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THE EFFECT ANALYSIS OF MACRO-ECONOMIC VARIABLES TOWARD INDONESIAN ISLAMIC STOCKS RETURN

by

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Abstract: This study aims to determine the effect of macroeconomic variables on returns of Indonesian Islamic stocks (Jakarta Islamic Index). The sample data uses are returns of the Islamic stock index from 2005:01 - 2010:04. This study uses Ordinary Least Square (OLS) method and the application of panel data to assess the existence of any effect of the macroeconomic variables on stock returns of the Indonesian Islamic stocks. The results of this study exhibit that the Islamic stock returns are significant simultaneously, but insignificant partially.

Keywords: macroeconomic variables, Islamic stock returns

1. Introduction

Capital market as one of the instrumentation of the financial system is a of Macro-Economic benchmark of a country's economic development. The capital market development in Indonesia has shown its progress in line with the economic development in Indonesia, Along with the development of capital market, the Islamic capital market has also been developing, namely the market capital using the principles, procedures, assumptions, instrumentation, and applications sourced from the Islamic epistemology. The Islamic capital market is a capital market that is operated with the Islamic concept, in which any trade of securities shall comply with the provisions of transaction in accordance with the Islamic base.

The capital market development in Indonesia also follows the developments in other countries by establishing the Islamic capital market. The presence of Islamic capital market, which was launched in July 2000, was marked by the establishment of the Jakarta Islamic Index, which is inseparable from the values of humanity to benefit in an Islamic manner.

Islamic stock refers to an ordinary stock form that has special characteristics in the form of strict control in terms of the legality (halal) scope of business activities. The Jakarta Islamic Index is an index issued by PT. Jakarta Stock Exchange which is a subset of the Composite Stock Price Index.

The development of Islamic capital market shows improvement by the increased index indicated in the Jakarta Islamic Index (JII). The increased index of JII, although its value is not as great as the Composite Stock Price Index (CSPI), the percentage increase in the JII index is greater than the CSPI. This is because the concept of halal, blessing and growth in the Islamic capital market that trades the Islamic stocks. The Islamic capital market uses the principles, procedures, assumptions, instrumentation, and applications sourced from the Islamic epistemology. The Islamization of capital market, which has been struggled by some circles recently, has played several important roles that changed topography of the financial sector. It has become a major source of growth in Islamic capital market, where products and services of capital markets has been considered to be converted into Islamic capital market products and services. The Islamic Index or Sharia Index has taken place in the process of capital market Islamization and becomes the beginning of the Islamic capital market development.

Some Islamic world's major indices like the Dow Jones Islamic Market Index (DJMI), the RHB Islamic Index, the Kuala Lumpur Syariah Index (etc.) have evolved and have been gaining popularity among Muslim communities who are committed to the principles of Islam in running and managing their

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investments because the indices are created with some restrictions for investment products in accordance with the Islamic principles. Even non-Muslims are also coming in to invest in the Islamic Index with several constraints though. The Islamic Index or Sharia Index also has helped institutions to invest their excess funds in investments in accordance with the Islamic rules, Therefore, Islamic Banks, Takaful, and other Islamic financial institutions have an alternative to invest their funds and distribute their profits to their customers. In Indonesia, Islamic index exists. It is known as the Jakarta Islamic Index (JII). The index was issued by the Jakarta Stock Exchange (which has now become the Indonesia Stock Exchange). There are 30 issuers that enter in the JII calculations, which are evaluated every 6 months. The determination of index components is made each January and July. Trade of some types of securities, both in conventional capital markets and in Islamic capital markets, has different levels of return and risks. Stock is one of the securities among other securities that have a high degree of risk. The high risk is reflected from the return uncertainty to be received by investors in the future. This is in line with the definition of investment according to Sharpe (1997) stating that an investment is a commitment of funds by a certain number to get an uncertain return in the future.

Thus, there are two aspects inherent in an investment, i.e. the expected return and risk of not reaching the expected return. Return and risk theoretically in a variety of securities have a positive relationship. The greater the expected return to receive, the greater the risk to obtain, and vice versa. High return and risk on stocks are associated with the condition of a company characteristics, industry and macroeconomics. Return is one of the factors that motivate investors to invest and also a reward for the courage of investors to bear the risk on the investment made (Tendelilin, 2001).

2. Description theory

2.1 Stock Return

Stock return is the advantage enjoyed by investors on investment the stock investment made. Return has two components: current income and capital gain (Wahyudi, 2003). The definition of stock return in this study is the same as the capital gain because there is no dividend is distributed. Stock return as a stock price change will be used as the dependent variable in the study, calculated by adding the change in the price of a stock on a daily basis within the period of observation.

Stock Return calculation is formulated as follows:

Stock Return = (HS,-HS,)

HS: the taday Stock price

HS .: the t-1 day Stock price

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According to Husnan (1994), (there is a correlation between rates of return on a stock to changes in the market (market index)). If the market changes can be expressed as market index rates of return, the rates of return on a stock (Ri) can be expressed as

 $\alpha i = Part of rate of return on stock i that is not influenced by market rate of$ Return

Rm = market index rate of return

= parameter that measures expected changes in Ri in case of any changes in .Rm is a parameter to measure the changes in Ri in case of any changes in Rm. If the value of = 1, it can be said that changes in rates of return on stock i are *parallel with changes in market rates of return. Meanwhile, if the value of > 1, changes in rates of return on stock i are above changes in market rates of return or referred to as excess return on stock i, otherwise if the value of <1, changes in market rates of return are above change rates in securities i or referred to as the excess return of market portfolio.

. 2.2 Macro Economics

Macro factors refer to any factors outside internal affairs of a company, but have an influence on the performance of a company either directly or indirectly. Several economic factors to be used as a measuring tool will be described below:

a. Domestic Public Interest rate (SBI)

BI Rate is the policy interest rate that reflects the stance of monetary policy set by Bank Indonesia and announced to the public. The increase in loan interest rates has a negative impact on each issuer because it would increase the loan interest expense and lower the net income. Decrease in net income will also result in decrease in a company return and eventually will cause decline of stock prices in the market.

b. Inflation Rate

Inflation is a process of price rising generally and continuously associated with the market mechanisms that can be caused by various factors, among others, increased private consumption, excess liquidity in the marketplace that triggers consumption or even speculation, including the cause of the lack of goods 86 Indonesian Management & Accounting Research

distribution. In other words, inflation is also a process of decline in currency values continuously. Inflation is the process of an event, not the high-low price level. It means that the price level considered high does not necessarily indicate inflation. Inflation is an indicator to see the level changes, and is considered to occur if the price increase takes place continuously and with mutually-influencing effects. The inflation rate may have a positive or negative impact depending on the degree of inflation itself. Excessive inflation could harm the overall economy, which can make a lot of companies suffer bankruptcy. Thus, high inflation will decline the stock prices in the market, while low inflation will result in very low economic growth and eventually stock prices will also move slowly.

c. Economic Growth

The economic growth, according to Sukimo (1996: 33), shall refer to an increase in output per capita that is constant in the long run. Economic growth is one indicator of the success of development: Thus; the higher economic growth is usually the higher welfare of the people, although there are other indicators of income distribution. On the growing economic cycle, every line of business makes progress, a lot of jobs are available, unemployment is relatively small, people income increases that the stock exchange becomes vibrant; conversely, in the declining economic cycle, the security activities will be slower, because the share price falls.

d. Investment

Investment is a term with some sense related to finance and economy. The term is associated with an accumulation of an asset form with a hope of benefit in the future. Sometimes, investment is also known as capital investment. There are two kinds of investment that flows into a country, namely Foreign Direct Investment (FDI) and portfolio investment.

3. Research method

3.1. Scope of Research

The scope of this study includes the influence of macro-economic variables consisting of the level of economic growth, SBI interest rates, Inflation and Investment to Islamic Stock Return (RSS) listed on the Indonesia Stock Exchange (BEI). This study aims to test the hypotheses proposed regarding the effect of macroeconomic variables on the Islamic Stock Return.

3.2. Hypothesis Testing

The hypothesis testing in this study uses the analysis of panel data (pooled time of Macro-Economic series, cross-section data). The advantages of using panel data are as follows: (i). Estimation with panel data may indicate explicitly any heterogeneity in the calculation according to the uniqueness of individual variable; and (ii). Panel data can overcome the problems associated with lack of the necessary historical data. Panel data regression analysis to be conducted in this study is to use the OLS (Ordinary Least Square) estimation method.

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3.3. Types and Sources of Data

The type of data used in this research is secondary data. Islamic stock data are obtained from the Jakarta Islamic Index with quarterly data taken from the last closing data, while the SBI data, economic growth, inflation in the form of % and Investment (direct FDI to Indonesia) are taken from data from Bank Indonesia. Because all the three variables are in the form of %, while the investment data are in the form of millions of dollar, then they are transformed into In form to equate the same relative value. Data used for the SBI, the data growth used in this study is the data in the form of pooled time series cross section in the form of quarterly data from 2005:01 - 2010:04.

3.4. Analysis Method

To see the effect of macroeconomic variables on the Islamic stock return, an econometric linear regression model with two variables is used as follows:

 $RSS = \alpha + \beta 1 SBI + \beta 2 EG + \beta 3 Inf + \beta 4 Inv + \epsilon$

Where:

RSS Islamic Stock Return (%) SBI SBI Interest Rate (%) = EG Economic Growth (%) Inf Inflation (%) Inv = Investment (ln Inv) Α Constant, Regression Coefficient β 1, β 2, β 3, β 4 = error term

3.5. Classical Assumption Test

Results of multiple regressions will be used as a good and unbiased predictor if they meet the classical assumption test (in Hamzah, 2005).

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a. Normality Test

This test is done by comparing the significance of the test to _ of 5%. If the significance is greater than 5%, it means that the data are normally distributed. These variables are normally distributed.

b. Multicollinearity test

Identification of the multicollinearity can be based on the value of tolerance and variance inflation factor (VIF). The commonly used cutoff value is 10% of the tolerance value and VIF value is 10. The tolerance calculation result shows that none of each independent variable has a value less than 10% and VIF value is no more than 10 which means there is no correlation between independent variables.

c. Autocorrelation Test

Autocorrelation is the correlation that occurs between members of a series of observations arranged in time series (as in the time series data) or arranged in a series of spaces (as in the cross-time data or cross-sectional data) (Sumodiningrat, 1999). The data of this study is pooled data, which is a combination of time series data and cross sectional data.

d. Heterocedasticity Test

The assumption testing is done using the Glejser Test by absolute value regression of residuals as the dependent variable on all independent variables of the study. This test is done by comparing the significance of the test to α 5%. If the significance is greater than 5%, it means it does not contain heteroscedasticity. From the test performed on absolute residual value, it obtains 100%. With a significance value of 100%, which is much larger than α 5%, it can be said that these variables do not contain heteroscedasticity. The classical assumption test done above results in a value that concludes that the regression model showing the relationship between the dependent variable and independent variable has met the proposed classical assumption that the regression model is a good and unbiased predictor.

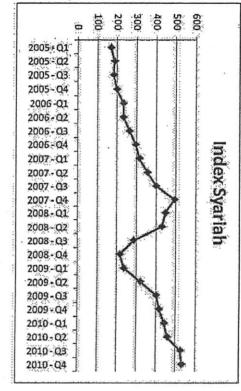
4. Result and Analysis

The development of stock belonging to the Islamic category is very significant. It is visible that based on the index data taken from the data of the first quarter of 2005 (Index 169.334) and the fourth quarter of 2010 (index 532.901) a growth of 215% occurs. Thus, the average annual growth is almost 36% although a decline

below) the world monetary crisis that began by the United States. (See the chart data had occurred in return in 2008 and the peak occurred in the third quarter due to

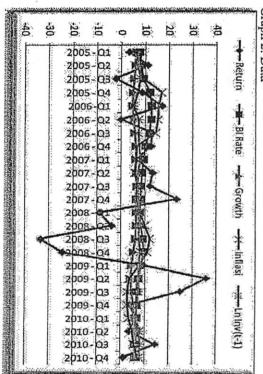
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investment we use the t-1th data. See the chart below. The data we are analyzing are the data obtained from the same period for all four variables (Islamic Stock Return, Growth, Inflation and BI Rate), while for

Graph 2: Data



To see the results to be utilized, the model assessment results are as follows:

1. Normality Test

On the Normality test we use the measuring tool of Kolmogorov Smirnov, which obtains the following results:

0 0		
Islamic Stock Return	=	0.817>0.05
SBI	=	0.748 > 0.05
Inflation	=	0.729>0.05
Growth	=	0.841>0.05
Investment (Lninymin)	=	0.771 > 0.05

The five variables are > 0.05, then Ho is accepted. Thus, the assumption of normally distributed is met.

2. Multicollinearity Test

Based on the multicollinearity test used, the following VIF values are gained:

SBI	=	5.69
Growth	=	1.07
Inflation	=	5.37
Lninvmin (Investment)	=	1.14

From the four variables above, there is no a VIF value exceeding 10, then there is no multicollinearity. However, based on the index condition of dimension 5, there is a maximum value of 47.14. Thus, this is contradictory and must be considered.

3. Autocorrelation Test

Based on the value of Durbin Watson, compute 1.484. Meanwhile, the value of DW table for n=24 is dL=1.013 and dU=1.775. Thus, the value of 1.484 does not get a conclusion.

4. Heteroscedasticity Test

Based on the data, by absolute residual regression as the dependent variable on the independent variable, it results in the following:

SBI ·	=	0.164
Growth	=	0.908
Inflation	=	0.122
Lninymin (Investment)	=	0.633

Because all of them have a value of > 0.05, there is no heterocedasticity problem in this model.

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After having the classical assumption test, we will see the model obtained. The results obtained are as follows:

Rsquare=	0.398 =	39.8%
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Sig=0.039
Sig=0.107
Sig=0.260
Sig=0.116
Sig=0.052
Sig=0.188

Then we get the following equation:

Based on the above data, the model will be significant when it is done simultaneously, but it will not be significant when it is done partially. It is only inflation that approaches the significant value.

5. Conclusion and Recommendation

Based on data from the above discussion, within the 2005:01 - 2010:04 period on macto-economic impact analysis on Islamic stock returns in Indonesia, it can be concluded as follows: (i). The model is significant simultaneously (wholly). but not significant partially. It is only inflation that approaches the significant value with a value of 0.052; (ii). Due to the absence of significant partial variables, the coefficient in front of the variable is opposed to theory; (iii). A total of 39.8% of the data can be explained by the four variables, while 60.2% of them are influenced by other data; and (iv). The 2008 monetary crisis greatly affected the Islamic stock returns to be negative value. It leads the model, even though it is significant, not significant partially. Thus, 60.2% of the data is influenced by other data.

The monetary crisis in 2008 has greatly affected the model as a measuring tool. Other additional data are likely required that greatly affect the movement of Islamic stocks.

References

- Bank Indonesia, 2004 2010 Data.
- Firmansyah, Dadang. 2008, Faktor-faktor yang mempengaruhi Investasi di Indonesia Periode tahun 1985-2004" ("Factors affecting investment in Indonesia within 1985-2004 Period"), Islamic University of Indonesia. 2008.
- Hamzah, Ardi. 2005. "Analisa Ekonomi Makro, Industri dan Karakteristik Perusahaan Terhadap Beta Saham" (Macroeconomic Analysis, Industry and Company Characteristics of Stock Beta), Master of Science UGM.
- Husnan, Suad, 1994. Dasar-Dasar Manajemen Keuangan. Penerbit UPP STIM YKPN. Jogyakarta.
- Nazwar, Chairul 2007, "Analisa Pengaruh Variabel Makro Ekonomi Terhadap Return Saham Syariah di Indonesia" ("Analysis of Effect of Macroeconomic Variables to Islamic Stock Return in Indonesia").
- Samsul, Muhammad, 2006. "Pasar Modal dan Manajemen Portofolio" ("Capital Markets and Portfolio Management"). Penerbit Erlangga,
- Sarwedi, 2002, "Investasi langsung di Indonesia dan Faktor yang Mempengaruhinya" (Direct Investment in Indonesia and the Affecting Factors), Journal of Accounting and finance Vol. 4, May 2002.
- Sharpe, William F. 1966. Mutual Fund Performance. Journal of Business. 39. S1: 199-138
- Sukirno, Sadono, 1996, Pengantar Teori Ekonomi Makro. PT. Raja Grafindo Persada, Jakarta.
- Sumodiningrat, Gunawan. 1999. Pemberdayaan Masyarakat dan jarring pengaman Sosial. Gramedia Pustaka Utama, Jakarta.
- Wira, Variyetmi 200, Analisa Karakteristik Perusahaan terhadap Return dan Beta Perusahaan Makanan dan Minuman di Bursa Efek Jakarta ("Analysis on Companies' Characteristics to Return and Beta for Food and Beverage Companies in Jakarta Stock Exchange").
- Tandelilin, Eduardus. 2001. Analisis Investasi dan Manajemen Portofolio. Penerbit BPFE-UGM. Jogyakarta
- Yamin, Sofyan, Rachmach, lien A, Heri Kurniawan, 2011. Regresi dan Korelasi dalam Genggaman Anda. ("Regression and Correlation in your grip")

 Penerbit Salemba Empat

Appendix

One-Sample Kolmogorov-Smirnov Test

		SBI	Growth	Returnsyarish	Inflasi	Laioveia
N		24	24	24	24	24
Normal Parameters 4.5	Mean	8,6225	5,6875	6,1167	L3625	7,3112
	Std.	1,95062	,75660	14,61942	4,12751	,6562.6
	Deviatio					
	в .					
Most Extreme Differences	Absolute	,138	,126	,129	,141	,135
	Positive	,124	,100	,119	,141	,106
	Negative	₇ 138	-,126	-,129	,101	-,135
Kolmogorov-Smimov Z		,677	,617	,633	,689	,664
Asymp. Sig. (2-tailed)		,748	,841	,817	,729	,771

a. Test distribution is Normal. b. Calculated from data.

Regression

Variables Entered/Removedb

Model	Variables	Variables Removed	Meth od
1	lninymin, Growth,	•	Enter
	Inflasi, SBI		

- a. All requested variables entered.
- b. Dependent Variable: Returnsyariah

	Model Summary								
		R	•						
•		Squar	Adjusted R	Std. Error of	Durbin-				
Model	R	e	Square	the Estimate	Watson				
1	,631*	,398	,271	12,48107	1,484				

a. Predictors: (Constant), Ininvmin, Growth, Inflasi, SBI

b. Dependent Variable: Returns yariah

MON	1

		TALL SALVE	UYA			
Mod	<u>el</u>	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1955,970	4	488,992	3,139	,039*
	Residual	2959,763	19	155, <i>7</i> 77		·
	Total	4915,733	23			

a. Predictors: (Constant), Ininvmin, Growth, Inflasi, SBI

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b. Dependent Variable: Returnsyariah

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Coefficients*

		Unstandardized (Coefficients	Standardized Coefficients			Collinearity	Statistics
Model		В	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	<i>7</i> 5,1 <i>7</i> 7	44,498		1,689	,107		
	SBI	3,697	3,184	,493	1,161	,260	,176	5,694
	Gwwth	-5,870	3,562	-,304	-1,648	,116	,932	1,073
	Inflasi	-3,025	1,461	7854	-2,071	,052	,186	5,367
	Lainvaia	-5,780	4,232	₃ 259	-1,366	,188	278	1,139

a. Dependent Variable: Returnsyarish

Collinearity Diagnostics⁴

Continearity Diagnostics								
ļ			Condition	Variance Proportions				
Model	Dimension	Eigenvalue	Index	(Constant)	SBI	Growth	inflasi	Ininvmin
1	1	4,812	1,000	.00	,00	,00	.00	,00
	2	.164	5,411	,00	,00,	,01	,14	,01
	3	,013	18,986	,02	,15	,65	,18	,03
	4	,008	24,548	.00	,39	,20	,43	,35
	5	,002	47,139	.98	.45	.13	.25	.61

a. Dependent Variable: Returnsyariah

Correlations

		Corneizua	148			
		SBI	Grow	Returnsyariah	inflasi	iniavani a
SBI	Pearson Correlation	1	-,149	-,146	,897	-,315
	Sig. (2-tailed)		,488	<i>A</i> 96	,000	,134
	<u>N</u>	24	. 24	24	24	24
Growth	Pearson Correlation	ր149	1	-,377	-,051	,165
1	Sig. (2-tailed)	,488		,070	,814	,441
	N	24	24	24	24	24
Returnsyariah	Pearson Correlation	-,146	-,377	1	-,33 5	-,266
	Sig. (2-tailed)	,496	,070		,109	,209
	N	24	24	24	24	24
inflasi	Pearson Correlation	,897	-,051	-,335	1	-,233
	Sig. (2-tailed)	,000	,814	,109		,273
	<u>N</u>	24	24	24	24	24
lninvmin	Pearson Correlation	-,316	,165	-,268	-,233	1
	Sig. (2-tailed)	,134	,441	,209	,278	
	N	24	24	24	24	24

^{**.} Correlation is significant at the 0.01 level (2-tailed).

Variables Toward Indonesian Islamic Stocks Return

Residuals Statistics

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-8,3597	24,0061	6,1167	9,22183	24
Residual	-25,83710	17,85733	,00000	11,34396	24
Std. Predicted Value	-1,570	1,940	,000	1,000	24
Std. Residual	-2,070	1,431	,000	. 909	24

a. Dependent Variable: Returnsyariah



