

CHAPTER II

THEORITICAL FRAMEWORK AND HYPOTHESIS

A. Theories

1. Capital Market and Islamic Capital Market

Capital market as a of long term securities market consists of bonds and equities issued by government and public authorities or private companies. The bond refers to security on the basis of debt contract and it represents a strict financial claim of holder to the bond issuer, while the equity refers to securities on the basis of assets which represents holders' ownership. Capital market operates as real economic financial institution. It facilitates fund transfer from lender to borrower and provides funds and investment place to lender respectively. It is noticeable that supply and demand of securities, economic and political condition, law enforcement, government regulation and supporting financial institutions are among the factors may influence capital market development. (Husnan ,2004)

In general perspective Islamic and conventional capital markets have no significant differences. In common practice, Islamic capital market is a part of conventional market. Islamic capital market only accommodates securities regarding to sharia compliance and risk free principles. Indonesian Islamic capital market

was initiated by BAPEPAM and DNS-MUI. It was established in Jakarta Islamic Index in 2000 and *shariah* capital market in 2003. (BAPEPAM, 2010)

2. Stocks as Islamic Capital Market Instrument

Stock is certificate securing company ownership on its asset. In other word, stock holder have a stake in business that issued by stock issuer. In general, there are two types of stock available in conventional market which are common and preferred stock. Common stock investment expects an increasing in capital gain and dividend income. Common stock represents par value, market and book value of stock. Par value is the face value of stock set by a company board director. Market value is current price of stock existing in stock market; while, book value is the value of common stock expressing total shareholders' equity divided by number of stocks available in the market. Unlike the common stock, a preferred stock represents par value and the dividend in advance payment.

Islamic capital market preferably accepts common stock rather than preferred stock. In common stock investment, the investor must consider three values those are par value, market value and book value. Par value represents face value of stock in its buying period. It is an important value to determine the value of capital gain or capital lost in stock investment. A profitable stock investment occurs when par value is lower than the current value which means, there were capital gain in the investment. Market value represents current value in stock market. It implies investor

expectation on stock returns. Higher market value represents higher investor expectation on their returns. Book value represents the value of stock over the entire shareholders equity. It implies value of stock which is recorded in company financial statement after diminution of shareholders total equity and preferred stock dividend. Book value represents the original value of stock base on company calculation. It becomes a determinant of under or over valuation on stock price in the market. Preferred stock investment gives pre-determined rate of dividend on its stocks which means, the company gives preferably fix amount of money on investment in advance payment. It is contradict the principle of *riba*-free on Islamic investment. Therefore, common stock investment is preferred in the Islamic stock market.

3. Market Index

Market index becomes an indicator to observe securities price movements. Indonesia stock exchange consists of several indices such as Jakarta Composite Index, LQ-45 index, Jakarta Islamic Index, Main Board Index, Development Board Index, Kompas 100 index an others. Jakarta Composite Index represents common and

... from stock price movements by using the following formula:

Jakarta Composite Index_t

$$= \frac{\sum(\text{Regular Closing Price} \times \text{Number of Stocks})}{\text{Based Value}} \times 100$$

$$\text{Based Value} = \sum(\text{Base Price} \times \text{Number of Stocks})$$

Where, *Jakarta Composite Index_t* is the composite price index in *t* period, Market value is average market value (the multiplication of company stocks listed in the index and it's per stocks price) in *t* period and Based value is the market value since 10 August 1982. LQ-45 index represents the 45 most liquid stocks in the market.

Jakarta Islamic Index represents the 30 most liquid Islamic stocks in the market. Main board index consists of the large companies with the well growing performance record. Development board index consists of the companies with relatively declining performance record with prospective expectation. Kompas 100 index consists of 100 companies stocks which have relatively good liquidity, high capitalization, strong fundamental basis and relatively have good performance based on the Kompas Daily selection.

4. Jakarta Islamic Index

Jakarta Islamic Index (JII) is the first Indonesian Islamic index representing Indonesian Islamic stocks performance. JII is initiated by Indonesia stock exchange (BEI) in corporate with Dana Reksa Ltd in July 2000. Community awareness on

establishing JII. It has similar methodology with Indonesia composite index in calculating its index BEI (2010) and consists of 30 *shariah* most liquid stocks that have largest capital in the market.

JII stocks must be listed in Islamic *Shariah* Stock Index (ISSI) which is issued by BAPEPAM-LK based on these following procedures:

1. The stock has been listed in the index in three month except the ten largest capitalization companies.
2. Debt to asset ratio is no more than 90%.
3. Concerning to the first and second procedures, the sixty *shariah* most liquid stock with largest capitalization will be selected after ISSI listing during a year period of time.
4. The sixty stocks will be re-evaluated to be thirty top most liquid *shariah* stocks with largest market value of transaction during a year period of time.

The above procedures reflect the prudential principle of Islamic investment in avoiding uncertainty and speculation.

5. Islamic Investment

According to Mankiw (2004), investment is the purchase of goods that will be used in the future to produce more goods and services. Karim (2007) stated that investment is a risky and unpredictable business. Huda (2006) describe investment become the only alternative to avoid idle funds for generating wealth. Based on the

previous definition, Islamic investment could be defined as the purchase of goods or services that will be used in the future to produce more goods and services through risky-unpredictable business.

In term of risk-return expectation there is no significant differences among conventional and Islamic stock investment. In additional, Islamic stock investment involves of three major principles that are *riba*-free, *gharar*-free and *maysir*-free principles. Those are the principles that conventional stocks investment permits on its mechanism. According to Hasan (2005), filtering and screening become ultimate difference between Islamic and conventional stock investment. In addition both filtering and screening process consist qualitative and quantitative phases. The qualitative phase conducts sectoral screening to the company freedom from *riba*, *gharar* and *maysir* and the quantitative phase conducts financial ratios screening to ensure minimum level of uncertain investment and gambling.

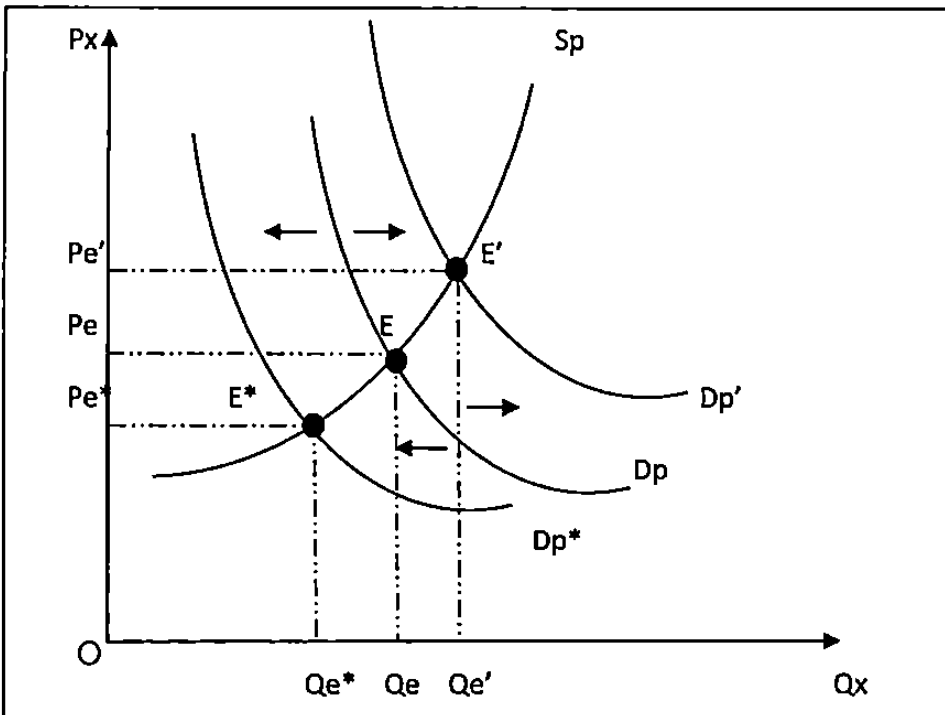
6. Risk and Return on Stock

Dividend and capital gains become two major incomes in stocks investment. Dividend refers to payment to stockholders in accordance to portion of the owned stocks. Meanwhile, capital gain refers to the amount by which a stocks sale price exceeds its original purchasing price. Dividend payment is determined by company board director regarding to company ability in generating profits. Therefore, it depends on how business operates in an economy. Capital gain occurs when current

stocks price exceeds its original purchasing price; it depends on investor expectation on stock returns. Novia (2010) described that there was positive relationship between risk and return. Therefore, the higher expected return implies the higher possibility of risks in stock investment.

7. Islamic Supply and Demand Theory

In general perspective there is no different between conventional and Islamic supply and demand theory. The conventional supply theory defines positive relationship among price and quantity of supplied goods and services. Meanwhile, the conventional demand theory explains negative relationship among price and quantity of demanded goods and services. The only different is that Islamic supply and demand theory involves the existence of permitted (*halal*) and prohibited (*haram*) goods or services in the market. The intercept of Islamic supply and demand curve derives market price equilibrium in the economy (Kerim, 2007).



Source: Karim (2004)

GRAPH. 2.1

Islamic Supply and Demand Curve

According to Little in Novia (2010), the stock price depends on its supply and demand, while capital gain is obtained from stock market price disparation. Graph. 2.1 shows equilibrium price and quantity of goods or services. The horizontal axis represents price (P_x); and the vertical axis represents quantity (Q_x). Point E is an equilibrium point of price (P_e) and quantity (Q_e) intercepts through permitted goods or services demand curve (D_p) and permitted supply curve (S_p).

Where Q^d is the function of demand for permitted good or services and Q^s is the function of supply for permitted good or services. Equilibrium point depends on market power and the other economic variables. Therefore, the equilibrium point relatively moves in accordance to market respond on supply and demand of permitted goods and services. In addition, the other economic variables such as macroeconomic variable (Ross, 1976), political factors, national income (Sajid, 2010) contribute direct or indirect influence to stock prices.

8. Interest Rate and Monetary Policy

Mankiw (2004) stated monetary policy is the setting of money supply by central bank policymakers. For instance, Federal Reserve used to control US monetary policy with three major instruments, namely open market operation, reserve requirement control and discount rate control. The open market operation refers to government purchase and sale of bonds. Reserve requirement refers to the relationship of minimum amount of reserve that banks must hold against its available deposits. Discount rate refers to the interest rate on central bank loan to be applied for banks. The all monetary instruments are suppose to control money supply in the market for maintaining the development of economic activities.

The empirical study shows different relationship between interest rate and return on stock. According to Benaković (2010), interest rate had positive relationship with stock return in Croatian market. In addition, according to

Büyüksalvareci (2010), Nazir (2010) interest rate had negative relationship in Turkey and Pakistan market.

9. International Oil Price

Oil becomes important worldwide commodity. It used by the Industry in almost economic activities. Indonesia as net importer of oil, an increase in oil price will cause to the increasing in production cost. In the future, it will decrease the amount of cash flow and negatively affects the stock exchange market. According to Büyüksalvareci (2010), international oil price brings negative impact to Turkey's stock exchange.

10. Price Level and Inflation

According to Douglas (1982), inflation is the increasing of overall price for good or services. Chen, Ross and Roll (1986) argued there are two variables which able to measure the inflation. First, unexpected inflation refers to the difference among actual inflation and expected inflation. Actual inflation comes from the percentage change in the costumer price index. Second, the expected inflation refers to the changes in expected inflation as a reflection of forecasting value of inflation based on economic variables. The rise of inflation stimulates the strict monetary policy by increasing the nominal interest rate and increasing the discount rate,

According to Nopphon (2012), costumer price index is the most popular measurement of inflation and price level. It measures the overall cost of goods and services bought by typical costumer. Novia (2010) stated that costumer price index becomes one indicator to measure inflation beside wholesale price index and gross domestic product. The wholesale price index reflects commodities price movement in several areas. And gross domestic product reflects the measurement of final good or services in domestic market.

Different relationship among inflation and stock return is found in several researches. In 2010, inflation has negative relationship to stock return in Croatian stock market (Benaković, 2010). In the same period inflation had negative relationship to stock return in Pakistan market (Nazir, 2010). In addition, inflation had positive relationship to stock return in Ghanaian stock market (Kowornu, 2012).

11. Trading Volume

Trading volume is the amount of tradable stocks in certain period of time. According to May (2011), trading volume becomes important variable to stocks' price movement. It represents market responds on stocks. The increasing in trading volume implies higher investor expectation on future value of a company and vice versa. Khan and Rizwan (2008) stated that trading volume had positive influence to stock return in Pakistan stock exchange.

12. Vector Autoregressive (VAR)

Sims (1972) stated that *Vector Autoregressive (VAR) Model* is a combination of *Autoregressive (AR)* that builds a vector of interdependence variables. *VAR(1)* is Vector Autoregressive Model in first order, which means the independent variable of the model has one lag value of its dependent variable. The example of *VAR(1)* model which is generated from *AR(1)* with two variables is:

$$z_t = \alpha_0 + \phi_1 z_{t-1} + e_t$$

With

$$z_t = \begin{pmatrix} z_{1t} \\ z_{2t} \end{pmatrix} \alpha_0 = \begin{pmatrix} \alpha_{10} \\ \alpha_{20} \end{pmatrix}$$

$$z_t = \begin{pmatrix} \beta_{11} & \beta_{12} \\ \beta_{21} & \beta_{22} \end{pmatrix} e_t = \begin{pmatrix} e_{xt} \\ e_{yt} \end{pmatrix}$$

Vector Autoregressive order p VAR(p) is generated from *AR(p)* with two variables in the following equation:

$$z_t = \alpha_0 + \sum_{n=1}^p \phi_n z_{t-n} + e_t$$

Where z_t is vector z at t period, α_0 is constant, ϕ_n is the size of z to n parameter

where $n = 1, 2, \dots, p$ and e_t is error term in t period

B. Previous Researches

There were plenty of domestic and international researches on stock returns. Each research came with different analysis tools and results. Here is some researches on stock returns in several countries:

TABLE. 2.1
Previous Studies

No.	Title	Model	Conclusion
1.	Amet Büyüksalvareci (2010) on <i>"The Effects of Macroeconomics Variables on Stock Returns: Evidence from Turkey"</i> period 2003 – 2010.	Ordinary Least Square (OLS)	The study defined Turkey return on stock was positively influenced by money supply and negatively influenced by foreign exchange rate, oil price, industrial production index, money market interest rate and costumer price index; In addition, the research explained that gold has no significant influence to Turkey returns on stock.
2.	Benaković, Posedel (2010) on <i>"Do Macroeconomic factors matter for stock returns? Evidence from estimating a multifactor model on Croatian market"</i> period 2004 – 2009.	Cross-Sectional Regression	The study defined Turkey return on stock has positively influenced by money supply and negatively influenced by foreign exchange rate, oil price, industrial production index, money market interest rate and costumer

			price index; In addition, the research explained that gold has no significant influence to Turkey returns on stock.
3.	Khalid, Shakil and Ali (2010) on " <i>Post Liberalization Impact of Macroeconomic Factors on Stock Market Return</i> ".	Exponential Generalized Autoregressive Conditional Heteroskedasticity (EGARCH)	This study defined Pakistan returns on stock has positively influence by political stability and income per capita; and negatively influenced by inflation, interest rate and exchange rates.
4.	Maruddani and Safitri (2008) on " <i>Vector Autoregressive (VAR) For Forecasting Indofood Sukses Makmur Ltds' Stock Price</i> ".	Vector Autoregressive (VAR)	The study defined that AIC and SC values determined four lag values of Stock on ROA, DER and EPS and VAR can be used to forecast the future value of stock from 2006:1 until 2007:12
5.	Muflih (2012) on " <i>The Factors that affect shares' Return in Amman Stock Market</i> " period 2005 – 2010.	Simple Regression ANOVA	His study defined Amman stock returns is negatively influenced by size of the company and positively influenced by number of employees and balance of payment; in addition, interest rate gross domestic product, budget deficits and inflation have no significant influence to Aman stock returns.
6.	Huzin, Fidlizan, Abu and Awang (2012) on " <i>Malaysian Islamic Stock Market: a Time Series</i> ".	Vector Autoregressive (VAR)	The study defined Malaysian Islamic stock returns has positively influenced by industrial

Analysis". Period 1999 – 2007.

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|----|---|---|---|
| 7. | Lee, Hamzah and Maysami (2004) on "Relationship between Macroeconomic variables and stock market indices: Cointegration Evidence from Stock Exchange Singapore's All-Sectors indices" | Error Correction Model (ECM) and Vector Error Correction Model (VECM) | <p>production index and costumer price index. In addition, the return on stock was negatively influenced by money supply and exchange rate.</p> <p>This study defined all Singapore's poperty index are significantly influenced by inflation, interest rate, exchange rate, industrial production index and money supply. Moreover, Singapore's financial index was significantly influenced by those variables except money supply; in addition, the Singapore's hotel index is not significantly influenced by money supply and interest rate but significantly influenced by the rest of variables.</p> |
| 8. | Novia (2010) on "Macroeconomic Factors that Influence Return on Stock in Jakarta Islamic Index" period 2005 – 2010. | Generalized Auto Regressive Conditional Heteroskedasticity (GARCH) | <p>Her research defined Jakarta Islamic Index return on stock was positively influenced by industrial production index and market index. Moreover stock return was negatively influenced by costumer price index and exchange rate; In addition, stock returns have no significant influence with money supply and interest rate.</p> |

9.	Kuworu (2012) on " <i>Effect of Macroeconomic Variables on the Ghanaian Stock Market Returns: A Co-integration Analysis</i> " period 1992 – 2008.	Error Correction Model (<i>ECM</i>)	The study defined negative relationship between Ghanaian return on stock and crude oil price. Furthermore the research explained that Ghanaian return on stock was positively influenced by t-bill rate, inflation and exchange rate.
10.	Khan and Rizwan (2008) on " <i>Trading Volume and Stock Returns: Evidence from Pakistan Stock Market</i> " period 2007-2008.	Generalized Auto Regressive Conditional Heteroskedasticity (<i>GARCH</i>) and Vector Autoregressive (<i>VAR</i>)	The study defined positive contemporaneous relationship among trading volume and stock returns in Pakistan stock market.

Source: Relevant Undergraduate Thesis and Journals

The previous studies provided relevant information and motivate future research as enrichment of the empirical study to stock market field. Therefore, the author distinguishes this study by offering these following particular differences:

1. Research case study

This study will cover the case of companies listed in Jakarta Islamic Index (JII) starting from year 2008 until 2012.

2. Variables

This study use costumer price index, oil price and interest rate which have various contradictions in the previous studies.

3. Research Period

The data that will be used in this study consists of companies which are listed in JII since year 2008 until 2012.

C. Theoretical Frameworks and Hypothesis

Based on the previous theories, these following variables are used to explain return on stock of a company. They are costumer price index, industrial production index, interest rate, exchange rate, market index, oil price and money supply. Those variables will be explained by this following explanation.

1. The Influence of Costumer Price Index to Stock Returns

Costumer price index becomes the representative of inflation. It measures average change in prices of goods and services in a particular period of time. Inflation becomes reason for government to maintain value of money circulating in the market. It implies a mandatory policy to increase the discount rate that will reduce present value of cash money circulating in the market. Therefore an increasing in inflation rate will negatively influence equity price and increases the production cost.

According to Daryanti (2010), inflation has negative relationship to stock returns in

the increasing of interest rate will negatively influence stock market. According to Nazir (2010), interest rate has negative effect to Pakistan stock market.

Hypothesis 3: There is negative effect of interest rate to JII10 stock returns.

4. The Influence of Trading Volume to Stock Returns

Trading volume becomes the representative of market responds on stocks available in the market. The higher volume implies higher market positive expectation to stock future value. The lower volume implies negative market sentiment to future value of stocks. According to Khan and Rizwan (2008), trading volume had positive relationship with stock returns in Pakistan stock exchange.

Hypothesis 4: There is positive effect of trading volume to JII10 stock returns.

Based on this research questions, research objectives, theoretical backgrounds and the previous research results; therefore we develop this following framework:

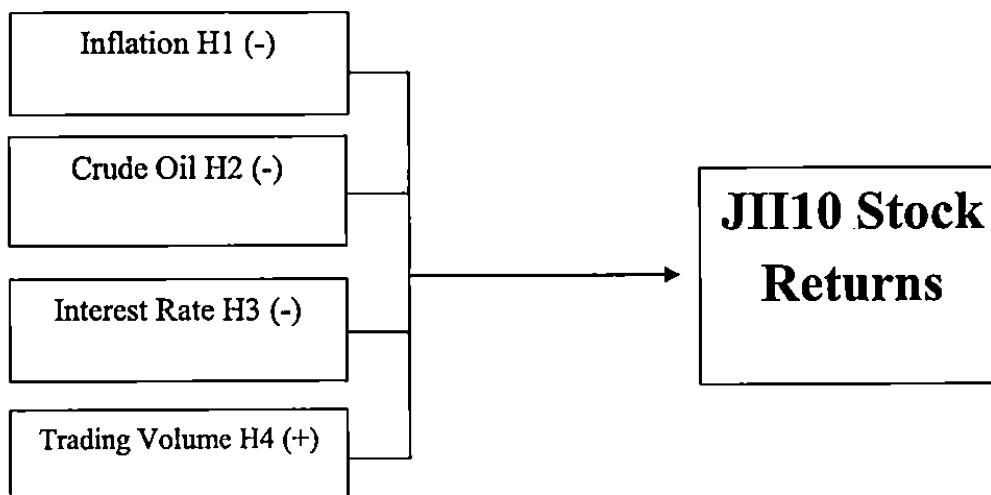


FIGURE 2.1

Research Framework

Source: Agrawal (2010), Büyüksalvareci (2010), Posedel (2010), Nazir (2010), Hussin (2012), Maysami (2004), Novia (2010), Kowarnu (2012) Khan and Rizwan (2008) and Hasan, Jinnan and Javed (2009)

D. Hypothesis

On the basis of previous research questions, research objectives, theoretical backgrounds, previous researches' results and research framework. This study develops these following hypotheses:

1. H1: There is negative effect of customer price index to JII10 stock returns period 2008-2012.
2. H2: There is negative effect of crude oil price to JII10 stock returns period 2008-2012.
3. H3: There is negative effect of interest rate to JII10 stock returns period 2008-2012.
4. H4: There is negative effect of trading volume to JII10 stock returns period