

The Effect of Macroeconomic Variables on Sharia Stock Prices in the Jakarta Islamic Index

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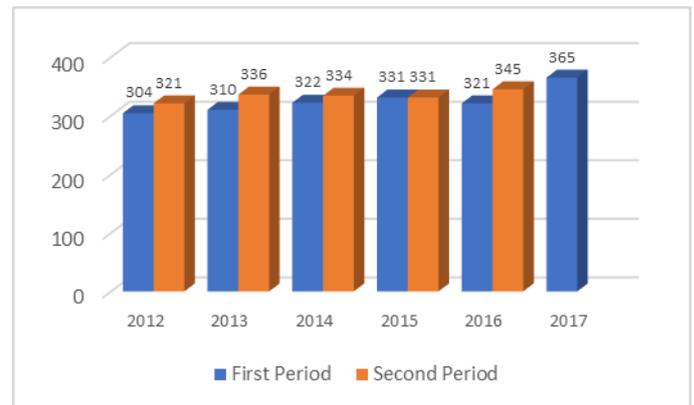
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Abstract—The capital market has a very important role in the current global economy as a place to raise funds and as an attractive investment media for investors. At present, the capital market will be an indicator of a country's economic stability. However, volatile and unpredictable stock prices are one of the obstacles faced by the investors so that the capital market is one type of risky investment. The Jakarta Islamic Index (JII) is one of the shares on the Indonesia Stock Exchange (IDX) which is based on sharia principles. This index was introduced on July 3, 2000 by the Indonesia Stock Exchange. The methodology of JII calculation is the same as that used by the JCI which is based on the Market Value Weight Average Index using the Lapeyres formula. The results show that the inflation variable, IPI and the rupiah exchange rate have a significant influence on Islamic stock prices in JII. So these factors can be a consideration for investors in buying shares listed on JII.

Keywords: *Jakarta islamic index, macroeconomic, islamic investment*

I. INTRODUCTION

The development of the capital market is expected to be a driver for the Indonesian economy, as well as a foundation in building a stable economic system [1]. So the financial crisis can be avoided. The Islamic capital market has begun to show a contribution to the development of Indonesia's economy. The data shows the performance of the Indonesian Sharia Stock Index (ISSI) experienced the largest increase, reaching 28.1% in the period June 2016 - June 2017. Meanwhile the Dow Jones Islamic Market Index Malaysia (DJIM) only recorded an increase of 16.4%, FTSE Global Sharia 15.8% and Islamic MSCI only 13.1% and over a period of five years, the value of the sharia stock market capitalization also increased by 42% or as much as Rp.3,473 Trillion [2]. Moreover the number of shares listed on the Syariah Securities List (DES) has continued to increase over the past five years, as shown in the graph below:



Source: Financial Services Authority (OJK)

Fig. 1. Development of sharia shares.

The chart above describe that the number of Islamic stocks is increasing every year. It means many investors are interested to invest in Islamic stocks. While the capitalization of Islamic stocks as indicated by the Jakarta Islamic Index (JII) had decreased in 2008 as a result of the subprime crisis in the United States [3]. The following table is the performance table of JII:

TABLE I. TABLE OF SHARIA STOCK CAPITALIZATION

Year	JII (Rp Billion)
2007	1.105.987,25
2008	428.525,74
2009	937.919,08
2010	1.134.632,00
2011	1.414.983,81
2012	1.671.004,23
2013	1.672.099,91
2014	1.944.531,70
2015	1.737.290,98
2016	2.041.070,80
2017 January	2.024.828,10

Table I Cont.

2017 February	2.046.788,78
2017 March	2.106.211,65
2017 April	2.164.445,45
2017 May	2.151.249,48
2017 June	2.231.679,45
2017 July	2.228.013,11
2017 August	2.220.824,915
2017 September	2.188.062,82
2017 October	2.174.363,98

Source: Financial Services Authority (OJK)

Current stock prices tend to be influenced by psychological factors of the buyers or sellers of the shares themselves, causing a lot of speculation [4]. In Indonesia there are several stock indexes besides JII, namely, IHSG, Kompas100, JCI, IDX30 and LQ45. JCI is an average representation of all shares on the Stock Exchange, LQ45 only calculates an index for 45 leading stocks that are quite active. JII contains 30 selected shares that meet the requirements set by the MUI National Sharia Board (DSN) [5]. Kompas 100 is an index of 100 shares issued by Kompas daily analysts. The stability of stock indexes in Indonesia can be influenced by the stability of macroeconomic factors. For this reason, this study aims to analyse the effect of the national stock index and macroeconomic variables on the performance of the Jakarta Islamic Index (JII) while the macroeconomic variables examined in this research are Consumer Price Index (CPI), Amount of Money Supply (M2) Currency Exchange Rates, Exchange Rate (ER), BI Interest Rate (BI Rate). This research is expected to be able to provide the information to investors and investment managers about what variables affect the price of sharia shares listed on the Jakarta Islamic Index (JII).

II. METHOD

This type of research is an experimental research with a quantitative approach. The data used in this study are secondary data, namely time series data for macroeconomic variables during the period January 2018 to August 2019 (20 months). The data obtained from the Indonesia Stock Exchange (IDX) monthly statistics, annual reports on consumer goods industry companies that registered with the Jakarta Islamic Index (JII).

The mathematical model to describe the influence of macroeconomic variables to the performance of Jakarta Islamic Index (JII) using regression is:

$$\ln(JII_t) = \alpha_0 + \alpha_1 \ln(IPI) + \alpha_2 \ln(CPI) + \alpha_3 \ln(M2) + \alpha_4 \ln(ER) \quad (1)$$

Where:

JII: Jakarta Islamic Index (JII)

IPI: Industrial Production Index (IPI)

CPI: Consumer Price Index (CPI)

M2: Amount of money in circulation

ER: The exchange rate of the rupiah to US Dollar

α_i : The regression coefficient, $i = 0, 1, 2, 3, 4$

This research uses descriptive and quantitative analysis methods. With the model above, the influence the macroeconomic variables will be examined on the stock prices

listed on the Jakarta Islamic Index (JII) using e-views software version 8.

III. RESULTS

According the output from e-views, the results of the research is described in Figure 2, while the coefficient for the mathematical model obtained are:

- $\alpha_0 = 1644,448$;
- $\alpha_1 = 2,844976$;
- $\alpha_2 = -52,67756$;
- $\alpha_3 = 12,13604$;
- $\alpha_4 = -0,062418$.

Dependent Variable: JII
 Method: Least Squares
 Date: 10/24/19 Time: 15:13
 Sample (adjusted): 2018M01 2019M08
 Included observations: 20 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1644.448	174.4069	9.428802	0.0000
INFLASI	-52.67756	18.07080	-2.915066	0.0107
IPI	2.844976	1.177467	2.416183	0.0289
KURS	-0.062418	0.010610	-5.882949	0.0000
M2	12.13604	6.947025	1.746941	0.1011

R-squared	0.804941	Mean dependent var	690.7607
Adjusted R-squared	0.752925	S.D. dependent var	36.91820
S.E. of regression	18.35078	Akaike info criterion	8.869540
Sum squared resid	5051.269	Schwarz criterion	9.118473
Log likelihood	-83.69540	Hannan-Quinn criter.	8.918134
F-statistic	15.47496	Durbin-Watson stat	1.531008
Prob(F-statistic)	0.000033		

Fig. 2. Results of data processing with e-views 8.

According to the Figure 2, the results of multiple regression calculations using e-views can be analysed as follows [6]:

- Inflation has a probability <0.05 (alpha value of research) then H0 is rejected, which means that the inflation variable has a significant influence on sharia stock prices in the Jakarta Islamic Index (JII).
- Variable Industrial Production Index (IPI) has a probability <0.05 (alpha research value) then H0 is rejected, which means that the IPI variable has a significant influence on sharia stock prices in the Jakarta Islamic Index (JII).
- Variable Rupiah Exchange Rate against US Dollar has a probability value <0.05 (alpha research value) then H0 is rejected, which means that the Rupiah Exchange Rate variable against US has a significant influence on the price of Islamic stocks in the Jakarta Islamic Index (JII).
- Variable money supply in a broad sense (M2) has a probability value > 0.05 (alpha research value), so H0 is accepted, which means that the M2 variable does not significantly influence the price of sharia shares in the Jakarta Islamic Index (JII).

To test the validity of the data from the results of multiple regressions, the classic assumption test will be performed so that the analysis obtained has accuracy in estimation, unbiased and consistent.

Classic assumption testing itself is done with 4 (four) tests, namely normality test, autocorrelation test, heterokedasticity test and multicollinearity test. Here are the results of testing the assumptions of multiple regression classic [7]:

A. Normality Test

Normality test is a test conducted with the aim to assess the distribution of data in a group of data or variables, whether the data or variables are normally distributed or not [7]. The following are results of normality test using e-views:

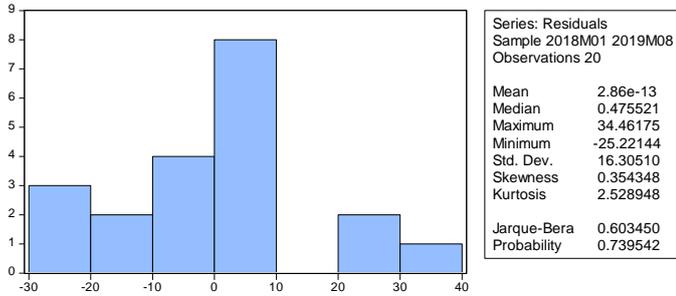


Fig. 3. Normality test.

According to the normality test above using the Jarque-Bera Test, the calculation in fallow jar value is 0.603450 with the value of probability 0.739542 > 0.05 (alpha value of the study) which means that H0 is accepted so that the data can be concluded normal.

B. Multicolinierty Test

The multicollinearity test assesses whether there are correlations or inter correlations between independent variables in the regression model [7]. Following are the results of Multicollinearity calculations using e-views.

TABLE II. MULTICOLLINEARITY TEST

Variance Inflation Factors			
Date: 10/24/19 Time: 15:23			
Sample: 2018M01 2019M09			
Included observations: 20			
Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	30417.76	1806.542	NA
INFLASI	326.5537	190.6392	1.362337
IPI	1.386429	3.472158	1.382545
KURS	0.000113	1350.288	1.224932
M2	48.26116	136.5911	1.901705

The Figure 4 shows that the centered VIF values both Inflation, IPI, KURS and M2 have all values less than 10, it can be concluded that there is no multicollinearity problem in the regression model.

C. Heterokedasticity Test

Heteroscedasticity is the variance of the residual inequality for all observations in the regression model. Heterokedasticity test is performed to determine the deviation from the classical assumptions conditions in linear regression, where the regression model must be met the condition of the absence of heteroscedasticity [7].

The results of the calculation of Heterokedasticity using e-views with the Breusch-Pagan-Godfrey test presented by Figure 5. It can be conclude that where the value of Obs * R-Squared is equal to 6.667452 with a Chi-squared probability value of 0.1545 > 0.05 (alpha value of research), H0 is accepted which can be concluded that the regression model is homoscedasticity or in other words there is no problem of heterokedasticity assumptions.

IV. DISCUSSION

It can be analysed that the variable factors that influence the price of Islamic stocks in the Jakarta Islamic Index (JII) are inflation, the Industrial Production Index (IPI), and the Rupiah exchange rate against the US dollar. While one factor that has no effect is M2, which is the money that is circulating in Indonesia in a broad sense.

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	1.875331	Prob. F(4,15)	0.1672
Obs*R-squared	6.667452	Prob. Chi-Square(4)	0.1545
Scaled explained SS	2.867115	Prob. Chi-Square(4)	0.5803

Test Equation:
 Dependent Variable: RESID^2
 Method: Least Squares
 Date: 10/24/19 Time: 15:25
 Sample: 2018M01 2019M08
 Included observations: 20

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	6106.430	2798.252	2.182230	0.0454
INFLASI	-432.7766	289.9349	-1.492668	0.1563
IPI	26.87641	18.89175	1.422654	0.1753
KURS	-0.332565	0.170230	-1.953622	0.0697
M2	12.66780	111.4608	0.113652	0.9110

R-squared	0.333373	Mean dependent var	252.5635
Adjusted R-squared	0.155605	S.D. dependent var	320.4093
S.E. of regression	294.4271	Akaike info criterion	14.42026
Sum squared resid	1300310.	Schwarz criterion	14.66919
Log likelihood	-139.2026	Hannan-Quinn criter.	14.46885
F-statistic	1.875331	Durbin-Watson stat	2.945187
Prob(F-statistic)	0.167197		

Fig. 4. Breusch-pagan-godfrey test for heterokedasticity.

From the results of e-views the R-Squared value of this regression is 80.05% which can be interpreted that the ability of the independent variable in influencing Islamic stock prices in JII as much as 80.05% the rest is influenced by other variables, while the F Test has a probability value of 0.000033 < 0.05 (alpha value of the study) meaning that simultaneously the independent variable influences the dependent variable.

The results of the regression model show there is a negative value, namely the inflation variable and the rupiah exchange rate variable which can be interpreted that these two variables

have a negative influence on Islamic stock prices in JII, so that if the inflation value rises, sharia stock prices in JII decrease. This factor is caused by psychological factors from investors [4].

These results have similarities with the results of several studies from previous studies such as from Mohd Yahya Moh Hussin that the IPI and the Ringgit Exchange Rate Against the US Dollar significantly influence the Islamic stock market in Malaysia [8]. Some studies also say that inflation has a significant positive effect on stock prices in manufacturing companies listed on the Indonesia Stock Exchange (IDX) [9].

Investors must examine the company's fundamental factors before they buy a stock on the stock exchange both sharia or not [10]. To make the investment in sharia shares grow rapidly, companies listed on JII need to increase higher cash flow and lower debt ratios so the investor are happy to invest in JII.

V. CONCLUSION

The conclusion of this study is to provide the information in the form of any factor in the macroeconomic that affects stock prices in the Jakarta Islamic Index (JII), especially to indicate that the variable inflation, industrial production index (IPI) and the Rupiah exchange rate against the US dollar can affect the price of Islamic stocks in the Jakarta Islamic Index (JII) and the M2 variable (money) circulating widely does not significantly influence the price of Islamic stocks in the Jakarta Islamic Index (JII). Hopefully this research can be useful as the reference for investors, especially for those who will invest their funds in Islamic stocks listed on the Jakarta Islamic Index (JII).

This study provide a recommendation that Islamic monetary instruments actually have a significant relationship to Islamic stocks. Besides the coordination between monetary authorities and financial services authorities in Indonesia has a crucial role. So that the authority can educate investors that the Jakarta Islamic Index (JII) instrument is not a risk-free investment instrument but an instrument that has the potential to weaken each other due to macroeconomic factors. So investors will make JII as a complementary investment tool.

Moreover, the real sector of the economy is necessary to be strong because it is such a strategic and significant position on JII. Therefore the government must maintain the real sector's growth momentum due to the great positive affect the performance of the national sharia stock market.

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REFERENCES

- [1] T. Hidayat, *Buku Pintar Investasi Syariah*, Jakarta: Mediakita, 2011.
- [2] I.S. Beik and W. Wardhana, "The relationship between Jakarta Islamic Index and other selected markets: evidence from impulse response function," *Jurnal Ekonomi dan Bisnis Airlangga (JEBA) Journal of Economics and Business Airlangga*, vol. 21, no. 2, 2011.
- [3] I.S. Beik and S. W. Fatmawati, "Pengaruh Indeks Harga Saham Syariah Internasional Dan Variabel Makro Ekonomi Terhadap Jakarta Islamic Index," *Al-Iqtishad: Jurnal Ilmu Ekonomi Syariah*, vol. 6, no. 2, pp. 155–178, 2014.
- [4] M.A. Ibrahim, "The Effect Of Inflation And Debt To Equity Ratio (Der) On Sharia Return Stock Registered In Jakarta Islamic Index," *MIMBAR: Jurnal Sosial dan Pembangunan*, vol. 35, no. 1, 2019.
- [5] D.B.P. Supadi and M.N. Amin, "Pengaruh faktor fundamental dan risiko sistematis terhadap return saham syariah," *Media Riset Akuntansi, Auditing & Informasi*, vol. 12, no. 1, pp. 23–44, 2016.
- [6] M. Firdaus, *Aplikasi ekonometrika untuk data panel dan time series*. Bogor: IPB Press, 2011.
- [7] A. Misno and Ahmad Rivai, *Metodologi Penelitian Muamalah*, 1st ed. Bogor: Salemba Dinayah, 2017.
- [8] M.Y.M. Hussin, F. Muhammad, M.F. Abu, and S.A. Awang, "Macroeconomic variables and Malaysian Islamic stock market: a time series analysis," *Journal of Business Studies Quarterly*, vol. 3, no. 4, p. 1, 2012.
- [9] M.H.M. Munte, "Pengaruh faktor fundamental terhadap return saham pada perusahaan manufaktur yang terdaftar di Bursa Efek Indonesia," 2009.
- [10] S. Titman, K.J. Wei and F.Xie, "Capital investments and stock returns," *Journal of financial and Quantitative Analysis*, vol. 39, no. 4, pp. 677–700, 2004.