Price Fluctuations of the Indonesian Sharia Stock Index (ISSI) Influenced by Inflation, FED Rate and BI Rate

Rahma Sofia Nida [1], Amalina Ghassani [2], Siti Amaroh [3], Guijiao Zou [4]
[1] *Institut Agama Islam Negeri Kudus, Indonesia*
[2] *Institut Agama Islam Negeri Kudus, Indonesia*
[3] *Institut Agama Islam Negeri Kudus, Indonesia*
[4] *Public Universities and Colleges, Taiwan*

Corresponding Author : Name, Rahma Sofia Nida   E - mail; rahmasofia97@gmail.com

ABSTRACT

This research was conducted from the background of fluctuating movements in ISSI prices due to macroeconomic influences, namely inflation and interest rates. Against this background, the purpose of the study is to examine the Indonesian Sharia Stock Index (ISSI) Price for 2018 – 2022 in terms of Inflation, The Fed Rate, and BI Rate. The research method used quantitative with secondary data. Data on Inflation, FED Rate, BI Rate and ISSI Share Price from 2018-2022 are obtained from the official website of related variables. Data is processed with the help of IBM SPSS 26 use multiple linear regression analysis methods. The results of data analysis prove that simultaneously variables of Inflation, FED Rate, and BI Rate significantly affect ISSI Price. The results of the t partially test, give the result that Inflation doesn't significantly affect the ISSI Price. Different results on variable interest rates, significant positive FED Rate and significant negative BI Rate affect the ISSI Price. This can be interpreted that interest rates are still an important reference used by investors for make their decision. The results of this research in the future will hopefully be useful for investors as an additional consideration in deciding to invest in Islamic stocks incorporated in the Indonesian Sharia Stock Index (ISSI).

Keywords: *Indonesia Sharia Stock Index (ISSI), Inflation, Interest Rates*

INTRODUCTION

The development of the Indonesian capital market continues to progress. This is supported by the increasing familiarity of the capital market and the public starting to invest more (Al-Fadhat, 2022; Atmojo dkk., 2020; Harbi dkk., 2023). Stock investment is the most popular type of investment investors. Quoted from the official page www.ksei.co.id, the Indonesian Central Securities Depository (KSEI) recorded a total of 4,002,289 Single Investor Identification (SID) at the end of semester I at 2022, with 99.79% being local individual investors dominated by millennial and Gen Z. This is certainly good news for the future development of the Indonesian stock market.

Indonesia, as a Muslim-majority country, is developing its capital market by taking the opportunity to establish a sharia-based capital market (Rusmita dkk., 2023; Septyanto dkk., 2021; Utami & Irawati, 2021). Currently, in the stock market world, there is a sharia stock market which is one of the choices of investment instruments (Hengki dkk., 2021; Kaido dkk., 2021; Prasetyo & Dwianto, 2018). The Islamic stock market is one part of the stock market which only contains Islamic stocks. Sharia stocks themselves are shares of companies or issuers that apply sharia capital market principles in their performance and products (Ahmed & Elsayed, 2019; Hassan dkk., 2021; Saleem dkk., 2021). Compliance with sharia principles in companies is directly supervised by the Financial Services Authority, especially the Directorate of Sharia Capital Markets.

Sharia stocks in Indonesia are united and incorporated in one index called the Indonesian Sharia Stock Index (ISSI). ISSI is a stock index issued on May 12, 2011 by the National Sharia Council of the Indonesian Ulema Council (DSN-MUI) and Bapepam-LK (Dian Rahmawati dkk., 2021; Rasyad dkk., 2022; Wahyono, 2021). ISSI itself consists of all sharia shares listed on the Indonesia Stock Exchange (IDX) and included in the Sharia Securities List (DES) by the OJK .

Figure 1. ISSI Index Price Movement

The image above is historical data on the price of Indonesian Sharia Stock Index (ISSI), which fluctuated from early 2012 to 2023. Based on the figure, it can be seen that the price of the Indonesian Sharia Stock Index (ISSI) fluctuates in its development from year to year. However, in whole the price of the ISSI index continues to increase. The price of this index reached a record high in 2023, this is also in line with the encouraging development of the Indonesian Islamic capital market and government support for the Islamic capital market as an alternative to economic recovery after the Covid-19 pandemic.

Stock index prices fluctuate due to several factors, both internal and external to the company. The company's internal conditions relate to microeconomics. On the other hand, the company's external factors are closely related to macroeconomics. In this study, we examine the price fluctuations of the ISSI stock index in terms of external factors, namely macroeconomics.

Stock market performance is strongly influenced by the country's macroeconomy. Macroeconomic variables are a reference that investors still use when they consider and value a stock (Efendi dkk., 2018; Kumar dkk., 2018; Thakkar & Chaudhari, 2021). Declare variable macroeconomics, namely inflation, exchange rates, and interest rates are the variables that investors need to pay attention to and are considered to have the most influence on economic conditions which are closely related to stock returns (Al-Homaidi dkk., 2018; Cosmas dkk., 2019; Zhuang dkk., 2021). In this study, the macroeconomic variables taken are inflation and interest rates. There are two interest rate variables that will be examined, namely the interest rate of the Central Bank of America (The Fed Rate) and the interest rate of Bank Indonesia (BI7DRR).

Inflation can be defined as a condition where the price of goods rises continuously. However, if only one or two goods increase in price, this cannot be called inflation. A condition that can be described as inflation is when the price of goods rises widely so that the prices of other goods also increase (Dunn dkk., 2018; Turner dkk., 2019). Inflation has an influence on the state of the country's economy depending on the high and low levels of inflation.

Inflation is used as an investment consideration by investors (Bastero-Gil dkk., 2019; Salmerón dkk., 2018). When conditions of high inflation will give a negative signal for investors which shows a high risk to invest. This is because if the price of goods tends to rise it will significantly impact on the increase in production costs and the amount of demand will be affected which then causes a decrease in the level of sales and company income. Decreased income will have an impact on the value of the company's profitability and the level of investment made by investors in the company. It is the level of investment that will indirectly impact the fluctuating movement of stock prices, including the price of the ISSI stock index.

Another factor besides inflation that has an influence on stock price fluctuations is interest rates. The country's central bank establishes a reference for controlling the inflation rate and regulates the country's currency exchange rate, hereinafter referred to as interest rates. Interest rates are set as a reference for banking and financial institutions

in setting loan and deposit rates. Interest rates have an inverse relationship with stock prices. The lower the interest rate, the higher the level of investment because investors prefer to allocate their funds in the capital market which is more profitable than keeping money in a bank

The Fed Rate is the interest rate or reference set by the US Central Bank (The FED). The Fed Rate is used by all banks in the world as a reference interest rate and is even capable of having an impact on the global economy, including Indonesia. Meanwhile, the BI Rate is a symbol of Indonesia's monetary policy or the interest rate issued by Bank Indonesia. The Fed Rate and BI Rate affect stock prices in Indonesia, including ISSI prices, because these two reference interest rates are taken into consideration by 50% of foreign investors and 50% of local investors from the total number of stock investors in Indonesia in making investment decisions.

Inflation factor does not have an effect on ISSI prices. Inflation also did not have a significant impact. However, different studies explain that inflation has a positive and significant effect on stock index price fluctuations.Stock index price fluctuations are also influenced by the BI Rate. The BI Rate has a significant influence on stock index prices. However, a different matter is explained The BI Rate does not have a significant effect on the price of the stock index.

The BI Rate and the Fed Rate said that the three variables were simultaneously influential and significant. However, partially the Fed Rate does not affect stock index prices. The FED Rate factor is different, in which the FED Rate individually has a positive and significant effect on the price of the stock index. The Fed Rate can affect stock prices because the attention of economic actors and central banks in various countries in the world is mostly centered on the monetary policy of the United States. The United States is the largest contributor to Gross Domestic Product (GDP) which can have an impact on changes in policy directions and income levels of other countries. In addition, as the third largest export destination country for Indonesia, US monetary policy can affect changes or the direction of movement of capital markets in the world.

Based on the research gap that was found in several previous studies, this study will re-examine stock index price fluctuations in terms of the influence of macroeconomic variables, namely Inflation, BI Rate, and Fed Rate. In this study, the research subject chosen for research was the price of the Indonesian Sharia Stock Index (ISSI), which is considered to have resilience to crises and economic instability. So, this research is interesting to prove whether the inflation, BI Rate, and Fed Rate that occur have an effect on ISSI price fluctuations.

This research will complement the reference literature and provide new evidence of gaps that still exist in previous studies. This research is useful for investors to see the effect of macroeconomic variables on ISSI prices so that they can measure the resilience of Islamic stock units in ISSI to unstable economic conditions. Hopefully, the results of this research can be used as additional material by investors in considering their investment decisions.

RESEARCH METHODOLOGY
Types of research

The research method used is quantitative. This quantitative research was carried out in research with data collection and was quantitative or statistical in the data analysis carried out. The quantitative method is one of the methods used in research that tests hypotheses by testing accurate statistical data (Behzadi dkk., 2018; Prokopy dkk., 2019; Spackman dkk., 2021). This study looks for the influence between variables X (Inflation, FED *Rate,* BI *Rate*) and Y (ISSI) using multiple linear regression analysis.

Population and Sample

Sources of research data that are numerous and broad are called populations. The population includes objects and subjects determined by the researcher and has certain qualities and characteristics. This study uses a population of historical data on the price of the Indonesian Sharia Stock Index (ISSI), Inflation, FED Rate and BI Rate from January 2018 to December 2022. The technique of determining the sample in this study uses a total sampling technique. This study uses a sample of 60 data on Inflation, FED Rate, BI Rate, and the Indonesian Sharia Stock Index (ISSI) for the period January 2018 to December 2022.

Data collection

This study uses secondary data or data sources obtained indirectly from official sites related to research variables. The price data for the Indonesian Sharia Stock Index is sourced from the website www.finance.yahoo.com the FED Rate is sourced from the website www.fred.stlouisfed.org, and from the official website of Bank Indonesia www.bi.go.id data is obtained from the BI Rate and Inflation. The time series of this study uses a total of 60 periods of data.

Analysis Method

Multiple linear regression analysis techniques were used in this study which collected all data from sources to then be analyzed descriptively and tested hypotheses. Then this technique will show movements over a period of time that is tested continuously (time series) for five years from 2018 to 2022 to show the effect of the independent variables (Inflation, FED Rate, BI Rate) on the dependent variable (Indonesian Sharia Stock Index). But before that, several steps will be carried out first including descriptive statistical analysis, classical assumption tests including data normality tests, multicollinearity tests, heteroscedasticity tests and autocorrelation tests. The next test is the hypothesis test including the Correlation Coefficient (R), Determination Coefficient (R2), F Test (Simultaneous), and t Test (Partial).

RESULTS AND DISCUSSION
CLASSIC ASSUMPTION TEST
Normality test

The normality test aims to determine the confounding or residual variables are have a normally distributed in the regression model. The normality test is illustrated in the Normal Probability Plot graph, where a normally distributed pattern occurs if the data spreads close to the diagonal line and follows the diagonal direction (Delacre dkk., 2019). The normality test results with the Normal Probability Plot are presented as follows in Figure 2.

Figure 2. Normal Probability Plot Graph
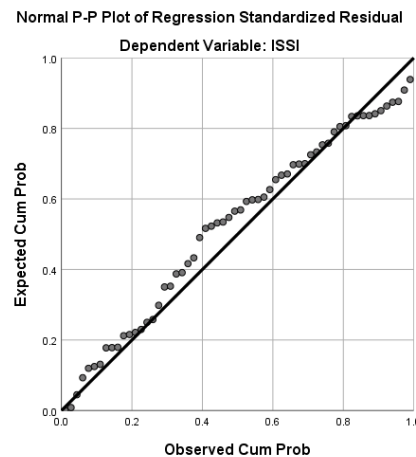
The Normal P-Plot graph above shows the data pattern that spreads close to the diagonal line and its direction also follows the diagonal line, so it can be concluded that the data has a normal distribution.

Multicollinearity Test

Multicollinearity test conducted to find a correlation in the regression model between the independent variables (Jaya dkk., 2019; Singh & Kumar, 2021). The research is said to have no multicollinearity when the results show a tolerance value of > 0.1 and a VIF value < 10. The VIF value in this research model is presented in Table 1 below.

Table 1. Multicollinearity Test Results

| Model	Collineary Statistic	
	Tolerance	VIF
(Constant)		
INFL	.224	4.469
FED	.125	7.995
BI7	.340	2.941

Based of the table above, it explain the tolerance value of the independent variable > 0.1, namely inflation of 0.224, FED rate of 0.125, and BI rate of 0.340. Meanwhile, the VIF value < 10 for each variable, namely inflation of 4.469, FED rate of 7.995, and BI rate of 2.941. So that it is concluded that in this regression model, between the independent variables there's no multicollinearity.

Heteroscedasticity Test

The heteroscedasticity test was done for the aim of testing whether there were differences in the residual variance from one observer to another. The heteroscedasticity

test can be observed in the image of the dot pattern spread above and below the number 0 on the Y axis or it is called a scatterplot graph (Khaled dkk., 2019; Kuruppuarachchi dkk., 2019; Rice dkk., 2020). The following results of the heteroscedasticity test are presented in Figure 3.

Figure 3. Scatterplot Graph
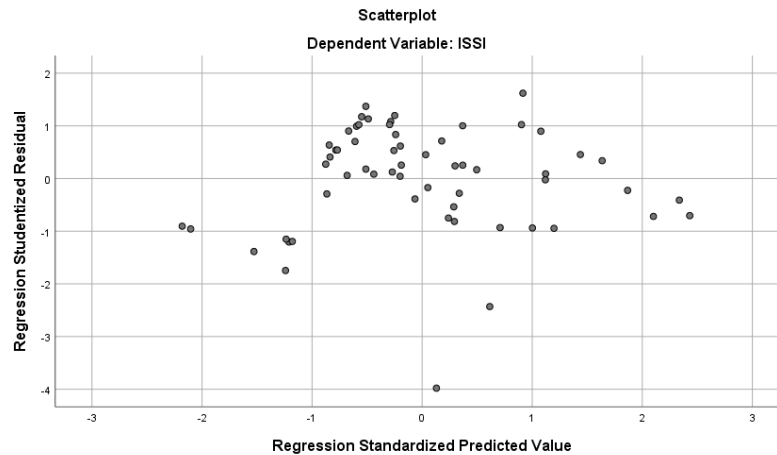
The graph above shows that the pattern spreads throughout the image and the points spread above and below the number 0 on the Y axis. So, it means that there is no heteroscedasticity problem.

Autocorrelation Test

Autocorrelation testing is carried out to test whether there is a correlation between confounding errors in period t and errors at t-1 (previously) in the linear regression model (King & Giles, 2018; Martini dkk., 2018). Whether or not there is autocorrelation in the study was conducted using the Durbin-Watson method. If the value of d lies between du and (4-du) or (du < d < 4-du) then it is indicated that there is no autocorrelation. The following autocorrelation test is presented in Table 2.

Table 2. Autocorrelation Test Results

Model Summary	
Model	Durbin-Watson
1	1.823

Based on the results of the autocorrelation test, the value of d lies between the values of du to 4-du, namely du (1.689) < 1.823 < 4 – du (2.311). So it can be concluded that there is no autocorrelation in the regression model.

HYPOTHESIS TESTING
Multiple Linear Regression Analysis

The purpose of this analysis is to determine the extent to which the influence of the independent variables (inflation, FED Rate and BI Rate) has on the dependent variable (ISSI Price). Following are the results of multiple linear regression analysis in Table 3.

Table 3. Multiple Linear Regression Analysis Results

Keterangan	Nilai Koefisien	Sig.
(Constant)	5.783	.000
INFL	.029	.575
FED	.064	.001
BI7	-.387	.000

Based on the results above the coefficient table, the regression equation is obtained as follows:

$$Y = 5.783 + 0.029 \, X_1 + 0.064 \, X_2 - 0.387 \, X_3$$

The following can explain several things from the multiple linear regression equation: 1) The value constant for a is 5.783, meaning without the influence of the three independent variables of other factors, the Indonesian Sharia Stock Index Price variable (Y) has a constant value of 57.83%. 2) The inflation coefficient of 0.029 explains that every 100% increase in inflation will increase the price level of the Indonesian Sharia Stock Index (ISSI) by 2.9% when other independent variables are considered constant. 3) The FED Rate coefficient of 0.064 explains that every time there is an increase in the FED Rate by 100% the price level of the Indonesian Sharia Stock Index (ISSI) will increase by 6.4% if the other independent variables are held constant. 4) The BI Rate coefficient of -0.387 explains that for every increase in the BI Rate by 100%, the price level of the Indonesian Sharia Stock Index (ISSI) will decrease by 38.7% if other independent variables are considered constant.

Coefficient of Determination (R^2)

How far the model's ability to explain the variation of the dependent variable can be measured using the coefficient of determination (R^2). Following are the results of the coefficient of determination presented in Table 4.

Table 4. Test Results for the Coefficient of Determination (R^2)

		Model Summary		
Model	R	R Square	Adj R Square	Std. Error of the Estimate
1	.929[a]	.862	.852	.04122

The coefficient of determination (R^2) based on the results above is denoted in the number R Square of 0.862. This means that 86.2 % of price Indonesian Sharia Stock Index (ISSI) are influenced by inflation, the FED Rate and the BI Rate. The remaining 13.8 % is influenced by other variables outside of this study.

F test

The F test is used to simultaneously test the effect of inflation (X1), FED Rate (X2), and BI Rate (X3) on the Price of the Indonesian Sharia Stock Index (ISSI) (Y). The magnitude of the influence of the variables simultaneously is shown in the ANOVA table. The test results are presented in Table 5.

Table 5. Simultaneous Test Results

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.336	3	.112	18.521	.000[b]
	Residual	.338	56	.006		
	Total	.674	59			

Based on the results above, it's explain that the calculated Fvalue is 18.521. This is greater than the F table (18.521 > 2.76). The significance value is 0.000, this value is smaller than the predetermined significance level, which is 0.000 < 0.05. That is, based on the F test conducted there is a significant effect. Therefore, simultaneously there is a positive and significant influence of Inflation, FED Rate and BI Rate on the Price of the Indonesian Sharia Stock Index (ISSI) in 2018-2022.

t-test

This t-test was conducted to individually test of the independent variables that influenced (inflation, FED Rat*e* and BI Rate) in explaining the dependent variable (Indonesian Sharia Stock Index Price (ISSI)). The results of the t test performed are shown in Table 6 below.

Table 6. Partial Test Results

Coefficient[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	5.783	.166		34.879	.000
	INFL	.029	.052	.113	.563	.575
	FED	.064	.018	.953	3.561	.001
	BI7	-.387	.086	-.735	-4.530	.000

Based on the table it can be described as follows:
The Effect of Inflation on the Price of the Indonesian Sharia Stock Index (ISSI)

The results of the t test table above show a calculated t value of 0.563. The t table value is at a significance level of 0.05 with a df of 56 of 1.673, so that the t count is smaller than the t table (0.563 <1.673). The result of a significance value of 0.575 indicates a value that is greater than the significance level of 0.05, namely (0.575 > 0.05). It is concluded that the effect of inflation on the Share Price of the Sharia Index (ISSI) is not significant.

The inflation variable doesn't give a significant effect on the ISSI share price, which can occur because the inflation rate in 2018-2022 is mild inflation which is at a level of <5%, this is considered not to have much influence on investment decisions in stock instruments.
Effect of the FED Rate on the Price of the Indonesian Sharia Stock Index (ISSI)

The t-test of the table above show a calculated t value of 3.561. The t table value is at a significance level of 0.05 with a df of 56 of 1.673, so that the t count is greater than the t table (3.561 > 1.673). The result of a significance value of 0.001 indicates a value that is smaller than the significance level of 0.05, namely (0.001 <0.05). It is concluded that the effect of the FED Rate on the Price of the Indonesian Sharia Stock Index is significant and has a positive value.

The results of the FED Rate test, which has a significant and positive value, are have the same result with previous research by which Andrian dan Lestari (2013)explained that this happened because the US monetary policy became a reference and concern for economic actors in the world and also the central banks in various countries. Changes in the direction of United States policies can have an impact on the income levels of other countries and can also affect changes in the direction of movement of capital markets in the world.

The Effect of the BI Rate on the Price of the Indonesian Sharia Stock Index (ISSI)

The results of the t test table above show the t count value of -4.530. The t table value is at a significance level of 0.05 with a df of 56 of 1.673, so t count is smaller than t table (-4.530 < 1.673). The result is a significance value of 0.000 shows a value that is smaller than the significance level of 0.05, namely (0.001 < 0.05). It can be concluded that the influence of the BI Rate on the Price of the Indonesian Sharia Stock Index (ISSI) is significantly negative.

These results support research by, which shows that the BI Rate interest rate has a significant negative effect on ISSI's stock price. This occurs because the BI interest rate is one of the references used by domestic investors in making investment decisions. High interest rates will give effect for investors to be disinterested to invest in stocks so they switch to other financial instruments such as deposits and bonds. Withdrawal of funds by investors is what affects the decline in stock prices.

CONCLUSION

This study can provide conclusions based on the simultaneous influence test (Test F) stating that three macroeconomic variables namely inflation, Fed Rate, and BI Rate together have a significant and positive effect on the Share Price of the Indonesian Sharia Stock Index (ISSI) in 2018- 2022. While partially (t test) explains that the inflation variable does not have a significant effect on ISSI's stock price, as evidenced by the t count value is smaller than t table (0.563 <1.673) with a significance (0.575 > 0.05). The Fed Rate variable has a calculated t value that is greater than t table (3.561 > 1.673) with a significance value (0.001 < 0.05) which means that the Fed Rate provides a significant and positive value to ISSI's stock price. Finally, the BI Rate variable has a significant negative effect as evidenced by the t count value which is smaller than t table (-4.530 < 1.673) with a significance (0.001 < 0.05).

The research that has been carried out still has limitations, including the observation period that occurred during several global crises, namely during the Covid-19 pandemic and also during the political war due to the invasion between Russia and Ukraine which was feared to have an impact on the results in this study. It is recommended for further researchers to examine ISSI stock price fluctuations by using factors other than macroeconomic variables in this study. In addition, further research can also add a research time period with the aim that the results obtained can be more accurate and more reflective of the factors that influence the fluctuating movement of ISSI stock prices.

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