework of the Islamic stock market not only for screening criteria that distinguish Islamic stocks from conventional ones but also as a guide for investors in making investment decisions (Islamic Financial Services Board Report, 2018).

LITERATURE REVIEW

Singhal et al. (2019) investigated stock price factors, some relevant to this study; they used exchange rates, international oil prices, and gold prices to investigate the determinant dynamics of stock market indices in Mexico from January 2006 to February 2018. The study uses an Autoregressive Distributed Lag (ARDL) approach. It shows that, in the long run, an increase in international gold prices triggers downward volatility in

Mexican stock prices, while oil prices have the opposite correlation. Moreover, short-run estimates suggest that stock prices adjust slowly to equilibrium levels. The study implies that gold is not an appropriate tool for portfolio diversification and hedging activities for investors in Mexico.

Suteja et al. (2019) investigated the cointegration between the Islamic stock markets in Malaysia, Singapore, and Indonesia with the Greek crisis. The study tried to find the most dominant country that affects the volatility of Islamic stock prices in the JII. The study used the Vector Error Correction Model (VECM) with weekly closing stock data from 2007 to 2013. The study shows that the Greek crisis had an impact on the movement of Islamic stock prices in three countries, and the volatility of JII stock prices was affected by the Islamic stock markets in Malaysia (DJIMY) and Singapore (SGS100) during the Greek crisis from May 2010 to January 2013. The Singapore Islamic market had the most dominant impact on the volatility of the JII.

Chang & Rajput (2018) observed the relationship of symmetric and asymmetric macroeconomic variables with the Karachi Stock Exchange 100 Index. The authors tried to analyze the impact of the global financial crisis on Pakistani stock prices. The study used linear and nonlinear autoregressive distributed lag models and divided the sample into three groups. The groups are: the entire sample from June 2004 to June 2016, the pre-crisis period from June 2004 to December 2007; and the post-crisis period from January 2009 to June 2016. Using ARDL and NARDRL analysis, the study finds that, in the long run, rising interest rates significantly induce lower stock prices; adverse movements in the Consumer Price Index (CPI) result in lower stock prices, while the Industrial Production Index (IPI) has a significant impact on stock prices during the pre-crisis period. In the short run, the results show that interest rates and CPI correlate with stock prices, while IPI has an asymmetric impact only in the pre-crisis period. These findings imply that policymakers and investors should consider the global macroeconomic crisis in making policy and investment decisions to anticipate possible adverse consequences.

Tsen et al. (2018) investigated the relationship between accurate exchange rates and actual stock price returns in the Malaysian stock market from October 2000 to March 2017. The study used the CCC-multivariate generalized autoregressive conditional heteroskedasticity (MGARCH) model. The results showed that genuine exchange rate appreciation decreases actual stock price returns. Majid & Yusof (2009) examined the effect of macroeconomic variables on Islamic stock market volatility in Malaysia after the financial crisis of 1997. The study used the ARDL approach and explained that money supply, treasury bill rate, federal funds rate, and exchange rate significantly influenced the stock market. The authors emphasize that rising domestic and international interest rates make Muslim investors buy more Islamic stocks, so the price of Islamic stocks rises. This implies that Muslim investors' investment decisions align with the changing interest rates. The study also shows that changing U.S. monetary policy directly affects stock market behaviour.

So, the hypothesis in this study is as follows:

H1: Money supply has a negative or positive relationship with ISSI Stock Price.

H2: IPI has a negative or positive relationship with ISSI Stock Price.

H3: Inflation has a negative or positive relationship with ISSI Stock Price.
H4: Interest Rate has a negative or positive relationship with ISSI Stock Price.
H5: Exchange Rate has a negative or positive relationship with ISSI Stock Price.

METHODS

Analysis of the influence of the Islamic stock price index in Indonesia and national macroeconomic variables. Seen by using several variables, namely the Islamic Stock Price (ISSI), the amount of money in circulation (M2), the Industrial Production Index (IPI), Inflation (INF) Interest Rates (B.I. Rate), and the Exchange Rate of the Rupiah against the Dollar (Rate). The definitions of the variables included in this study are as follows: (1) The Indonesian Sharia Stock Index (ISSI) is an indicator of the performance of the Islamic stock market in Indonesia. ISSI data is obtained through the official web or internet site of the Indonesia Stock Exchange, namely www.idx.co.id. (2) Money Supply (M2) is the total of money in circulation in the community broadly. Money supply data is obtained through the official website of Bank Indonesia, www.bi.go.id. (3) The Industrial Production Index (IPI) is an economic indicator that measures actual output production. The IPI is also often used to represent national income and replace the unavailability of monthly GDP data. IPI data is obtained from the official website of the Central Bureau of Statistics, namely www.bps.go.id. (4) Inflation is one of the indicators that can show a level of change. It is considered to have occurred if the market price significantly and continuously increases and influences and influences each other, according to inflation data obtained from the official website of Bank Indonesia, namely www.bi.go.id. (5) Interest rates describe the interest rate of Bank Indonesia, data obtained from the official website of Bank Indonesia, namely www.bi.go.id. (6) Dollar Exchange Rate (Rate) is the exchange rate of the rupiah against the U.S. dollar, data obtained from the official website of Bank Indonesia, namely www.bi.go.id.

In this study, the authors used a qualitative method. This qualitative approach is designed to produce statistical data; quantitative data is usually in numeric form, such as averages and ratios (Petzer, 2016). The method used is a descriptive-causality method, which is intended to seek an explanation of the causal relationship between variables. This study aims to determine the effect of macroeconomic factors on the price of the Indonesian Islamic Stock Index (ISSI) from January 2017 to December 2021. The year 2017 was chosen because the development of the Islamic stock index price began to stabilize in that year. This research uses time series data with Vactor Autoregression (VAR) analysis if the data used is stationary at the level. However, if the data is not stationary at the level, it is continued with the Vactor Error Correction Model (VECM) method. ISSI Stock Price data, Money Supply (JUB) and Exchange Rate data are transformed into natural logarithms (ln).

The Vactor Autoregressive (VAR) model was first introduced by Sims in 1980. VAR is an equation with n variables, each explained by its lag value and current and past values. Var analysis for data description, forecasting, structural inference, and policy analysis is done through four kinds of use: Forecasting, Impulse Response Function (IRF), Forecast

Error Variance Decomposition (FEVD), and Grange Causality Test. The general VAR equation is as follows (Firdaus, 2011):

$$Y_t = A_0 + A_1 Y_{t-1} + A_2 Y_{t-2} + \cdots + A_p A_{t-p} + E_t \qquad (1)$$

Where:
Yt = Vector of size (n.1) containing n variables contained in a VAR model
A0 = Vector intercept of size (n.1)
A1 = coefficient/parameter matrix of size (n.n) for each i = 1,2,...,p
Et = error Vector of length (n.1)

Vector Error Correction Model (VECM) is a predictable form of VAR (Firdaus, 2011). This additional restriction must be given because data is not in level conditions; VECM then uses the cointegration restriction data into its specification. Therefore, VECM is often called a VAR form for non-stationary series with cointegrating ties. That way, VECM has a speed of adjustment from short-term to long-term (Firdaus, 2011). The VECM model, in general, is as follows:

$$\Delta Y_t = \mu_{0x} + \mu_{1x} t + \pi x\, Y_{t-1} + \Delta Y_{t-1} + E_t \qquad (2)$$

Where:
Yt = Vector containing the variables analyzed in the study
μ0x = Vector of intercept
μ1x = Vector of regression coefficients
t = times trend
πx = αxβ 'where b' has the long-run cointegration equation
Yt-1 = In-level variable
k-1 = VECM order of VAR
Et = error term

The following are the analysis steps that will be carried out as follows:

Stationarity Test

The first step that can be taken to process time series data is to test the unit root (unit root test). The root test is carried out to be able to predict and show whether the data under study is stationary or not. Fixed data will tend to approach the average value and fluctuate around the average value.

Optimal Lag Test

The Lag in a VAR system is significant. In addition to serving as an indication of how long the reaction of a variable to other variables in the study, the determination of the optimal Lag can also serve as an anticipation of the emergence of autocorrelation problems in VAR research (Firdaus, 2011). Testing the optimal lag length is examined using the Akaike Information Criterion (AIC), Schwarz Information Criterion (SIC), HannanQuinn Criterion (H.Q.), and so on. The selected Lag model has the smallest AIC and SIC values and the most considerable H.Q. value.

VAR Stability Test

The VAR Stability Test is carried out by calculating the roots as a polynomial function or the sources of characteristic polynomials. If all the origins of this polynomial

function are in the unit cycle, then the model of BAR will be considered stable so that the Impulse Response Function (IRF) and Forecast Error Variance Decomposition (FEVD) produced are considered valid (Firdaus, 2011).

Cointegration Test

The cointegration test aims to decide whether a non-statistical variable is cointegrated or not. This cointegration test can be done by testing the cointegration of EngleGranger, Johansen cointegration test, and Durbin-Watson cointegration test. One of the cointegration tests carried out in this study is the Johansen cointegration test. Suppose the value of the trace statistic is greater than the critical value. In that case, it can be said that the equation is cointegrated, with H0 equal to non-cointegration or not cointegrated and H1 similar to cointegration. So, it can be said that when the trace statistic value is greater than the critical value, reject H0 and accept H1, which means the equation is cointegrated.

Grange Causality Test

The Granger causality test predicts the causal relationship of the variables studied in this study. This test determines whether an independent variable can improve the forecasting performance of a study's dependent or independent variable (Firdaus, 2011).

Impulse Response Function (IRF)

Impulse Response Function (IRF) is a model that can be used to determine the response of an endogenous variable to a particular shock. This is because a variable shock, such as the i-th variable, can not only affect the i-th variable but is transmitted to all other endogenous variables through the dynamic structure or lag structure of the VAR.

Forecast Erroe Variance Decomposition (FEVD)

FEVD analysis in the VAR model aims to predict the contribution of the percentage of variance of each variable due to specific changes in the VAR system.

RESULT AND DISCUSSION

Unit Root Test

The first part of this research is to test the stationary of the research data. The unit root test is needed to determine the stationarity of the research data. Data stationarity can be fulfilled if a series of data is fulfilled if a time series data has an average value (mean) and variance (variance) that is constant over time, in addition, the value of covariance (covariance) between two time periods depends on the distance or Lag of the two time periods and is not tied to time (Gujarati & Porter, 2009). In this study, the unit root test was carried out using the Augmented Dickey-Fuller Test (ADF). If the value (P-Value) is less than 0.05, then the data is stationary at the 5% level.

Table 1. Stationary Test Results at Level

Variable	ADF Statistics	P-Value	Information
LN ISSI	-2.290150	0.1779	Non-stationary
L.N. M2	-1.867241	0.3457	Non-stationary
IPI	-7.364766	0.0000	Stationary
Inflasi	-1.833690	0.3615	Non-stationary
B.I. Rate	-1.438505	0.5585	Non-stationary

Variable	ADF Statistics	P-Value	Information
LN Nilai Tukar	-2.283488	0.1801	Non-stationary

Source: Data processed by Researcher, 2022

Based on Table 1, the unit root test uses the ADF Test. The data from the table shows that five variables in this study are not stationary, and only one variable has a fixed value at the level, namely the IPI variable. This can be seen from the p-value below 1%. Thus, it can be said that five variables experience unit root problems. Therefore, it must then be tested at the First Difference stage.

Table 2. Stationary Test on 1st Difference

Variable	ADF Statistics	P-Value	Information
LN ISSI	-9.459428	0.0000	Stationary
L.N. M2	-9.784056	0.0000	Stationary
IPI	-11.35970	0.0001	Stationary
Inflasi	-6.604812	0.0000	Stationary
B.I. Rate	-6.416648	0.0000	Stationary
LN Nilai Tukar	-8.863155	0.0000	Stationary

Source: Data processed by Researcher, 2022

Based on the results of Table 2, it can be said that this study has a stationary value at the 1st different level. Then, proceed with determining the maximum limit. The full-length limit is determined by looking at results such as "Likelihood ratio" (L.R.), "Final Prediction Error" (FPE), "Akaike Information Criterion" (AIC), "Schwarz Information Criterion" (S.C.), and "Hannan-Quin Criterion" (H.Q.), which is marked with the most star symbols will be the selected Lag for the next stage of estimation.

Optimal Lag Determination

The second stage is the determination of the optimal Lag. This optimal lag determination is essential because the exogenous variables used are lags of the endogenous variables in this study. Optimal lag selection can be carried out before conducting a cointegration test; this must be done before estimating the Vactor Autoregressive (VAR) model (Gujarati & Porter, 2009). The selection of the optimal lag length in a VAR model aims to avoid serial correlation between the error term and endogenous variables in the research model, which can cause the estimator to be inconsistent.

Table 3. Optimal Lag Stationarity Test

Lag	LR	FPE	AIC	SC	HQ
0	NA	3.22e-07	2.077799	2.273638	2.155397
1	615.8374	3.84e-11	-6.959072	-5.588200*	-6.415891*
2	62.26131	3.66e-11	-7.032273	-4.486367	-6.023507
3	63.01948*	3.11e-11*	-7.259561*	-3.538621	-5.785211
4	35.41326	35.41326	4.45e-11	-7.024031	-5.084367

Source: Data processed by Researcher, 2022

Based on Table 3, the one that gets the most values in star (*) is at Lag three as many as three stars. Therefore, in this study, lag 3 is the most optimal Lag.

Cointegration Test

One of the cointegration tests is the Johansen method. This cointegration test is critical to see the continuity between the long-term variables; a research result from this cointegration test is said to have a relationship if the value of the trace statistic or max eigen status is greater than the critical value.

Table 4. Cointegration Test

Hypothesized No.of CE (S)	Trace Statistics	0.05 Critical Value	Prob
None*	104.8343	95.75366	0.0102
At most 1	58.39539	69.81889	0.2879
At most 2	32.87445	47.85613	0.5638
At most 3	17.93316	29.76707	0.5710
At most 4	8.140002	15.49471	0.4506
At most 5	0.619119	3.841466	0.4314

Source: Data processed by Researcher, 2022

Table 4 shows the processing results of Johansen's cointegration test using a significant level of 5%; in Table 4, there is one cointegrated equation. This can be seen from the value of Tracxe statistic > Critical Value. Information about the existence of this cointegrated equation will be continued using the Vactor Error Correction Model (VECM) model.

Granger Causality Test

The results of the Granger causality test are shown in Table 5. The results of this test prove that there is no two-way relationship between the variables studied. It can be seen that the Granger variable ISSI Stock Price only affects the Interest Rate (B.I. Rate), Inflation affects ISSI Stock Price, Money supply affects Inflation, IPI affects Inflation, IPI affects Interest Rate, Exchange Rate affects Inflation, and exchange rate affects Interest Rate.

Table 5. Summary of Granger Causality Test Results

Null Hypothesis:	Obs	F-Statistic	Prob.
LN_M2 does not Granger Cause LN_ISSI	69	1.93900	0.1325
LN_ISSI does not Granger Cause LN_M2		0.61510	0.6078
IPI does not Granger Cause LN_ISSI	69	1.26209	0.2952
LN_ISSI does not Granger Cause IPI		0.72179	0.5428
INF does not Granger Cause LN_ISSI	69	2.31370	0.0846
LN_ISSI does not Granger Cause INF		0.53058	0.6630
BIRATE does not Granger Cause LN_ISSI	69	2.01229	0.1214
LN_ISSI does not Granger Cause BIRATE		2.30199	0.0858
LN_RATE does not Granger Cause LN_ISSI	69	1.28547	0.2873
LN_ISSI does not Granger Cause LN_RATE		1.58930	0.2010
IPI does not Granger Cause LN_M2	69	1.98609	0.1253
LN_M2 does not Granger Cause IPI		0.63933	0.5926
INF does not Granger Cause LN_M2	69	1.08332	0.3628
LN_M2 does not Granger Cause INF		5.96285	0.0012
BIRATE does not Granger Cause LN_M2	69	0.59656	0.6196
LN_M2 does not Granger Cause BIRATE		1.39619	0.2524
LN_RATE does not Granger Cause LN_M2	69	1.17348	0.3271
LN_M2 does not Granger Cause LN_RATE		1.49780	0.2239
INF does not Granger Cause IPI	69	1.93391	0.1333
IPI does not Granger Cause INF		2.95040	0.0395
BIRATE does not Granger Cause IPI	69	0.20321	0.8938
IPI does not Granger Cause BIRATE		2.75620	0.0498
LN_RATE does not Granger Cause IPI	69	0.36781	0.7765
IPI does not Granger Cause LN_RATE		1.09920	0.3563
BIRATE does not Granger Cause INF	69	0.43491	0.7288
INF does not Granger Cause BIRATE		1.64605	0.1879
LN_RATE does not Granger Cause INF	69	3.70894	0.0161
INF does not Granger Cause LN_RATE		0.82236	0.4865
LN_RATE does not Granger Cause BIRATE	69	2.86603	0.0437
BIRATE does not Granger Cause LN_RATE		1.72540	0.1710

Source: Data processed by Researcher, 2022

From the Granger causality test in Table 5, it can be said that there is no two-way relationship or mutual influence, but the relationship between variables is only one-way. It occurs in the variables in the VECM model.

VECM Estimation

VECM estimation is done to see the existence of short-term and long-term relationships. This study uses a significance level with a t-table of 5% where the t-statistic is (1.66792). Variables are significant if the T statistical value is more than 1.66792 and less than -1.66792.

Table 6. VECM Results

Long-term		
Variabel	**Koefisien**	**T-Statistik**
LN_M2(-1)	-5.298858	-3.28715*
INF(-1)	-0.037669	-0.71340
BI *Rate*(-1)	-0.288373	-3.31122*
LN_*Rate*(-1)	5.352331	2.89771*
C	-16.88235	
Short-term		
Variabel	**Koefisien**	**T-Statistik**
CointEq1	0.002151	0.08566
D(LN_M2(-1))	0.747610	1.53946
D(LN_M2(-2))	0.878409	1.71191*
D(LN_M2(-3))	0.614266	1.29791
D(INF(-1))	0.001472	0.13682
D(INF(-2))	-0.005630	-0.54756
D(INF(-3))	0.006284	0.58657
D(BIRATE(-1))	-0.021641	-0.64866
D(BIRATE(-2))	-0.023224	-0.74751
D(BIRATE(-3))	0.022810	0.69748
D(LN_RATE(-1))	-0.754890	-2.14943*
D(LN_RATE(-2))	-0.279730	-0.78611
D(LN_RATE(-3))	-0.166425	-0.46710
C	-0.008285	-0.78202

Source: Data processed by Researcher, 2022

The VECM estimation results in the long term show that the variable money supply (Ln_M2) (-3.28715) and interest rates (B.I. Rate) (-3.31122) affect the ISSI stock price negatively, and the variable IPI (6.00094) and exchange rate (Ln_Kurs) (2.89771) affect the ISSI stock price positively. This means that any increase in the decrease in money supply and interest rates will increase the ISSI Stock Price in the short term, while any increase in IPI and Exchange Rate will also increase the ISSI Stock Price in the short time. While the inflation variable does not influence the ISSI stock price even though the relationship between the two is negative, Kuwornu (2012) shows that Inflation is the

variable that has the most critical impact on stock markets in developing countries. So, this study rejects the research of Kuwornu (2012).

The VECM estimation results in the short term show that the Ln_M2 variable on lag 2 has a positive and significant relationship of (1.71191). This means that if there is an increase in the money supply by one per cent, the ISSI stock price will increase by 1.71191 per cent. The exchange rate (Ln_Rate) on lag 1 affects the ISSI Stock Price negatively and significantly (-2.1493). This means that if there is an increase in the exchange rate by one per cent, the ISSI stock price decreases by 2.1493 per cent. This result aligns with the research of Asmy et al. (2010) and Wahyudi & Sani (2014) conducted research that concluded that when the domestic currency depreciates, it affects investors' decisions to divest their investments. This makes stock prices fall. Wahyudi and Sani (2014) added that this relationship can be triggered by speculative activities by investors. This hypothetical action is an attempt to capitalize on price differences and only make transactions in a relatively short time and expect higher profits. Eventually, when the exchange rate depreciates, investors will react negatively and trigger a decline in stock prices. In fact, in the Islamic view, speculation is prohibited.

Impulse Response Function (IRF) Test Results

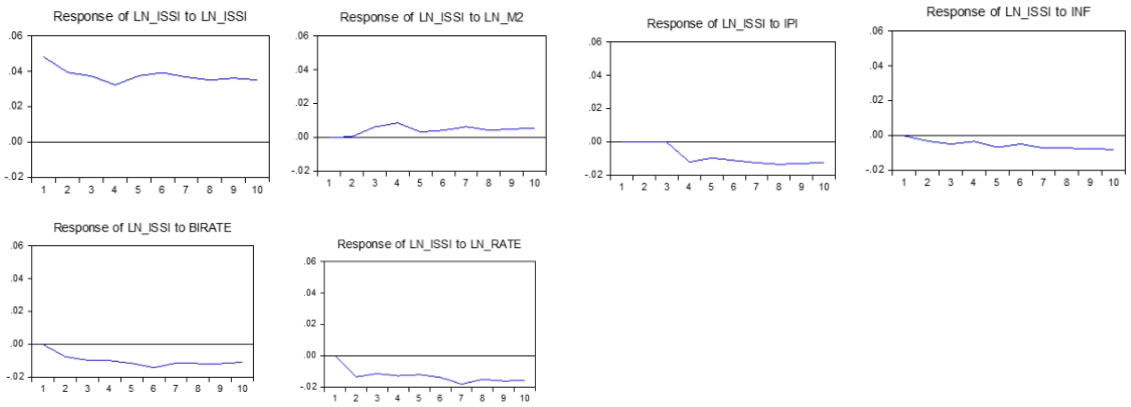

Figure 1. Responses to Cholesky One S.D. Innovation.

Source: Data processed by Researcher, 2022

IRF results show a fluctuation in the money supply (Ln_M2); the JII stock price will respond positively to Ln_M2 in the second month. After that, it increased simply until the whole month. While on the IPI variable, shocks to the IPI, the ISSI stock price declined negatively from the third month to the tenth month, although there was an increase in the fifth month but did not reach the stability line.

The following macroeconomic variable is Inflation; when there is a shock to Inflation, the ISSI share price will respond negatively from the first month to the tenth month. There is a shock to the Interest Rate; ISSI stock prices respond negatively starting from the first month to the tenth month. In the exchange rate variable, there is a fluctuation in the exchange rate; the ISSI stock price will respond negatively starting from the second month to the tenth month, although there is a decrease in the seventh month. Nur Azizah et al. (2016). The correlation between exchange rates and stock prices has been explained by saying that the depreciation of the rupiah against the U.S. $ reflects that there is weakness

in the Indonesian economy, which impacts corporate profits and leads to increased divestment activity as investors tend to find profitable foreign stocks.

From this explanation, it is concluded that in the ISSI stock price, no variable reaches stability the fastest when responding to shocks. However, the IPI variable until the third month is still stable compared to other variables.

Forecast Error Variance Decomposition (FEDV) Test Results

Table 7. Variance Decomposition of ISSI Stock Price

Periode	Ln_ISSI	Ln_M2	IPI	Inflasi	BI*Rate*	Ln_*Rate*
1	100.0000	0.000000	0.000000	0.000000	0.000000	0.000000
2	94.12731	0.010741	0.000693	0.226796	1.340940	4.293523
3	91.01351	0.706876	0.000615	0.552144	2.519317	5.207537
4	86.35929	1.594039	1.900703	0.580727	3.283903	6.281333
5	84.54308	1.401752	2.513896	0.941294	4.036984	6.562997
6	82.59958	1.307576	3.109144	0.963619	5.045585	6.974494
7	80.11962	1.425392	3.775495	1.183343	5.206050	8.290103
8	78.58225	1.379037	4.484984	1.368039	5.445788	8.739899
9	77.33630	1.374928	4.916844	1.527336	5.612832	9.231760
10	76.35491	1.414862	5.242786	1.708384	5.667952	9.611104

Source: Data processed by Researcher (2022)

In the first period, the ISSI stock price variable fluctuation is influenced by the ISSI stock price shock (ln_ISSI) itself by 100%. In the next period, the variables of money supply (ln_M2), IPI, Inflation, Interest Rate (B.I. Rate) and Exchange Rate (LN_Rate) affect the ISSI stock price with the most significant contribution to the exchange rate variable (LN_Rate) of 4.293523, followed by the Interest Rate variable (B.I. Rate) of 1.340940 and Inflation of 0.226796 in the second period. The Exchange Rate (LN Rate) still has the most significant contribution until the tenth period of 9.611104, followed by the Interest Rate variable (B.I. Rate) of 5.667952 and the IPI variable of 5.242786. The exciting thing about this research is that the B.I. rate considerably impacts the ISSI stock price. It shows the behaviour of investors who are not fully loyal to Sharia or are just curious, so they still compare the benefits obtained from investing in Islamic capital markets with conventional capital markets.

CONCLUSIONS

Based on the results of the research and discussion, the conclusions can be explained as follows: First, the results of the VECM analysis found that in the short term, the Ln_M2 variable on lag 2 has a positive and significant relationship of (-3.28715) and the Exchange Rate (Ln_Rate) on lag 1 affects the ISSI Stock Price negatively and significantly. And the results in the long term the Money Supply Variable (Ln_M2) and the Interest Rate (B.I. Rate) affect the ISSI stock price negatively, while the IPI Variable and the Exchange Rate (Ln_Kurs) affect the ISSI Stock Price positively. The inflation variable does not influence the ISSI stock price, even though there is no relationship between the two is negative. Second, the IRF results show that the ISSI Stock Price fluctuates in response to shocks that occur to all macroeconomic variables studied before reaching

stability. The ISSI Stock Price that still experiences strength despite the surprise is in response to the shock to the number of IPI. Third, the results of the FEVD analysis in this study found that each variable has a different contribution to the variation in ISSI stock prices. The exchange rate (Ln_rate) has the most significant contribution from the second to the final observation period, while the money supply (Ln_M2) has the most minor gift. From the observation results, there are two appropriate policy recommendations taken. First, from the VECM test results, it is known that IPI and Exchange Rate have a good position because IPI and exchange rate have a good and significant long-term relationship with ISSI stock prices. Therefore, the government must maintain the momentum of real sector growth and exchange rates because they significantly affect ISSI stock prices. Second, effective policies need to be issued to minimize the influence of interest rates on Islamic-based capital markets because the results of this study found that interest rates (B.I. Rate) still have a considerable contribution to the share price of the ISSI, even though this interest rate has a negative relationship. In general, appropriate policies must be issued in the Islamic capital market and financial markets to be free from the influence of interest rates in Indonesia.

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