CORRELATION OF RUPIAH EXCHANGE RATE, INTEREST RATE, AND PROFITABILITY RATIO TO BETA ISLAMIC STOCK

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ABSTRACT

This study discusses about the variables that affect the stock beta, where beta stock is systematic risk in stocks. This study used a quantitative design with descriptive test, normality, multiple linear regressions. The sample uses the Jakarta Islamic Index at the Indonesian Stock Exchange. Results of whose team it is based on the F test variable exchange rate, interest rate elbow, and profitability ratios significantly influence beta Islamic stocks. The results of the t test result that variable exchange rate and interest rates do not significantly influence beta Islamic stocks, but the variable return on assets and return on investment significantly influence beta Islamic stocks. Limitation of this study is that the study period was only 2 years old, 28 in total sample of firms as well as fundamental and macro variables are used.

Key words: Exchange Rate, Interest Rate Elbow, Profitability Ratio, Beta Islamic Stocks.

HUBUNGAN NILAI TUKAR RUPIAH, SUKU BUNGA, DAN RASIO PROFITABILITAS TERHADAP BETA SAHAM SYARIAH

ABSTRAK

Penelitian ini membahas variabel yang mempengaruhi beta saham, sebagaimana suatu saham beta adalah risiko sistematis saham. Penelitian ini menggunakan desain kuantitatif dengan uji deskriptif, normalitas, regresi linier berganda. Sampel yang digunakan adalah Jakarta Islamic Index di Bursa Efek Indonesia. Analisis dan hasilnya didasarkan pada uji nilai tes F variabel, siku suku bunga, dan rasio profitabilitas yang dinyatakan berpengaruh signifikan terhadap beta saham syariah. Hasil hasil uji t ditemukan bahwa variabel nilai tukar dan suku bunga tidak berpengaruh signifikan terhadap beta saham syariah, namun variabel return on asset dan return on investment berpengaruh signifikan terhadap beta saham syariah. Keterbatasan penelitian ini adalah bahwa masa studi baru berusia 2 tahun, yang berjumlah 28 sampel perusahaan serta variabel fundamental dan makro yang digunakan.

Kata Kunci: Nilai Tukar, Siku Suku Bunga, Rasio Profitabilitas, Beta Saham Syariah.

INTRODUCTION

The development of capital market in Indonesia has shown significant progress along with the increase of its economic development. The majority of Indonesian people are Muslim, thus it makes Indonesia as a potential market for the development of Islamic finance industry. And therefore, it enables Indonesia Stock Exchange (BEI) to develop Islamic capital market by adopting principles, procedures, assumptions, instruments and applications of Islamic rules.

There are several kinds of securities traded in the capital market including stocks, bonds and Bank Indonesia Certificates (SBI). Some traded securities are surely risky. Stock is one of securities traded in the capital market and has the greatest risk because investors are uncertain about the return they will receive in the future.

The risk of securities can be specific (unsystematic) risk and systematic risk. Specific (unsystematic) risk is caused by unique factors of securities, and they can be eliminated by diversification. While systematic risk is caused by macro factors affecting all securities so that they cannot be eliminated by diversification. Systematic risk is the risk that affects all companies, because it is caused by macro factors, such as changes in economic conditions, changes in interest rates, inflation, tax policy and others. Systematic risk is also referred to as beta. According to Halim (2003), changes in stock returns on stock market returns are called beta stock. So, beta Islamic stock is changes of Islamic stock returns on Islamic market stock return.

Fluctuation in rupiah exchange rate against foreign currencies, especially dollar, affects decision of the people who want to invest their funds in stocks. The fluctuation in exchange rate itself is affected by economic conditions at home and abroad, such as inflation and security within the country. Inflation shows a rise in general price level, where the value of money as a reflection of the general price is unstable. When the inflation occurs, purchasing power of the people drops and then the government adopts a policy of raising interest rates in order to attract many people to save their money in banks. This step is taken in order to stabilize economic conditions. However, if the interest rate is higher than the stock return, the people will tend to choose risk-free investments such as bonds and deposits compared with stock investment which has greater risk. The risk of beta stock is getting high. Stock returns go up and down depending on investor demand. According to Halim (2003:8) the higher the demand for the stock, the higher the stock return.

Profitability ratio also becomes one of the benchmarks for someone who will invest their funds and people who will make request for financing (loans). Profitability ratios can be viewed through the company's financial statements. Therefore, according to Zubaidah (2004), in making an investment, investors would surely invest their funds in companies having good performance. Good performance indicates that the company can increase wealth for its shareholders. It means that the company managed to provide returns as expected by the investors in the form of capital gains or dividend.

The purpose of this study is to determine the effect of the exchange rate, interest rate and profitability ratios to beta Islamic stocks in the Jakarta Islamic Index (JII).

THEORETICAL FRAMEWORK AND HYPOTHESIS
Islamic Capital Market

Capital market is a meeting between the parties who have surplus funds to those who need funds by trading in securities. Islamic capital market is a capital market operated by employing Islamic principles, in which each security trading must comply with the transaction provisions in accordance with Islamic basis (Hamzah 2005). In the Islamic capital market, transaction is carried out in a way that does not conflict with Islam. Any assertion of religious law in the capital market makes the market free from activities prohibited by Islam, such as usury, gambling (*maysir*) and also the lack of clarity (*gha-*

rar). Amanas Income Fund is the first financial institution concerned in operating portfolio with Islamic portfolio management in Islamic capital markets. Discourse on Islamic capital market has been welcomed enthusiastically in all parts of the world, like the Middle East, America and Europe.

The development of Islamic capital market itself in Indonesia is indirectly influenced by the Islamic capital market which has been implemented in other countries first. The establishment of Jakarta Islamic Index (JII) in July 2000 marked the first Islamic capital market in Indonesia to appear.

Islamic Stock

Islamic stock is one of Islamic products in the form of common stock with special character. The special character is a strict control which determines the legality of the business scope based on Islamic Laws. Jakarta Islamic Index is an index issued by PT. Jakarta Stock Exchange which is a subset of its index. Jakarta Islamic Index was launched on July 3, 2000 by using the January 1, 1995 as the base date with a value of 100. The criteria of issuer stocks that become the component of Jakarta Islamic Index are; first, selecting a collection of stocks by primary business type that does not conflict with the principles of Islamic Laws and has been recorded more than three months. Second, selecting stocks based on the annual financial report or semi-annual financial ends liabilities to assets which have a maximum of 90%. Third, selecting 60 stocks of the arrangement above based on the average sequences of the largest market capitalization during the last one year. Fourth, selecting 30 stocks with the order based on the average liquidity level of trade value during the last one year. Re-examination will be carried out every six months with the closing of the components of the index at the beginning of July, while the change in the type of business issuer will be monitored continuously based on the existing public data.

Risk of Investment

In investment analysis, one important factor that must be considered is the risk. Each option of investment is always risky, and the risk will affect the profits earned by investors from their investment. Risk is closely related to uncertainty as investors will get an unknown value of return in the future. Risk is the possibility of profit deviation from the expected one.

Beta Securities

The risk of securities can be specific (unsystematic) risk and systematic risk. Specific (unsystematic) risk is caused by unique factors of securities, and they can be eliminated by diversification. While systematic risk is caused by macro factors affecting all securities so that they cannot be removed by diversification. Systematic risk is the risk that affects all companies, because it is caused by macro factors, such as changes in economic conditions, changes in interest rates, inflation, tax policy and others (Huda 2007: 16). Systematic risk is also referred to as beta (Laelah 2008). According to Halim (2003) in Zubaidah (2004), changes in stock returns on stock market returns are called beta stock. Systematic risk can be measured using beta coefficient. According to Jogiyanto (2000: 237-238), beta is a measurement of return volatility of a security or portfolio return to market return. Volatility can be interpreted as fluctuation of security or portfolio returns in a certain period of time, or it can also be interpreted that beta is a measurement of the extent to which the rate of return of a stock is changing due to the changes in market. On the whole, market has a beta of 1.0, and for securities having beta above 1.0 means that the securities have a higher risk than market risk or called aggressive stock. Securities having beta of 1.0 means that the risk of securities is equal to the market risk. Securities, with beta below 1.0, indicate that the securities have systematic risk which is smaller than market risk or defensive stock.

Review of Previous Research

M. Iqbal Arruzi and Bandi (2003), the purpose of this study is to examine the effect of

interest rates, profitability ratios, and beta accounting to beta Islamic stocks. The result of this study indicates that level of interest rates; profitability ratios and beta accounting significantly influence beta Islamic stocks either simultaneously or partially.

Hamzah (2005), the purpose of this study is to examine the effect of macro-economic variables, industry variables and firms' characteristics variables on beta Islamic stocks. The samples are firms whose shares are listed in the Jakarta Islamic Index period 2001-2004. The result of this study indicates that macro-economic (rupiah exchange rate against dollar and Gross Domestic Product), industry and firms' characteristics simultaneously influence beta Islamic stocks.

Thobarri (2009) this study examines the effect analysis of exchange rates, interest rates, inflation, and GDP growth on property stock price index (an empirical study on the Indonesia Stock Exchange in the period of observation from 2000 to 2008). The samples of this study are the property sector stocks index in Indonesia Stock Exchange, January 2000 - 2008. The result of this study indicates that dollar exchange rate against rupiah, interest rates, inflation and GDP growth simultaneously influence property stocks index. Partially, dollar exchange rate against rupiah has significant positive effect on property sector stock price index, while inflation has significant negative effect on property sector stock price index.

Zubaidah (2004), this study examines the effect analysis of the inflation rate, the exchange rate on beta Islamic stocks in companies listed on the Jakarta Islamic Index (JII). The samples of this study are Islamic firms' stocks listed in JII 2001-2003. The result of this study, from the F test, indicates that rate of inflation and exchange rate changes simultaneously influence beta Islamic stocks insignificantly. While, levels of inflation and exchange rate change are partially influence beta Islamic stocks insignificantly.

Laelah (2008), this study examines the level of interest rates, the profitability ratios

and leverage ratios to beta Islamic stocks. The samples of this are firms registered in Jakarta Islamic Index period 2005-2006. The result of this study indicates that level of interest rates, profitability ratios and leverage ratios, simultaneously influence beta Islamic stocks. While variables of interest rates, profitability ratios and leverage ratios, partially do not influence beta Islamic stock.

Hypothesis Formulation
H1: Variables exchange rate, interest rate, Return on Assets and Return on Equity affect on beta Islamic stock.

RESEARCH METHOD
Population, Sample, and Research Sampling
This study is an *explanatory research* with the aim to test the presented hypothesis on rupiah exchange rate, interest rate and profitability ratio as independent variables. With beta stock as dependent variables, the scopes of this research are:
1. The focus of this research is issuer stocks listed in Indonesia Stock Exchange (BEI)
2. The objects of this research are stocks listed in Jakarta Islamic Index (JII)
3. The Period being studied from January 2009 to December 2010
4. The dependent variables are beta Islamic stocks
5. The independent variables are rupiah exchange rate, interest rate and profitability ratio

Sampling carried out using *purposive sampling* technique. The samples are companies that meet the following criteria:
1. The companies are included in the list of top 30 in Jakarta Islamic Index at least twice from January 2009 to December 2010
2. The issuer companies issue annual financial report period 2009-2010
3. The companies gain profit during period 2009-2010

Data obtained from the Bank Indonesia website (www.bi.go.id), IDX (www.idx.co.id),

Table 1
Description of Variable Calculation Result

Variable	Min.	Max.	Mean
Beta Islamic Stock	-0.26	0.93	0.47
Rupiah Exchange Rate	8,574.00	9,365.00	8,918.84
SBI	6.50	6.75	6.63
ROA	0.08	40.67	11.13
ROE	0.19	83.72	18.82

N=56.

Yahoo Finance (www.finance.yahoo.com), Securities and Exchange Commission (www.bapepam.go.id) and Indonesian Capital Market Directory (ICMD).

The measurement of exchange rate is determined by Bank Indonesia, as well as for the measurement of the interest rate has been set by Bank Indonesia through Indonesia Bank Certificates (SBI). Profitability ratios use ROA and ROE.

$$ROA = \frac{NetProfitafterTax}{TotalAsset} \times 100\%. \qquad (1)$$

$$ROE = \frac{NetProfitafterTax}{OwnedCapital} \times 100\%. \qquad (2)$$

Beta stock as dependent variable is measured using equation from market model with the equation:

$$R_i = \alpha i + \beta_i R_m + e_i \qquad (3)$$

Notation :

R_i = *return* stock
α_i = constant
β_i = beta stock
R_m = *return* market
e_i = residual during period t, assumed = 0.

Stock market return calculation is performed using equation:

$$R_m = \frac{(R_{mt} - R_{mt-1})}{R_{mt-1}}. \qquad (4)$$

Notation:

R_m = *return* market measured using IHSG data per month
R_{mt} = JII in month t
R_{mt-1} = JII in month $t-1$.

For R_1 stock return is calculated based on the monthly individual stock prices.

$$R_i = \frac{(P_{it} - P_{it-1})}{P_{it-1}}. \qquad (5)$$

Notation :

R_i = *return* stock
P_{it} = closing stock price moth t
P_{it-1} = closing stock price month $t-1$.

DATA ANALYSIS AND DISCUSSION
Beta Stock
Beta stocks is the result of regression between company returns calculated from the changes in the company's stock price at the end of the month with the market return which is calculated from JCI JII end of each month from January 2009 to December 2010. From Table 1, it can be seen that the highest beta is owned by PT. Astra International 0.93, and the company owning the lowest beta is PT Semen Gresik -0.26. The average sample company stock beta is 0.47. This means that in the period, the stocks of the part of the companies are defensive stocks.

Rupiah Exchange Rate
Exchange rate based on market forces will always change every time the values of one of the two components of currency change. A currency will tend to be valuable when the demand becomes greater than the available supply, but the value would be diminished if the demand is less than the available supply. From the table above, it is noted that 8,574 is the highest exchange rate of rupiah against dollar in April 2010 and 9,365 is the lowest exchange rate of rupiah against dollar in January 2009.

Interest Rate
The ideal interest rate as expected by economic actors in order to re-increase Real

Table 2
F-Test Result with Beta Islamic Stock as Dependent Variable and Exchange Rate,
Interest Rate, Profitability Ratio as Independent Variables

	F_{count}	F_{table}	Result	Interpretation
Independent Variable (Rupiah Exchange Rate, SBI, ROA, ROE)	435.992	4.108	H0 Rejected H1 Accepted	There is no effect on Beta Islamic Stock

Table 3
T-Test Result with Beta Islamic Stock as Dependent Variable and Exchange Rate,
Interest Rate, Profitability Ratio as Independent Variables

	Significance	T_{count}	T_{table}	Result	Interpretation
Rupiah exchange rates	0.454	0.755	2.005	H0 accepted	There is no effect on beta Islamic stocks
Interest rates	0.198	1.304	2.005	H0 accepted	There is no effect on beta Islamic stocks
ROA	0.039	-2.121	2.005	H0 rejected	There is effect on beta Islamic stocks
ROE	0.039	2.119	2.005	H0 rejected	There is effect on beta Islamic stocks

sector through their investment activities is to be below the range of 10. The basis of this idea is that the expected rate of return of the investment will decline rapidly if the interest rates rise, so for the economic actors, the lower the interest rate is the better.

The lowest interest rate in the study period is 6.5 for interest rate in 2009. But the highest interest rate is 6.75 for interest rate in 2010. The average interest rate of the sample companies is 6.62. This indicates that the interest rate in the study period is good because the range is under 10.

Return On Asset (ROA)
ROA is a ratio derived from net profit after taxes divided by total assets. From the table above, it is noted that the highest ROA of 40.67 is held by PT. Unilever. It suggests that PT. Unilever successfully manages its assets to generate profit. And the smallest ROA is held by PT. Bakrie Telecom at 0.08. It suggests that PT. Bakrie Telecom is less able to manage its assets to generate profit.

Return On Equity (ROE)
ROE is a ratio derived from the net profit

after tax divided by capital. From the table above, it is noted that the highest ROE of 83.72 is held by PT. Unilever. It suggests that PT. Unilever successfully manages its own capital to generate profits. And the smallest ROE is held by PT. Bakrie Telecom at 0:19. It suggests that PT Bakrie Telecom is less able to manage its own capital to generate profit.

Statistic Analysis
The data analysis of all regression equation models in this study used SPSS package 17.

Normality Test
This testing is supported by statistical analysis of one-*test sample* Kolmogorov-*Smirnov* with significant level of 98%. From Table 2, the Kolmogorov-Smirnov value of Z is 0.470 which indicates that the data of independent and dependent distribution variables are normal.

The Effect of Independent Test
Variables Simultaneously
From Table 3, it is noted that F count is 435.992, F table is 4.018, because F count >

F table with significance value 0.000 < 0.05, it indicates that variables of exchange rate, interest rate, Return On Assets, and Return On Investment simultaneously influence beta Islamic stock.

The Effect of Independent Variables Partially Test

Rupiah exchange rate variable has t count 0.755 and t table 2.005, since t count < t table with the significance 0.454 > 0.05, this means that rupiah exchange rate (X1) partially has no effect on beta Islamic stocks (Y).

Interest rates variable has t count 1.304 and t table 2.0049, since t count < t table with the significance 0.198 > 0.05, this means that interest rate (X2) partially has no effect on beta Islamic stocks (Y).

Return on Assets Variable has t count -2.121 and t table -2.005, since t count > t table with the significance 0.039 < 0.05, this means that Return On Asset (X3) partially has effect on beta Islamic stocks (Y).

Return On Equity Variable has t count 2.119 and 2.005, since t count > t table with the significance 0.039 < 0.05, this means that Return On Investment (X4) partially has affect on beta Islamic Stocks (Y).

CONCLUSION, IMPLICATION, SUGGESTION, AND LIMITATIONS

The purpose of this study is to determine whether variables of exchange rate, interest rate, return on assets, return on equity can influence beta Islamic stocks. This research is conducted on companies' stocks listed in the Jakarta Islamic Index (JII). Period of this study is 2 years i.e. from 2009 to 2010, where from each period there are 28 companies studied. So during 2 periods, 56 samples of companies' stocks are obtained. From the research conducted, it can be concluded that beta Islamic stocks, during the study period, produce average beta of 0.4745. It indicates that, in general, the companies' stocks incorporated in the JII are not aggressive stocks, which tend to be insensitive to the changes in market return.

The hypothesis test results indicate that the variables of exchange rate, interest rate, return on assets, and return on equity simultaneously influence beta Islamic stock significantly. While exchange rate and interest rates partially do not influence Beta Islamic stocks significantly. However, variables of Return on Assets and Return on Equity partially influence beta Islamic stocks significantly.

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