

The Impact of Macroeconomic Variables on Jakarta Islamic Index (JII) Fluctuation

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This study aims to determine the impact of economic growth rates, inflation, interest rates, on prices or the level of JII price proportions. In addition, this study aims to determine how significant the influence of these factors is on the performance of the sharia-based stock market in Indonesia. The method used is multiple linear regression (OLS). The results of the study found that the economic growth rate has a significant positive effect on JII price and interest rates do not significant and negative effect.

Keywords: JII; Inflation; Economic Growth; OLS

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INTRODUCTION

Indonesia is a country with the fourth largest population in the world, after China, India and the United States. The total population of Indonesia is estimated at 281,184,871 according to data from worldometers. Economic growth, inflation and interest rates are important factors in Indonesia's economic development. Each of these factors has a significant influence on the performance of the stock market in Indonesia. One stock index that can be used to measure the performance of the sharia-based stock market in Indonesia is the Jakarta Islamic Index (JII). In this study, an analysis of the relationship between economic growth, inflation, interest rates and JII will be carried out in the 2010-2021 timeframe.

In 2019, the start of Covid 19 hit, the Indonesian economy was very shaken. This resulted in the JCI as well as the sharia stock index dropping considerably. The peak in 2020 was that Indonesia's economic growth due to Covid-19 had fallen to -2.07% (BPS, 2020). This certainly affects the government in determining interest rate policy. In 2020 Indonesia's interest rate was recorded at 4%, which previously reached 5% in 2019 (www.bi.go.id). If the government raises interest rates for too long, this will have an impact on Indonesia's economic growth, where people will be more attracted to bank deposits than investment. This was done by the government to restore and stabilize economic growth and the inflation rate in Indonesia.

The Jakarta Islamic Index (JII) is an Islamic stock index that was first launched on the Indonesian capital market on July 3, 2000. JII's constituents only consist of the 30 most liquid Islamic stocks listed on the IDX. The development of JII in 2010 – 2021 has increased rapidly. This indicates that the Islamic stock market in Indonesia is in great demand.

The purpose of this research is to analyze and understand the relationship between economic growth, inflation, interest rates and JII. In addition, this study aims to determine how significant the influence of these factors is on the performance of the sharia-based stock market in Indonesia. This research is one of the first studies conducted to examine the relationship between economic growth, inflation, interest rates, and JII. Previously, research conducted by Sanjaya & Pratiwi (2018) entitled the influence of interest rates, exchange rates and inflation on the Jakarta Islamic Index found that inflation and interest rates had a significant effect on JII. However, this study did not pay attention to the economic growth variable which is of course an important thing. In addition, Sanjaya & Pratiwi's

research (2018) only uses the period December 2017 - May 2018.

In this study the authors used annual data from 2010 – 2021. By taking into account the relatively long time span, this research can provide a more comprehensive picture of the relationship between economic factors and the performance of the sharia-based stock market in Indonesia. The results of this study are expected to make a significant contribution to the development of the Islamic capital market in Indonesia and to assist investors in making investment decisions in the Islamic capital market.

LITERATURE REVIEW

The Jakarta Islamic index is a Sharia stock index that was first launched on the Indonesian capital market on July 3, 2000. The Jakarta Islamic index only consists of the 30 most liquid Sharia stocks listed on the IDX, the formation of JII is inseparable from the cooperation between the Indonesian capital market and PT. Danareksa Investment Management (PT. DIM).

DSN-MUI Fatwa No. 40/DSN-MUI/X/2003 concerning the Islamic capital market and general guidelines for the application of Sharia principles in the capital market sector, this regulates Islamic principles in the capital market which states that a security/securities in the capital market are deemed to have fulfilled the principles Sharia if you have obtained a written statement of conformity with Sharia from the DSN MUI.

All JII members consisting of 30 issuers have fulfilled the requirements set by the DSN MUI with the following conditions: 1) the issuer does not run a gambling and game business that is classified as gambling or trade that is prohibited; 2) not a financial institution that applies usury; 3) the business being carried out is not producing, distributing and trading unclean food and drinks; 4) not to produce and distribute goods and services that are morally destructive and harmful.

Review of Sharia stocks as a constituent, JII is carried out 2 times a year, namely in May and November, following the DES review schedule by the OJK. The JII calculation is carried out by the IDX using a predetermined index calculation, namely the market cap weighted. The calculation of this index also includes adjustments due to changes in issuers caused by corporate action.

Economic Growth

The level of GDP is the market value of all goods and services produced in a country in one period (Mankiw, 2006). GDP is an indicator that can measure whether a country's economy is going well or badly. This is because GDP is an indicator that determines the amount of income earned by everyone in the economy and total state spending to buy goods and services. However, there are things that are not included in GDP, namely the value of activities outside the market, environmental quality and income distribution.

Inflation

Nanga (2001) defines inflation as a tendency to increase the general price level continuously over time. Every country always tries with the various policies it issues, so that inflation in that country is within the normal limits that have been set. Inflation that is always fluctuating causes uncertainty for people's welfare and reduces people's purchasing power for goods and services.

Inflation can be caused from outside and within the country. Inflation from within the country is caused by the government budget, while inflation from abroad is caused by an increase in imported goods. This happens if the cost of production or the cost of goods abroad increases or there is an increase in tariffs on goods. Inflation that occurs will increase the cost of a company.

If the increase in costs is higher than the company's income, then the profitability of the company will decrease. A decrease in company profits will cause investors not to be interested in investing in the company. This will result in a decrease in stock prices and have an impact on stock returns (Tandelilin, 2010).

Interest Rate

Interest rates are one of the policies of the central bank in controlling inflation, reducing the money supply (contractive monetary policy) and increasing the money supply (expansionary monetary policy). In the interest rate monetary policy mechanism, Bank Indonesia explained that when BI implements a contractionary monetary policy, the BI rate will rise, causing deposit rates to rise, followed by rising lending rates as well. This will reduce investment and public consumption and vice versa. When interest rates are increased, there will be a decrease in investment because people will be more attracted to bank deposit rates, which are clearer, the interest yields are higher than stock returns.

PREVIOUS STUDIES

Sushanti et al., (2019) stated that in the short term interest rates have a positive and significant impact on the Indonesian Composite Stock Price Index, while in the long term they do not have a significant impact. In this study, researchers only used interest rates as the independent variable and only examined the JCI as the dependent variable. Sanjaya et al. (2020) found that the variables of interest rates, exchange rates and inflation had a significant impact on the Jakarta Islamic Index (JII). However, the data used is only limited to December 2017 – May 2018. So the author will conduct more recent research using time series data annually from 2010 – 2021 so that it is hoped that it will be more valid.

Suriyani, et al., (2018) explained that interest rates have a positive and insignificant effect on stock returns. Inflation has a negative and insignificant effect on stock returns, while the exchange rate has a negative and significant effect on stock returns. In this case only the exchange rate variable has a significant effect on stock returns, while inflation and interest rates have no effect on stock returns. Of course, this affects the behavior of investors in determining which stocks to choose when the Indonesian exchange rate is falling or rising. However, there is one thing that must be considered again, namely the variable rate of economic growth which also affects stock returns in Indonesia. Several other similar studies, for example, have been carried out by Ayuningrum et al., (2021), Suriyani & Sudiartha (2018), Faisal et all., (2021), Silalahi et al., (2021), Nugroho & Rusydiana (2019), Nurwani (2016), Stefhani (2019), Ya et all., (2018), and Anindita et.all., (2021).

Framework

The level of economic growth causes investors to assess current economic conditions, this will affect fluctuations in stock prices because when economic conditions are bad, investors will be reluctant to invest in a stock issuer.

The inflation rate causes an increase in the prices of various goods in various sectors, both from the upstream sector to the downstream sector. The inflation rate will cause the company's contribution margin to fall. The decreased contribution margin causes operating profit to also decrease. On the other hand, operating expenses will increase from a marketing perspective as well as from an administrative and financial perspective. Eroded profits and increased expenses will affect the company's operating profit and net profit

The interest rate applied by the central bank or Bank Indonesia, also known as the BI rate, has an effect on stock prices. Interest rates will cause capital expenditure to rise. The increase in capital expenditure will affect the company's operating profit. Shrinking profits due to pressure from costs will influence

investors to make decisions and will have an impact on stocks so that they will affect the Jakarta Islamic Index.

The framework that links economic growth, inflation, interest rates and the Jakarta Islamic Index (JII) is as follows:

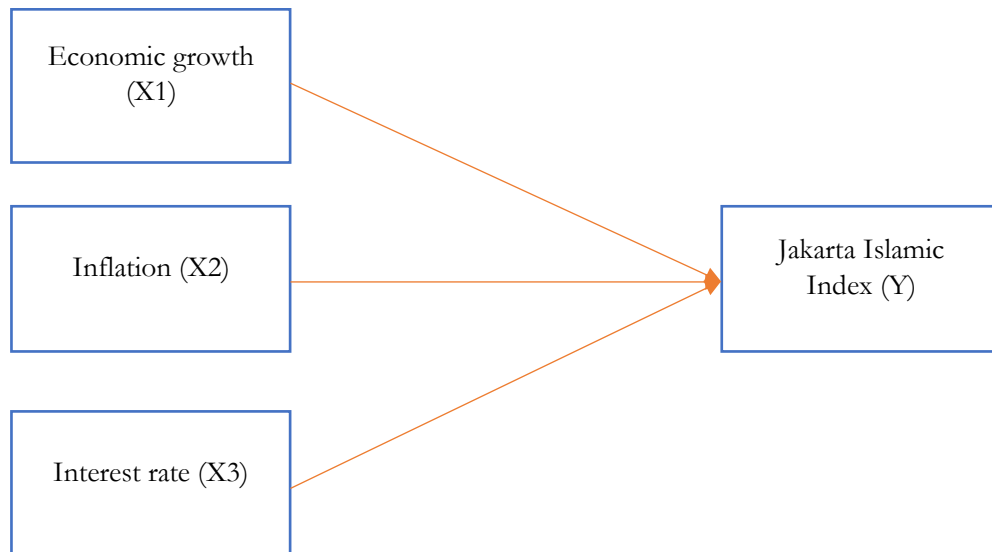


Figure 1: Framework

Based on theoretical studies and previous research reviews, the hypotheses in this study are:

H1: the level of economic growth has a significant effect on the Jakarta Islamic Index

H2: inflation has a significant effect on the Jakarta Islamic Index.

H3: interest rates have a significant effect on the Jakarta Islamic Index.

METHODOLOGY

This type of research is causality research, namely to see the causal effect of how the independent variable affects the dependent by using quantitative methods. This research is to see how far the level of economic growth, inflation and interest rates is against the Jakarta Islamic Index. The population in this study are companies (issuers) indexed on the Jakarta Islamic Index (JII) in the period 2010 - 2021. The sampling technique is a total sample where all members of the population are sampled by calculating the average share value of JII members (Jakarta Islamic Index) with its growth results on a percent basis. The type of data used is time series data collected from time to time to see the progress of an event/activity during that period. The source of data from this study is secondary data, namely data obtained through intermediary media or indirectly in the form of

books, notes, existing evidence or archives, both unpublished and published ones.

Data collection techniques in this study using documentation techniques. Documentation techniques are data collection techniques by examining documents related to the research being conducted (Sugiyono, 2009). The document is in the form of official data on JII (Jakarta Islamic Index), economic growth rates, inflation, interest rates. The data analysis technique uses multiple regression with the help of EVIEWS 12.0 software. The requirements for multiple regression testing are that the data must pass the classical assumption test, namely the normality test, heteroscedasticity test, multicollinearity test and autocorrelation test and linearity test.

Meanwhile, data analysis techniques carried out several tests, namely the coefficient of determination test, F test and t test. The coefficient of determination test is used to examine the goodness-fit of the regression model. The coefficient of determination (R^2) measures how far the model's ability to explain the variation of the model in explaining the variation of the dependent variable.

The F test is carried out to test whether simultaneously the independent variables are able to explain the dependent variable well or to test whether the model used is fixed, if the sig value < 0.05 indicates

that the independent variables together have a significant influence on the dependent variable. Meanwhile the t test was carried out to test whether separately the independent variables were able to explain the dependent variable well, provided that if the sig value < 0.05 and the tcount value $>$ ttable then the hypothesis is accepted.

RESULTS & ANALYSIS

Classical assumption test

Normality test

The normality test in this study uses the Jarque-Berra method. Data is categorized as normal if the probability value is > 0.05 . Based on the tests carried out, the probability value shows a number of $0.40 > 0.05$ so that the data is categorized as normal.

Heteroscedasticity test

This test aims to test whether in the regression model there is an inequality of variance from one residual to another observation. The results of the heteroscedasticity test show that the data is free from heteroscedasticity problems. The Chi Square probability value is 0.5202 . Based on the tests that have been carried out, it can be seen that the Prob value. Chi Square 0.4705

Multiple Regression

Determination coefficient test

The Adjusted R Squared determination coefficient test that was carried out is shown in table 1 below:

Dependent Variable: Y
Method: Least Squares
Date: 03/23/23 Time: 01:02
Sample: 2010 2021
Included observations: 12

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	21.64046	11.40294	1.897796	0.0943
X1	3.244011	1.124378	2.885161	0.0203
X2	-0.642548	1.972450	-0.325761	0.7530
X3	-5.044881	3.235875	-1.559047	0.1576
R-squared	0.642192	Mean dependent var		5.018333
Adjusted R-squared	0.508014	S.D. dependent var		10.42307
S.E. of regression	7.310919	Akaike info criterion		7.077817
Sum squared resid	427.5963	Schwarz criterion		7.239452
Log likelihood	-38.46690	Hannan-Quinn criter.		7.017973
F-statistic	4.786117	Durbin-Watson stat		1.313938
Prob(F-statistic)	0.034051			

Table 1: Determination coefficient test

The magnitude of the Adjusted R Square figure is 0.459812 or 45.98% , this indicates that the involvement of the independent variables, namely the level of economic growth (X1), inflation (X2) and interest rates

> 0.05 which indicates that the data is free from heteroscedasticity problems.

Multicollinearity test

The multicollinearity test aims to test whether the regression model is formed by a high or perfect correlation between the independent variables. If a high correlation is found between the independent variables, it can be stated that there are multicorlinear symptoms in this study. Based on the results (attachment), it can be seen that the regression model does not experience multicollinearity disturbances. This is evidenced in the tolerance value (R) of each independent variable which is less than 0.8

Autocorrelation test

Through the LM test (Bruesch Godfrey method), this method is based on the value of F and Obs R-Squared, where if the probability value of Obs*R-Squared exceeds the level of confidence, then H is accepted. This means that there is no autocorrelation problem. Based on the Obs*R-Squared P-value of 0.3263 , there is no problem with autocorrelation, this is because the Obs*R-Squared P-value = $0.3263 > 0.01$, this proves that there is no autocorrelation problem.

(X3) on the dependent variable, namely the Jakarta Islamic Index (Y) shares by 50.00% . While the remaining 50.00% is influenced by other variables not examined in this study.

F-test

Based on data processing with EVIEWS 12.0, the F test results are shown in table 1 above. The value of the f statistic is 4.786117 with a probability level of 0.0034, because the probability value is less than 0.05 ($0.0034 < 0.05$) means that it can be concluded that the variables x_1 , x_2 , x_3 together have an influence on Y.

t-test

The t statistical test is used to individually test all the regression coefficients which aim to determine the magnitude of the influence of each independent variable on the dependent variable. One way to do the t test is to look at the sig value in the t test table, if the value is below 0.05 it means that the independent variable partially (individually) affects the dependent variable.

From the results obtained from the t statistical test performed are as follows. The effect of the t-statistic for the variable rate of economic growth, based on the results in table 1, the results show a significant level of 0.0203. Because the significance level is less than 0.05, partially the economic growth rate variable has a significant and positive effect on the JII dependent variable.

The effect of the t-statistic for the inflation variable, based on the results in table 1, it is obtained that the significant level is 0.7530. Because the significance level is greater than 0.05, partially the inflation product variable has no significant effect on the dependent variable JII. The effect of the t-statistic for the interest rate variable, based on the results in table 1, it is obtained that the significant level is 0.1576. Because the significance level is greater than 0.05, partially the inflation product variable has no significant effect on the dependent variable JII.

Hypothetical test

Based on table 1, the multiple linear regression equation can be compiled as follows:

$$Y = 21.64046 + 3.244011 x_1 - 0.642548 x_2 - 5.044881 x_3$$

So based on table 1 it can give an illustration that through the results of multiple regression using OLS (Ordinary Least Square) the results are as follows:

a. Effect of economic growth rate (x_1) on JII

The regression results show that the level of economic growth in the 2010-2021 period has a significant and positive effect on JII where the coefficient value is 3.2 with a significance value of 0.0203. Because the significance value is smaller

compared to α of 5%, the level of economic growth affects JII where if the economic growth rate rises 1% it will increase the Jakarta Islamic index 3.4%

b. Effect of inflation on JII (x_2)

The regression results of the inflation equation show that in the 2010-2021 period it has no significant and negative effect on PT in Indonesia. Where the value of the coefficient of inflation is - 0.64 with a significance of inflation is 0.7530. Statistically, this means that no matter how much inflation rises, it will not affect JII.

c. Effect of interest rates on JII (x_3)

The results of the regression equation show that interest rates in the 2010-2021 period have no significant and negative effect on JII. Where the value of the interest rate coefficient is -5.04 with a significance of inflation is 0.157. Statistically, this means that no matter how much the interest rate increases, it will not affect JII.

FINDING

In this study, what the authors found was that economic growth had a significant effect on Islamic stocks, especially JII. This is in line with the results of a study conducted by [Hakim et al. \(2018\)](#). The increase in GDP has an influence on the increase in stock prices in the Islamic market. However, GDP does not directly affect Islamic stock prices, but affects a country's consumption to increase and result in increased economic growth, so that investors are interested in investing in that country. [Qudratullah \(2020\)](#) found that economic growth had a significant negative effect on ISSI.

Meanwhile, in this study it was found that inflation and interest rates had no significant effect on the Jakarta Islamic Index. [Tripupitorini et.al \(2021\)](#) states that inflation has no significant effect on the Islamic stock index (ISSI), while the BI rate or interest rates have a significant effect on the Islamic stock index in the short term. Then research conducted by [Ardana \(2016\)](#) found no short-term relationship between the BI interest rate variable and ISSI, and however it can be corrected that in the long-term relationship the relationship between the interest rate variable and ISSI is significantly negative.

In general, it can be concluded that the existence of economic growth affects JII according to research conducted by Judges. This is due to the increased consumption of a country which makes economic growth increase rapidly. This then attracts the attention

of domestic and foreign investors because it will affect the psychology of investors' intentions in choosing stocks. When a country's economy is good, it will be attractive to investors.

CONCLUSION

Multiple regression analysis was carried out to determine the effect of economic growth, inflation, and interest rates on the Jakarta Islamic Index (JII) stock. The adjusted R-squared value is 45.98%, indicating that the three independent variables together explain 50% of the variability of JII, while the remaining 50% is influenced by other variables not examined in this study. The results of the F-test are significant, indicating that the independent variables jointly have a significant influence on JII.

The t-test is used to determine the partial effect of each independent variable on the dependent variable. The results showed that economic growth had a significant positive effect on JII, while inflation and interest rates had no significant effect on JII. The regression equation is $Y = 21.64046 + 3.244011x_1 - 0.642548x_2 - 5.044881x_3$, which indicates that an increase in economic growth by 1% will increase JII by 3.4%. The weakness of this study is that it does not include other macro variables such as the rupiah exchange rate and others. Apart from that, future research can also be developed using other approaches and methods such as Vector Autoregression (Rusydziana, 2009), or other similar methods.

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APPENDIX

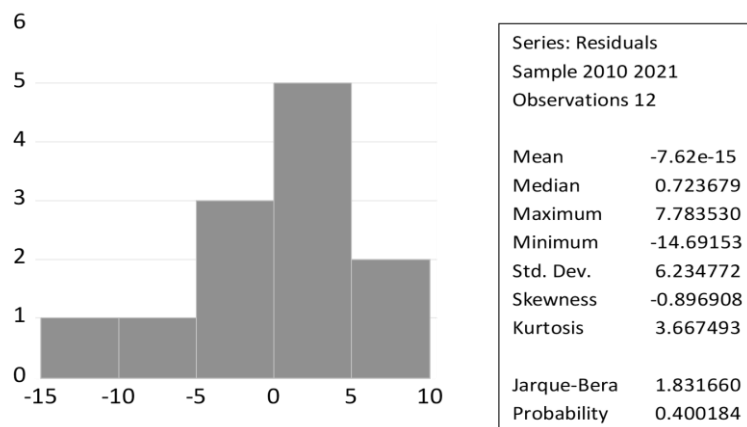


Figure 1: Normality test

Heteroskedasticity Test: White
Null hypothesis: Homoskedasticity

F-statistic	0.573121	Prob. F(9,2)	0.7711
Obs*R-squared	8.647150	Prob. Chi-Square(9)	0.4705
Scaled explained SS	5.125825	Prob. Chi-Square(9)	0.8232

Figure 2: Heteroscedasticity test

	X1	X2	X3
X1	1.000000	0.392077	0.476160
X2	0.392077	1.000000	0.875426
X3	0.476160	0.875426	1.000000

Figure 3: Multicollinearity test

Breusch-Godfrey Serial Correlation LM Test:
Null hypothesis: No serial correlation at up to 1 lag

F-statistic	0.611263	Prob. F(1,7)	0.4599
Obs*R-squared	0.963724	Prob. Chi-Square(1)	0.3263

Figure 4: Autocorrelation test