Original article

Analysis of Macro Economic Factors to Jakarta Islamic Index on BEI

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Abstract

This study aims to analyze the effect of macroeconomic factors on Jakarta Islamic Index. The macroeconomic factors are Word Oil Prices, Bank Indonesia Interest Rate, Inflation and Exchange Rate. The method used in this study is a quantitative approach, where data obtained from the Yahoo Finance, Investing Stocks and Forex, Statistic Indonesia and Bank Indonesia. The data used are time series from 30 June 2014 to 31 May 2018, which is 48 observation period. The statistical tool used is multiple linear regression using SPSS.20. The result shows that Word Oil Prices, Bank Indonesia Interest Rate and Exchange Rate have significant effect and negative relation on Jakarta Islamic Index, while Inflation has no significant effect on Jakarta Islamic Index. Simultaneously, these macroeconomic factors also have a significant effect on Jakarta Islamic Index.

Keywords: Jakarta Islamic Index, Interest Rate, Inflation, Exchange Rate

Introduction

The development of investment activities has experienced very rapid progress, due to the increasing level of public knowledge about how to practice investing. This was also supported by stable economic conditions in the country. One way is to invest in the capital market (Ardana, 2016). In carrying out its role, the capital market has two main functions, namely the economic function and financial function. In the function of the capital market economy, it provides facilities to bring together two interests, those who have excess funds (investors) and those who need funds (issuers). With the capital market, those who have excess funds can invest these funds in the hope of getting a return, while the issuer can utilize the funds for the company's operational interests. In the financial function, the capital market provides the possibility and opportunity to obtain returns for investors, according to the selected investment characteristics. The capital market is expected to increase economic activity, because the capital market is a long-term funding alternative for companies so that companies can operate on a larger scale and in turn will increase company profits and the prosperity of the wider community (Affendi, 2017).

In recent years Islamic financial activities have attracted worldwide attention (Kumar & Sahu, 2017). According to Liliana (2018), investment in Islam is different from conventional investment. They invest in the stock market through sharia mutual funds which are sharia partners for conventional mutual funds. The presence of Islamic capital markets provides opportunities for Muslims and non-Muslims who want to invest their funds in accordance with Islamic principles which provide justice and confidence in lawful transactions.

Indonesia is one of the right countries to develop the financial industry especially in the field of sharia because it is one of the largest Muslim countries in the world. Capital market investment has a role in developing the market share of the Islamic financial industry in Indonesia. One measure of the performance of Islamic capital markets in Indonesia is the Jakarta Islamic Index (JII), which consists of 30 liquid Islamic stocks based on sharia principles. Jakarta Islamic Index (JII) is the first step in the development of Islamic transactions in the Indonesian capital market in July 2000. This development is supported by the DSN-MUI provisions relating to the Islamic capital market industry, namely Fatwa No. 05 of 2000 concerning the Sale and Purchase of Shares as well as a strong agreement with the issuance of Fatwa No. 40 of 2003 concerning Capital Markets. The growth and development of the Jakarta Islamic Index (JII) is quite promising because it tends to increase (Affendi, 2017).

According to Suciningtias and Khoiroh (2015) there are important factors that can influence the development of sharia index, namely by several macroeconomic and monetary variables such as Bank Indonesia Sharia Certificates, Inflation, Amount of Money Supply (JUB), Exchange rates and others. While internal factors that can influence are such as national economic conditions, security, political conditions, government policies and others. In this study the macroeconomic variables used are World Oil Prices (WTI), Indonesian Interest Rates (SBI), Inflation and Exchange / Exchange Rates (USD / IDR). Some of these variables are expected to be able to influence fluctuations in the movement of Islamic stock indexes.

Materials and Methods

This type of research is a quantitative descriptive study that is research about data collected and expressed in the form of numbers. The variables used in this study are 1 dependent variable and 4 independent variables. The dependent variable used is the Jakarta Islamic Index (JII), while the independent variables are World Oil Prices (WTI), Bank Indonesia Interest Rates (SBI), Inflation and Exchange / Exchange Rates (USD / IDR). The population in this study is the stock in the Jakarta Islamic Index (JII).

The population in this study is the stock in the Jakarta Islamic Index (JII). The sample used is the study period for 30 June 2014 - 31 May 2018. So the observations made were to use a time series data of 48 months of observation. In this study, data collection techniques were carried out by means of documentation study, namely literature from literature, comparison through searching various journals, scientific papers, articles and various books as reference sources, the Indonesia Stock Exchange (IDX), Yahoo Finance (finance.yahoo.com) . Investing.com Stocks and Forex (www.investing.com), the Central Statistics Agency (www.bps.go.id) and Bank Indonesia (www.bi.go.id).

Analysis of the data used in this study are:1) Descriptive Statistics, 2) Classical Assumptions Test consisting of tests of normality, multicollinearity, heteroscedasticity tests, auto-correlation tests. Data analysis techniques used are: 1) Multiple Regression Analysis, 2) Statistical t Test, 3) Simultaneous Significance Test (F Test), 4) Coefficient of Determination.

Results and Discussion

Descriptive statistics in this study are time series data and samples which are the research period, namely during 30 June 2014 - 31 May 2018 consisting of four independent variables namely World Oil Prices (WTI), Bank Indonesia Interest Rates (SBI), Inflation, Exchange Rates / Exchange rate (USD / IDR) and one dependent variable, the Jakarta Islamic Index (JII). Descriptive statistical results are as follows:

Table 1: Descriptive Statistics Results

	N	Minimum	Maximum	Mean	Std. Deviation
WTI	48	33,62	105,37	55,5256	15,82657
SBI	48	4,25	7,75	6,0781	1,42280
Inflasi	48	-0,45	2,46	0,3598	0,48871
Kurs	48	11591,00	14657,00	13232,0417	611,49694
JII	48	556,09	787,12	690,2719	52,21916
Valid N (Listwise)	48				

Source: SPSS output, 2020

From the results of the above output it is shown that the World Oil Price variable (WTI) has a minimum value of 33.62, a maximum value of 105.37 with an average (mean) of 55.5256 and a standard deviation of 15.82657. The Bank Indonesia (SBI) variable has a minimum value of 4.25, a maximum value of 7.75 with a mean of 6.0781 and a standard deviation of 1.42280. Inflation variable has a minimum value of (-0.45), a maximum value of 2.46 with an average (mean) of 0.3598 and a standard deviation of 0.48871.

The Exchange Rate Variable (USD / IDR) has a minimum value of 11591.00, a maximum value of 14657.00. with an average (mean) of 13232.0417, and a standard deviation value of 611.49694. The Jakarta Islamic Index (JII) variable has a minimum value of 556.09, a maximum value of 787.12 with an average (mean) of 690.2719 and a standard deviation value of 52.21916

Table 2: Normality Test Results

One-Sample Kolmogorov-Smirnov Test	
Kolmogorov-Smirnov Z	0,712
Asymp.Sig (2-tailed)	0,692

Source: SPSS output, 2020.

From the results of the normality test the research data can be seen from the Kolmogorov-Smirnov Z value for all variables of 0.712 with Asymp.Sig (2-tailed) 0.692> 0.05. Thus it can be stated that the data is normally distributed.

Table 3: Multicollinearity Test Results

	Collinearity Statistics		
Model	Tolerance	VIF	Keterangan
1.(Constant)			
WTI	0,538	1,857	Multicollinearity free
SBI	0,817	1,224	Multicollinearity free
Inflasi	0,889	1,124	Multicollinearity free
Kurs	0,445	1,249	Multicollinearity free

Source: SPSS output, 2020.
Based on the test result table above the WTI, SBI, Inflation and Exchange regression equation models do not experience multicollinearity because they have tolerance values of (0.538; 0.817; 0.889 and 0.445)> 0.10 and VIF values (1.857; 1.224; 1.124 and 1.249) <10 .

Table 4: Heteroscedasticity Test Results

Model	t	Sig.	Keterangan
1.(Constant)	0,230	0,820	
WTI	-0,773	0,444	Heteroscedasticity free
SBI	0,585	0,562	Heteroscedasticity free
Inflasi	-0,408	0,686	Heteroscedasticity free
Kurs	0,043	0,966	Heteroscedasticity free

Source: SPSS output, 2020.

Based on the table above, for the regression equation WTI, SBI, Inflation, Exchange Rate, and JII produce a significance value of (0.444; 0.562; 0.686; 0.966)> 0.05, it can be concluded that the model is homoscedasticity and free from heteroscedasticity symptoms.

Table 5: Autocorrelation Test Results

Model	R	RSquare	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0,897	0,804	0,781	0,00166794	1,873

Source: SPSS output, 2020.

WTI, SBI, Inflation, Exchange Rate and JII produce a D-W value between 1.5 to 2.5 which is 1.8873. Thus it can be concluded that the model did not experience auto-correlation symptoms.

Table 6: Results of Multiple Regression Analysis

Model	Unstandardized Coefficients			
	B	Std.Error	t	Sig.
1. (Constant)	1.858,356	165,086	11,257	0,000
WTI	-1,103	0,374	-2,946	0,005
SBI	-32,039	3,380	-9,478	0,000
Inflasi	3,464	9,431	0,367	0,715
Kurs	-0,069	0,011	-6,475	0,000

Source: SPSS output, 2020.

In the table above, the regression equation is obtained as follows:

$$Y = 1.858{,}356 - 1{,}103\,X_1 - 32{,}039\,X_2 + 3{,}464\,X_3 - 0{,}069\,X_4 + e$$

a. The World Oil Price Coefficient (WTI) of -1,103 means that if other variables remain (constant), each increase in World Oil Price by 1%, then the World Oil Price (WTI) can reduce the Jakarta Islamic Index (JII) by 1.103%.

b. The Bank Indonesia Interest Rate Coefficient of -32.039 means that if other variables are constant (constant), each increase in Bank Indonesia Interest Rates by 1%, the SBI can reduce the Jakarta Islamic Index (JII) by 32, 039%.Koefisien Inflasi sebesar 3,464 artinya jika variabel lainnya tetap (konstan), setiap kenaikan Inflasi sebesar sebesar 1%, maka SBI dapat menaikkan Jakarta Islamic Index (JII) sebesar 3,464%% .

c. Exchange Rate / USD Coefficient (USD / IDR) of -0.069 means that if other variables are constant (constant), every exchange rate increase of 1%, the Exchange Rate / USD (IDR / IDR) can decrease the Jakarta Islamic Index (JII) by 0.069% .

d. A constant of 1,858,356 indicates that if the World Oil Price (WTI), Bank Indonesia Interest Rates (SBI), Inflation and the Exchange Rate (USD / IDR) are constant, the Jakarta Islamic Index (JII) is 1,858,356.

Table 7: T Test Results Statistics

Model	Unstandardized Coefficients			
	B	Std.Error	t	Sig.
1. (Constant)	1.858,356	165,086	11,257	0,000
WTI	-1,103	0,374	-2,946	0,005
SBI	-32,039	3,380	-9,478	0,000
Inflasi	3,464	9,431	0,367	0,715
Kurs	-0,069	0,011	-6,475	0,000

Source: SPSS output 20.0, 2020

Based on the table above, it can be explained that the results of the statistical t test are as follows:

a. Effect of World Oil Prices (WTI) on the Jakarta Islamic Index (JII). Based on the results of testing the World Oil Price hypothesis (WTI) has a significant negative effect on the Jakarta Islamic Index (JII). This is evidenced by the significance level of the World Oil Price (WTI) below 1% of 0.005 and the value of t arithmetic (-2,946) <t table (-1,68170).

b. Effect of Bank Indonesia Interest Rates (SBI) on the Jakarta Islamic Index (JII).Based on the results of testing the Bank Indonesia Interest Rate (SBI) has a significant negative effect on the Jakarta Islamic Index (JII). This is evidenced by the significance level of the Bank Indonesia Interest Rate (SBI) below 1%, which is equal to 0,000 and the value of t arithmetic (-9,478) <t table (-1.68107).

c. Based on the results of testing the inflation hypothesis does not have a significant effect on the Jakarta Islamic Index (JII). This is evidenced by the significance level of

inflation of 0.715> 0.05 and the value of t count 0.367 <t table 1.68107.

d. Effect of Exchange Rates / Exchange Rates (USD / IDR) on the Jakarta Islamic Index (JII). Based on the results of testing the Exchange Rate / Exchange hypothesis (USD / IDR) has a significant negative effect on the stock index on the Jakarta Islamic Index (JII). This is evidenced by having a significance level of under 1% which is equal to 0,000 and the value of t arithmetic (-6.475) <t table (-1.68107).

Table 8: Simultaneous Significance Test Results (Test F)

Model	Sum of Squares	Df	Mean Square	F	Sig.
1.Regression	89978,380	4	22494,595	25,332	0,000b
Residual	38183,126	43	887,980		
Total	128161,506	47			

Source: Output SPSS 20.0, 2020.

Based on the results of the F test statistic calculations, the calculated F value is 25.332 while the F table's value is 4.3126, with a significance level of 0.000. Because the probability (0,000) is much smaller than 0.05, and F count (625.332)> F table (4.3126), the regression coefficient can be used to predict World Oil Prices (WTI), Bank Indonesia Interest Rates (SBI), Inflation and Exchange Rates / Exchange Rates (USD / IDR) together have a significant effect on the Jakarta Islamic Index (JII).

Table 9: Results of the Coefficient of Determination (R2)

Model	R	R^2	Adjusted R Square	Std. Error of the Estimate
1	0,838	0,702	0,674	29,79899

Source: Output SPSS, 2020.

The amount of Adjusted R Square (R2) is 0.674. The results of these calculations mean that the ability of the independent variable in explaining variations in the dependent variable changes by 67.4%, while the remaining 32.6% (100% - 67.4%) is explained by other factors outside the analyzed variable, such as Bank Certificates Indonesia (SBIS), the Amount of Money Circulating, the Price of Gold and internal factors that are able to influence such as national economic conditions, security, political conditions, government policies and others.

Conclusions

World Oil Price (WTI) has a significant negative effect on the Jakarta Islamic Index (JII). A negative sign indicates that the World Oil Price (WTI) has the opposite effect on the Jakarta Islamic Index (JII). For companies outside the mining and oil commodity sectors. The increase in world oil prices is a negative signal because it can reduce company profitability. Operating costs borne by the company will swell, triggering investors to shift their investment because they are not willing to bear the burden or a large loss. This will cause a decline in share prices and stock indexes. Companies incorporated in the Jakarta Islamic Index (JII) in the study period were not motivated by mining and oil commodity companies so that investors are likely to switch to mining and oil commodity companies outside Jakarta. Islamic index (JII) when the World Oil Price (WTI) has increased so that the stock index is lowered.

Indonesian Bank Interest Rates (SBI) have a significant negative effect on the Jakarta Islamic Index (JII). A negative sign indicates that the Bank Indonesia Interest Rate (SBI) has the

opposite effect on the Jakarta Islamic Index (JII). An Increase in Indonesian Bank Interest Rates (SBI) is also a negative signal for investors who invest their capital in companies with capital structures that use debt more than equity because companies with debt that is greater than equity will bear an increasingly heavier interest burden as credit interest increases. So this will reduce the company's stock price and stock index. During the research period in the Jakarta Islamic Index (JII) there were no companies engaged in the banking sector, allowing investors to shift their investment in banking sector companies so as to reduce the Jakarta Islamic Index (JII).

Inflation has no significant effect on the Jakarta Islamic Index (JII). Based on the theory of inflation can cause a decrease in the purchasing power of money so that the value of money decreases. Inflation will affect individuals, entrepreneurs and the government. The increase in goods continuously can also increase the operational cost burden borne by the company. However, this study concluded that inflation did not affect the Jakarta Islamic Index (JII) and did not affect investors' decisions to invest. Because when viewed from inflation data in the study period, the inflation experienced is not volatile.

Exchange rates / exchange rates (USD / IDR) have a significant negative effect on the Jakarta Islamic Index (JII). The negative sign indicates that the effect of Exchange Rates / Exchange Rates (USD / IDR) has the opposite effect on the Jakarta Islamic Index (JII). An increase in the exchange rate / exchange rate (USD /IDR) of a foreign investor's foreign currency will cause the value of the rupiah to decrease so that it will cause the investor's profits to be reduced when investing in the Jakarta Islamic Index (JII). This will reduce the Jakarta Islamic Index (JII).

Acknowledgments

Data Availability

This type of research is a quantitative descriptive study using secondary data in the form of absolute numbers and obtained through financial reports. The data reports in this study obtained share price reports listed on the Jakarta Islamic Index (JII) for the period 30 June 2014 - 31 May 2018.

Conflicts of Interest

This research is a quantitative research using secondary data based on share price report data listed in the Jakarta Islamic Index (JII) period for 30 June 2014 - 31 May 2018. A possible conflict of interest that will occur is related to the confidentiality of data from the share price report that is sourced from the Jakarta Islamic Index (JII). The researcher states that there is no conflict of interest associated with the publication of this article, this is because the data has been published officially and is publicly available.

Funding Statement

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