# CHAPTER IV

# RESULTS AND ANALYSIS

## A. Index's Overview

1. Dow Jones Industrial Average (DJIA)

The Dow Jones studied in this minor thesis are Dow Jones Industrial Average (DJIA), which is one of the joint-stock index in the New York Stock Exchange (NYSE), which includes all the most active industrial stocks on the NYSE that are often used as a benchmark to assess industry stock performance. The Dow Jones Industrial Average (DJIA) is one of the indices maintained by Dow Jones & Company. Several indices maintained by Dow Jones & Company are:

1) Dow Jones Composite Average
2) Dow Jones Global Titans
3) Dow Jones Transportation Average
4) Dow Jones Utility Average
5) Dow Jones U.S. Large Cap Growth
6) Dow Jones U.S. Large Cap Value
7) Dow Jonesk U.S. Small Cap Growth
8) Dow Jones U.S. Small Cap Value
9) Dow Jones Wilshire 5000 Total Market Index

10) Dow Jones Sustainability Indexes

Dow Jones & Company, which is one of the publishing and financial information companies in the United States. The company was founded in 1882 by three reporters, namely: Charles Dow, Edward Jones, and Charles Bergstresser. The main business of theirs is a publication of the Wall Street Journal, the daily newspaper that covers international business and financial news and issues in the United States which began publication on July 8, 1889.

The other Published by Dow Jones & Company are Barron's Magazine, this is the weekly journal of world economies and markets, the Far Eastern Economic Review is a monthly journal, and the consumer magazine SmartMoney. Dow Jones also has Ottaway Newspapers Inc., Which publishes several newspapers in the United States.

Dow Jones also has some electronic publications (websites). There are Careerjournal.com and Collegejournal.Com, the career-oriented publications, Opinionjournal.Com oriented progress, OpinionJournal.com with content that includes conservative politics, also Realestatejournal.Com and Startupjournal.Com that business portals, and Factiva is a company newspaper that serve information of business and newspaper shared by Reuters.

In January 2006, Dow Jones bought CBS MarketWatch at a price of $ 528 million. MarketWatch is a popular financial websites for investors, and Dow Jones claim teh success of MarketWatch which is based on a business-to-

consumer to be converted into business-to-business which has been the motto. (www.djaverages.com:2013)

2. Nikkei 225

Nikkei 225 is one of the joint-stock index in Tokyo Stock Exchange (TSE) include industrial stocks that most active in Tokyo and most frequently observed by some stock exchanges in Asia. Nikkei 225 the leading and most-respected index of Japanese stocks. It is a price-weighted index comprised of Japan's top 225 blue-chip companies on the Tokyo Stock Exchange. The Nikkei is equivalent to the Dow Jones Industrial Average Index in the U.S. In fact, it was called the Nikkei Dow Jones Stock Average from 1975 to 1985. (www.investopedia.com:2013)

3. Hang Seng Indeks (HSI)

The Hang Seng Index (HSI) which is an index on the Stock Exchange of Hong Kong Limited (SEHK) which is used to monitor daily changes of the 33 largest companies in SEHK and the main indicator of the overall performance markets serving approximately 70% of capitalization on the Stock Exchange of Hong Kong. The Hang Seng Index was launched on 24 November 1969, which was formed by HSI Services Limited, which is a branch of Hang Seng Bank, the second largest bank in Hong Kong. HSI Services Limited is responsible for preparing, publishing and managing the Hang Seng Index and other stock

indexes, such as Hang Seng Composite Index, Hang Seng HK MidCap Index, and others.

Another index of the Stock Exchange of Hong Kong Limited (SEHK) is the Hang Seng Composite Index Series (HSCIS) launched on October 3, 2001, aims to provide a standard of performance of the SEHK. Contains the top 200 companies in terms of market capitalization, which consists of a collection of industrial enterprises. The market capitalization of these companies cover about 97% of the total capitalization of the SEHK. Feasibility Hang Seng Index (HSI) can be learned by the rotation of the whole stock and how much illustrates the total market capitalization. HSI value of the total stock of approximately 70% of the total market value. This comparison is a good compared with other foreign stock indices. Feasibility HSI can also be observed by the resemblance movement of All Ordinary Indices (AOI) are covered by the SEHK, which includes all shares listed on the SEHK.

Stocks listed on the HSI (Hang Seng Index) were selected by in-depth analysis and consultation with external parties. In order to get into the index, there are several things to note are:

a) must be among the top 90 percent of the total market value of all common stock

b) must be among the top 90 percent of the total turnover of the HSE

c) must be listed on the stock of at least 24 months.

(www.ekonomi.kompasiana.com:2013)

4. Straits Times Indeks (STI)

Straits Times Index is a composite index of stocks in the Singapore Stock Exchange which includes all shares listed on the Singapore Stock Exchange. Straits Times itself is the name of an newspaper (English language) in Singapore owned by Singapore Press Holdings (SPH), first published on July 15, 1845.

Straits Times Index is defined as a stock market index based on a value market weighted) of the 30 largest companies on the stock exchange singapore. Straits Times Index was first developed by Singapore Press Holdings (SPH), Singapore Exchange (SGX) and Singapore Press Holdings, Professor Tse Yiu Kuen is the consultant of that company. Initially, the Straits Times Index is calculated based on 50 stocks of companies listed on the Singapore stock exchange. But in 2008, as the embodiment of cooperation between Singapore Press Holdings (SPH), Singapore Exchange (SGX), and the Financial Times Stock Exchange Group (FTSE), the number of shares of companies included in the Straits Times Index was reduced from 50 to 30 stocks and shares recalculated based on the methodology of the Financial Times Stock Exchange (FTSE).

Straits Times has 11 representative offices in capitals around the world. The contents published in three main parts: the main focus on Asia and international news. "Home" focuses on local news, together with forums, sports

and financial news. Lifestyle news, performances and art entitled "Life". (www.moneycontrol.com:2013)

5. Jakarta Composite Index (JCI) at Indonesian Stock Exchange (IDX)

Indonesian Stock Exchange (IDX) is the total amount of the market value of listed shares at August 10, 1982. Market value is the total number of multiplications per share recorded (except for companies that are in a restructuring program) with the price on the IDX on the day. Index calculation represents the movement of stock prices in the market / exchange that occurs through the auction trading system. Basic Value will be adjusted quickly when capital emiten are changes or other factors unrelated to stock prices. Adjustments will be made if there are additional new emiten, Preemptive Rights, partial / company listing, warant and convertible bonds and also delisting. The occurrence of stock splits, stock dividends or bonus shares, Basic Values not adjusted for market value because of not affected. The stock price used in calculating the share price in the stock index is based on the regular market price occur based on auction system.

JCI calculations performed every day, after the close of trading each day. In the near future, JCI calculations can be done multiple times or even in a few minutes, this can be done when the trade system automation is implemented properly. if the level of JCI rose sharply, this is followed by the rise in share prices Big Cap. The weakness of this calculation is the formula enter the stocks

that are less actively traded and include a weighting factor or the number of shares in the overall computation. This method involved inserting stocks that are less actively traded, shares classified sometimes even sleep, it will be cut in real terms of JCI representation in the market, because stocks that are not traded participated included in the calculations. IDX still considers the methods used is sufficient to represent the movement of all shares on the trading floor daily. (www.idx.co.id:2013)

**B. Data Analysis**

1. Descriptive Statistics

performing the multiple linear regression analysis, first will be performed descriptive statistical analysis to find a general description of variable data Dow Jones Industrial Average (USA), Nikkei 225 (Japan), Hang Seng (Hong Kong), Straits Times (Singapore), and also Jakarta Composite Index (Indonesia) . Descriptive statistics are often referred to as a statistically significant deductive method thats about how to summarize a set of data in a form that is easy to read and quickly provide information, which is generally presented in the form of tables and graphs. In this study using a table containing information about the characteristics of the study variables using some measurement, namely: the mean, median, standard deviation, minimum, and maximum.

The closing price indices Dow Jones Industrial Average (DJIA), Nikkei 225, Hang Seng, Straits Times, and Jakarta Composite Index (JCI) were investigated in the period 2010-2012:

Table 4.1 Result of Descriptive Statistics

| Description | DJIA | Nikkei225 | Hang Seng | STI | JCI |
|---|---|---|---|---|---|
| Mean | 9.3798 | 9.1591 | 9.9561 | 7.9965 | 8.1932 |
| Median | 9.4076 | 9.1621 | 9.9552 | 8.0071 | 8.2441 |
| Std. Deviation | 0.09474 | 0.07363 | 0.08078 | 0.05508 | 0.14813 |
| Minimum | 9.19 | 9.04 | 9.78 | 7.88 | 7.84 |
| Maximum | 9.51 | 9.31 | 10.07 | 8.07 | 8.38 |

Source: Data processed (2014)

Based on table 4.1 above, it can be seen that the mean of Dow Jones Industrial Average was at 9.3798, while the mean Nikkei 225 is equal to 9.1591, and the Hang Seng Index at 9.9561, can also be shown that during the study period , the mean for the Straits Times Index was at 7.9965, while Jakarta Composite Index (JCI) had a mean 8.1932. Other measure of central tendency that can be seen from Table 4.1 is the median. The median is a measurement of central tendency based on the value of the data that is located in the middle (midpoint) from distribution of research data compiled sequentially. Based on

Table 4.1 it can be seen that the Dow Jones Industrial Average had a median value of 9.4076. meanwhile, the Nikkei 225 had a median of 9.1621, and the Hang Seng Index at 9.9552. while the median value for the Straits Times Index was at 8.0071, and the Jakarta Composite Index (JCI) amounted to 8.2441.

In Table 4.1 above, there is also information about the value of standard deviation of each stock price index were investigated. Standard Deviation measure the dispersion or spread of the data. In Table 4.1 it can be seen that during the study period of stock exchange, Indonesia has the highest standard deviation value that is equal to 0.14813. this means that Jakarta Composite Index are more risky than the stock markets of other countries in this research. Instead Strait Times Index has a smallest value of standard deviation, it just equal to 0.5508 which means that Singapore stock market had the lowest risk.

Table 4.1 also provides information on the minimum and maximum values of each of the stock price index were investigated . The Dow Jones Industrial Average has a minimum value and a maximum value of 9.19 and 9.51. The minimum value of the Dow Jones Industrial Average occurs when close of trading in June 2010 and the maximum value at the close of trading in september 2012. The minimum value of the Nikkei 225 is 9.04 which occurs when the close of trading in November 2011 and the maximum value at the close of trading March 2010 in the amount of 9.31. The minimum value of the

Hang Seng Index is 9.78 and the maximum is about 10.07. the minimum value for the Hang Seng Index at the close of trading occurred in September 2011 and the maximum value occurs at the close of trading in April 2011. The minimum value occurs Straits Times Index is 7.88 at the close of trading in December 2011 and a maximum value of 8.07 at the close of trading occurred in December 2010. The minimum value of Jakarta Composite Index (JCI) is about 7.84 and the maximum value is equal to 8.38. The minimum value occurs Jakarta Composite Index (JCI) at the close of trading in Februari 2010 and the maximum value occurs at the close of trading in October 2012.

2. Multiple Regression Analysis

Multiple regression is an equation that describes the relationship between two or more independent variables with the dependent variable. Multiple regression applied to this study to determine whether there are significant effect of Global indexs of Dow Jones Industrial Average ($X_1$), Nikkei 225 ($X_2$), Hang Seng ($X_3$) dan Straits Times ($X_4$) on Jakarta Composite Index (JCI) (Y), and also measure the influence of all indexs.

The results of processing the data using SPSS 17 obtained the following results:

Table 4.2 Result of Multiple Regression Analysis

| Variable | Unstandardized Coefficients | $t_{calculated}$ | Sig | Description |
|---|---|---|---|---|
| Constant | -1.998 | -1.349 | 0.187 | |
| DJIA | 1.083 | 10.968 | 0.000 | Significant |
| Nikkei 225 | -0.691 | -4.651 | 0.000 | Significant |
| HSI | -0.218 | -0.864 | 0.394 | Not Significant |
| STI | 1.067 | 3.119 | 0.004 | Significant |
| $R^2$ = 0.915 | | | | |
| Adjusted $R^2$ = 0.904 | | | | |
| $F_{calculated}$ = 83.440 | | | | |
| $F_{table}$ = 2.68 | | | | |
| Significancy = 0.000 | | | | |
| $t_{table}$ = 2.03224 | | | | |

Source: Data Processed (2014)

Formula:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4$$

$$Y = -1.998 + 1.083\ X_1 + (-0,691\ X_2) + (-0,218\ X_3) + 1.067\ X_4$$

Based on Table 4.2 it can be seen that the value of $t_{calculated}$ for the variable of Hang Seng Index ($X_3$) is -0.864, while the value of $t_{table}$ is 2.03224, then the value of $t_{calculated} < t_{table}$ is about -0.864 <2.03224. in addition, the significant value for the variable of Hang Seng Index ($X_3$) is equal to 0.394. The significance value is more than the α value of 0.05. Therefore, it can be said that Hang Seng Index ($X_3$) had no significant effect on the Jakarta Composite Index (JCI) (Y). Multiple linear regression equations in this study becomes:

$$Y = a + b_1X_1 + b_2X_2 + b_4X_4$$

$$Y = -1.998 + 1.083\ X_1 + (-0,691\ X_2) + 1.067\ X_4$$

Based on Table 4.2 it can be seen from the regression coefficient of each independent variable. Regression coefficient for the variable Dow Jones Industrial Average ($X_1$) or $b_1$ is equal to 1.083. this means that the variable Dow Jones Industrial Average ($X_1$) has contributed to the Jakarta Composite Index (JCI) (Y) equal to 1.083. that is, when the Dow Jones Industrial Average increased by 1 point, the Jakarta Composite Index (JCI) will also increase by 1.083 points.

In Table 4.2 it appears that the value of the regression coefficient for the variable Nikkei 225 ($X_2$) or $b_2$ is equal to -0.691. this means that the variable Nikkei 225 ($X_2$) have contributed to the Jakarta Composite Index (JCI) (Y)

equal to -0.691. that is to say, if the Nikkei 225 increased by 1 point, the Jakarta Composite Index (JCI) will decrease by 0.691 points.

Regression coefficient for the variable of Straits Times Index ($X_4$) or $b_4$ is equal to 1.067. this indicates that the variable Straits Times Index ($X_4$) has contributed to the Jakarta Stock excange (Y) about 1.067. this means that if the Straits Times Index increased by 1 point, the Jakarta Composite Index (JCI) will also increase by 1.067 points.

3. Coefficient of Determination ($R^2$)

See how far the abilitys of model to explain variation in the dependent variable can be used the coefficient of determination ($R^2$). The coefficient of determination ($R^2$) in this study is determined by looking at the value of the adjusted R-Square. Adjusted R-Square is an indicator used to determine the effect of adding the independent variable in a regression equation. Adjusted R-square value has been freed from the influence of degree of freedom which means that the value has really showed how the influence of independent variables on the dependent variable.

Here is table that displays the value of the coefficient of determination:

Table 4.3 Coefficient of Determination

| R | R-Square | Adjusted R-Square | Std. Error of the estimate |
|---|---|---|---|
| 0.957 | 0.915 | 0.904 | 0.4588 |

Source: Data processed (2014)

The coefficient of determination is about 0.904 or 90.4% stating that overall of independent variable Dow Jones Industrial Average ($X_1$), Nikkei 225 ($X_2$), Hang Seng ($X_3$) and Straits Times ($X_4$) give affect for the dependent variable of Jakarta Composite Index (JCI) (Y) amounted to 90.4% while the remaining as equal to 9.6% is influenced by other variables outside the model.

4. Classical Assumption

Classical assumption test aims to determine whether the estimation model has met the criteria for econometric, in the sense of there is no serious deviations from the assumptions that must be fulfilled in the method of Ordinary Least Squares (OLS). In this study, the classical assumption test performed with SPSS (Statistical Product and Service Solutions) 17.0. the classical assumption in this study, include: normality test, multicollinearity test, autocorrelation test, and heterocedasticity test.

a. Normality Test

Aiming to test the normality of data distribution. Normality test data in this study using kolmogrov-Smirnov test. The following are the significant value of kolmogrov-Smirnov test results for each variable.

Table 4.4 Normality Test

| Variable | Asymp. Sig. (2-tailed) |
|---|---|
| DJIA | 0.569 |
| Nikkei 225 | 0.609 |
| Hang Seng | 0.862 |
| STI | 0.671 |
| JCI | 0.337 |

Source: Data processed (2014)

According to the table 4.4 it can be seen that the significance value of each variable showed greater value than 0.05. thus, it can be concluded that all the data variables studied had a normal distribution.

b. Multicollinearity test

Basically multicollinearity is the existence of a perfect linear relationship or near for perfect between some or all of the independent variables. To detect the

presence or absence the symptoms of multicollinearity can be done by looking at the value of tolerance and Variance Inflation Factor (VIF) with a basis for decision making; if tolerance is more than 0.1 and VIF value of less than 10, then there is no multicollinearity.

Here is the value of tolerance and VIF of each variable:

Table 4.5 Multicollinearity Test

| Variable | Tolerance | VIF |
|---|---|---|
| Dow Jones Industrial Average | 0.687 | 1.455 |
| Nikkei 225 | 0.502 | 1.990 |
| Hang Seng | 0.144 | 6.929 |
| Strait Times Index | 0.169 | 5.908 |

Source: Data processed (2014)

Based on the above test results of multicollinearity, appears that all independent variables studied has tolerance > 0.1 and VIF <10. Thus, it can be concluded that in all the independent variables studied are has no strong multicollinearity symptoms occur.

c. Autocorrelation Test

Autocorrelation test performed to determine whether the linear regression model has any correlation between bother error in the current

period with the error in the previous period. Good regression models are free from autocorrelation. Autocorrelation arises because sequential observations over time with one another. Decision of whether or not of autocorrelation can be performed using Durbin-Watson test, by looking at the value of d. Here is a rule of decision (Hanke, et. al., 2003:278).

1.) If the Durbin-Watson statistic is greater than the above limit (du), then the autocorrelation coefficient ρ equal to zero (there is no positive autocorrelation)
2.) If the Durbin-Watson statistic is smaller than the below limit (dL), then the autocorrelation coefficient ρ is greater than zero (there is a positive autocorrelation)
3.) If the Durbin-Watson statistic is smaller than the below limit (dL) with a above limit (du), then testing can not conclude (not known whether there is a positive autocorrelation)

Decision-making with the Durbin-Watson test can be done by getting the value of dL and du in the statistical tables for the Durbin-Watson test limits. For k = 4 and n = 36, get the dL score of 1.29 and du value of 1.65. meanwhile,d is obtained by looking at the value of the Durbin-Watson from data processing with SPSS 17.0. The following result are:

Table 4.6 Autocorellation Test

| dL | Du | 4-dL | 4-du | d | Decision |
|---|---|---|---|---|---|
| 1.29 | 1.65 | 2.71 | 2.35 | 0.914 | Positif Autocorellation |

Source: Data processed (2014)

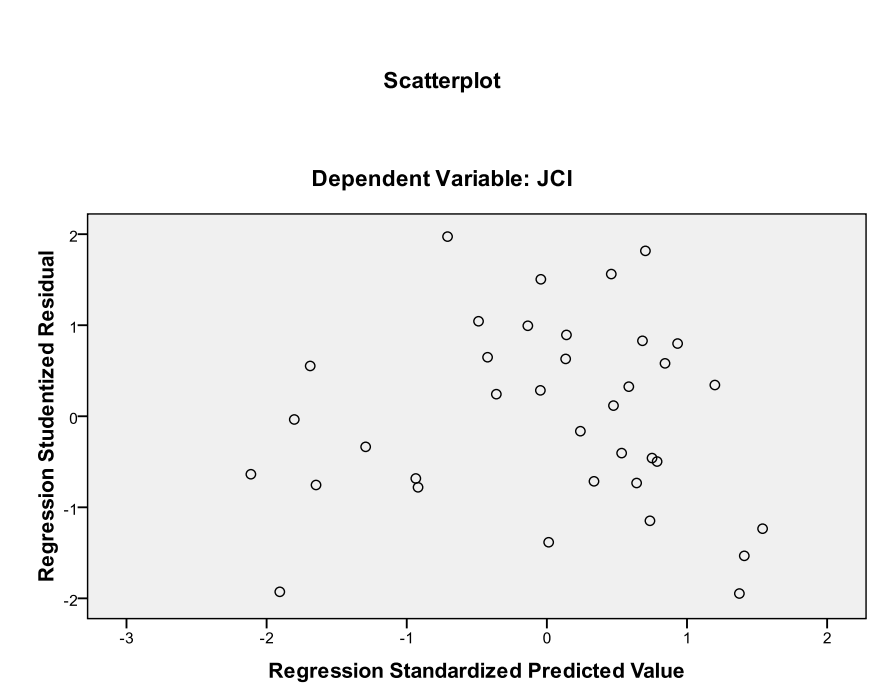
Based on the tale 4.6 above it can be seen that in this study there are positive symptoms of autocorrelation. This is because the value of d is smaller than the value of dL, 0.914 <1.29. The autocorrelation symptoms may occur due to the independent and dependent variables used in this study is the stock price index. In one of the assumptions of technical analysis revealed that changes of a stock prices will have a particular pattern and that pattern will be repeated. This indicates that the value of the stock price index in the previous period. Therefore, the stock price index variable symptoms may occur autocorrelation.

d. Heteroscedasticity Test

Heteroscedasticity test is done by looking at the graph plots between the predicted value of the dependent variable, that leverage with the residual. Heteroscedasticity detection can be done by looking at the graph plots the dependent variable of ZPRED with the residual of SRESID. If the data is spread both above and

below the Y axis to form a certain pattern (wavy, widened then narrowed) it can be concluded that there is no heteroscedasticity symptoms.

Figure 4.1 Heteroscedasticity Plot Graph




Source: Data processed (2014)

In multiple linear analysis testing that has been done shows scatterplot images that shows the “dots” data points spread above and below or around the number 0, the “dots” of data do not accumulate just above or below it. It can be concluded that the model of multiple linear analysis free from heteroscedasticity.

5. Hypothesis Testing

In this research, there are two types of hypothesis testing, which are simultaneously testing (F-test) and partially testing (t-test).

a. F-test (Simultaneously)

Significance test model using F-test is to determine the simultaneously effect of independent variables Dow Jones Industrial Average ($X_1$), Nikkei 225 ($X_2$), Hang Seng ($X_3$) and Straits Times ($X_4$) are together give significant effect on the dependent variable Jakarta Composite Index (JCI) (Y). Significance test of this model can be seen in the value of F that have been obtained from SPSS version 17.00 and can be seen as follows:

Table 4.7 F-test

**ANOVA[b]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | .703 | 4 | .176 | 83.440 | .000[a] |
| | Residual | .065 | 31 | .002 | | |
| | Total | .768 | 35 | | | |

a. Predictors: (Constant), STI, DJIA, Nikkei, hangseng

b. Dependent Variable: JCI

Source: Data processed (2014)

Based on table 4.7 above it can be seen that the value of F is equal to 83.440. Meanwhile, $F_{table}$ value obtained by using statistical tables. $F_{table}$ with a significance value of 0.005; $df_1$or numerator = 4, and $df_2$ or denominator = 31 in the statistics table is 2.68, thus it can be seen that the value of $F_{calculated}$ is greater than the value of $F_{table}$ (83.440> 2.68)

Table 4.7 also shows that the significance value is 0.000. The significance value smaller than the value of α is equal to 0.05. The decision may be taken that Ho is rejected and Ha accepted. That is, the Dow Jones Industrial Average ($X_1$), Nikkei 225 ($X_2$), Hang Seng ($X_3$), and Strait Times Index ($X_4$) simultaneously give significant effect on the Jakarta Composite Index (JCI) (Y)

b. t-test (Partially)

In this study the partially test aims to determine whether the independent variables partially give significant effect on the dependent variable. Results of partial test using SPSS 17.0 will be presented in the table below:

Table 4.8 t-test

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | | Tolerance | VIF |
| 1 | (Constant) | -1.998 | 1.482 | | -1.349 | .187 | | |
| | DJIA | 1.083 | .099 | .693 | 10.968 | .000 | .687 | 1.455 |
| | Nikkei | -.691 | .149 | -.344 | -4.651 | .000 | .502 | 1.990 |
| | hangseng | -.218 | .253 | -.119 | -.864 | .394 | .144 | 6.929 |
| | STI | 1.067 | .342 | .397 | 3.119 | .004 | .169 | 5.908 |

a. Dependent Variable: JCI

Source: Data processed (2014)

t-test results in Table 4.8 shows how far the influence of the independent variables in partially to explaining the variation of dependent variable. Based on table 4.8 above it can be seen that the value $t_{calculated}$ for Dow Jones Industrial is 10.968. meanwhile, $t\text{-}_{Table}$ value obtained by using statistical tables. $t\text{-}_{Table}$ with a significance value of 0.05 and df = n - 2 = 36-2 = 34 on the statistics table is 2.03224. thus $t_{calculated}$ value for the Dow Jones Industrial is higher than $t_{Table}$ (10.968>2.03224). Table 4.8 also shows that the significance or value of Sig, The Dow Jones Industrial is about 0.000 where the value is smaller than the value of α 0.05, it can be taken a decision that Ho is rejected and Ha accepted, and Dow Jones Industrial Average ($X_1$) partially has significant effect on the Jakarta Composite Index (JCI) (Y)

Based on Table 4.8 can also be seen that the value of $t_{calculated}$ from Nikkei 225 is higher than the value of $t_{table}$ (-4.651 <2.03224). in Table 4.8 also appears that the significance value of Nikkei 225 lower than the value of α (0.000< 0.05). Can be decided that Ho rejected and Ha accepted. This means that the Nikkei 225 (x2) partially has significant effect on the Jakarta Composite Index (JCI) (Y).

In table 4.8 above it is also show that the Hang Seng Index has $t_{calculated}$ smaller than the value of $t_{table}$ (-0.864 <2.03224). in table 4.8 it is also evident that the significant value for the Hang Seng Index is greater than the value of α (0.394> 0.05), so it can be decided that Ho accepted and Ha is rejected. This means that the Hang Seng Index 225 ($X_3$) partially has no significant effect to Jakarta Composite Index (JCI) (Y).

Based on table 4.8 above it can be seen that the Straits Times Index has a $t_{calculated}$ value of 3,119. The value is greater than the value of $t_{table}$ (3,119> 2.03224). in addition, Table 4.8 shows that the significance of the Straits Times Index value is 0.004, the significance value is less than the value of α, and the decisions that Ho is rejected and Ha accepted. That is, the Straits Times Index ($X_4$) partially give significant effect on the Jakarta Composite Index (JCI) (Y)

In Table 4.8 can also be seen that the Dow Jones Industrial Average most influence to the Jakarta Composite Index (JCI). It can be seen from the value of the standardized coefficients for Dow Jones Industrial Average

showed the biggest value than the other of three independent variables. The value of the standardized coefficients for Dow Jones Industrial Average was at 0.693 on the other hand, Nikkei 225 had a lowest standardized coefficient value of -0.344, because Nikkei 225 does not (really) give influence into Jakarta Composite Index (JCI) at Indonesian Stock Exchange. However, the standardized coefficient for the Hang Seng Index is -0.119 and for the Strait Times Index is 0.397.

## C. Result and Discussion

Based on the results of simultaneous testing, the results showed that the variables Dow Jones Industrial Average, Nikkei 225, Hang Seng and Straits Times Index simultaneous has significant effect on the Jakarta Composite Index (JCI) amounted to 90.4%, while that, 9.6% is influenced by other variables that does not examined in this study. Other variables such as; state of the global economy, relations between countries, currency exchange, social circumstances, political, security, and other issues which can provide certain centiment to the stock trading at the Jakarta Stock Excange.

Based on the results of hypothesis testing using the t-test, the results showed that only Dow Jones Industrial Average, Nikkei 225, and the Straits Times Index partially have significant effect on Jakarta Composite Index (JCI) at Indonesian Stock Excange. While, Hang Seng Index partially has no significant effect on the Jakarta Composite Index (JCI) at the Indonesian Stock Excange. Partially, the

Dow Jones Industrial Average has most significant effect and positive on the Jakarta Composite Index (JCI). It can be seen from the coefficient of the variable Dow Jones Industrial Average that has greatest value of standardized on the regression equation compared to the three other independent variables.The regression coefficients for the Dow Jones Industrial Average which has positive value, that is equal to 1.083. That regression coefficient value means that the variable Dow Jones Industrial Average has contributed to the Jakarta Composite Index (JCI) equal to 1.083. that is, when the Dow Jones Industrial Average increased by 1 point, the Jakarta Composite Index (JCI) also will increase by 1.083 points. Results of research conducted show that the variable Dow Jones Industrial Average has the greatest influence on the Jakarta Composite Index (JCI).

The results of the study indicate that the Dow Jones Industrial Average once dominant positive effect on the Jakarta Composite Index (JCI) may occur due to the influence of the United States in the constellation of the world economy . The influence of the U.S. stock market greatly to the global stock markets , including Indonesia . When used signaling theory , the results of this study provide empirical evidence that the information content and shocks that occur in the U.S. stock market , particularly the New York Stock Exchange responded in the same direction by investors and market participants in the Indonesian Stock Exchange . In the Context of international investments , changes in the stock exchange will be transmitted to the market in other countries , where the larger stock exchanges would affect a smaller stock exchange (Mansur: 2005) , the larger stock exchange

in this study is the U.S. stock market , especially New York Stock Exchange . Acting as the party (agent) send a signal through movement of Dow Jones Industrial Average toward smaller markets such as Indonesia Stock Exchange as the recipient . Investors and market participants in Indonesian Stock Exchange would interpret the information signal in the form of investment behavior . Based on these results , it appears that investors and market participants in the Indonesian Stock Exchange interprets the signal information carried by the movement of the Dow Jones Industrial Average in the same direction .

The results of this study support the results of research conducted by Tamara (2013) that conclude that there are any effect of the Dow Jones Industrial Average on the Jakarta Composite Index (JCI). The results of this study also support the results of research conducted by Amin (2012) which states that the Dow Jones Industrial Average has positive influence on the Jakarta Composite Index (JCI). On the other hand the results of research that do not support the results of this research are research that conduct by Mansur (2005) which states that the Dow Jones Industrial Average did not have a significant effect on the Jakarta Composite Index (JCI). Such differences may be caused from many things. Such as: different research periods. This research period conducted when financial crisis in Europe held which has implications for the global financial crisis. While research conducted by Moh. Mansur did in a fairly stable period in 2000-2002.

Based on the results of hypothesis testing using t-test, it can be seen that variable of Nikkei 225 partially has significant effect on the Jakarta Composite

Index (JCI). Nikkei 225 has negatif effect on the Jakarta Composite Index (JCI). It can be seen from the regression coefficient for the variable of Nikkei 225, that is equal to -0.691. That regression coefficient value means that the variable of Nikkei 225 has contributed to the Jakarta Composite Index (JCI) at -0.691. when the Nikkei 225 increased by 1 point, the Jakarta Composite Index (JCI) will decrease by 0.691point.

Using a signaling theory , the results of this study provide empirical evidence that the information content and unstable condition that occur in the Japan stock market, especially Nikkei 225 responded with a different direction by investors and market participants in the Indonesian Stock Exchange . These results similar with research conducted by Darmawan (2009) that Nikkei 225 has significant effect on the Jakarta Composite Index and has negative effect, that is equal to -0.033 . In the context of international investment , change of stock exchange will be transmitted to stock exchange in another countries , where a larger market would affect a smaller market (Mansur, 2005) . the bigger stock exchange, in this case is Japanese stock market , particularly the Nikkei 225 , acting as a party (an agent) that send a signal by the Nikkei 225 movement toward smaller stock exchanges, the Indonesian Stock Exchange as the recipient . Investors and market participants in the Indonesian Stock Exchange would interpret the information signal by investment behavior .

Based on these results, it appears that investors and market participants in the Indonesian Stock Exchange interprets the information signal carried by the

movement of the Nikkei 225 in different directions. That is, if the Nikkei 225 showed an increase, the Jakarta Composite Index (JCI) actually will decreased. Vice versa, if the Nikkei 225 showed a decline, the Jakarta Composite Index (JCI) actually will increase. The negative influence of the Nikkei 225 on the Jakarta Composite Index (JCI) on the Indonesian Stock Exchange may also indicate that the development of trade relations between Indonesia and Japan, and does not followed by the strengthening of the relationship between capital markets of both countries.

The results of hypothesis testing that has been done indicates that the variable of Hang Seng Index partially has no significant effect on the Jakarta Composite Index (JCI). If using a signaling theory, the results of this research indicate that the information and unstable condition that occur in the Hong Kong stock exchange not responded well by investors and market participants in the Indonesian Stock Exchange. The condition appears because the factors of stock price index is not only influenced by economic factors. Non-economic factors also have potential to affect the stock market in a country. In fact, the change of Indonesian stock market index or the Jakarta Composite Index (JCI) beside influenced by foreign stock exchanges are also influenced by non-economic conditions, such as security, political, and trading time itself that different from the condition of stock market in Hong Kong. The results of this research is different with research conducted by Darmawan (2009), Hang Seng Index has positive effect and has significant effect on the Jakarta Composite Index (JCI) is equal to 0.090.

Based on the results of hypothesis testing that has been done can be seen that the Straits Times Index variable partially has significant effect on the Jakarta Composite Index (JCI). The influence is positive. It appears from the regression coefficient for variable of Straits Times Index, which amounted to 1.067. this suggests that the Straits Times Index variables have contributed to the Jakarta Composite Index (JCI) amounted to 1.067. meaning that if the Straits Times Index increased by 1 point, the Jakarta Composite Index (JCI) will also increase by 1.067 points.

Using signaling theory, the results of this research provide empirical evidence that the content of the information and unstable condition happened in singapore stock market responded in the same direction by investors and market participants in the Indonesian Stock Exchange. In the context of international investment, change of stock exchange will be transmitted to stock exchange in another countries, where a larger market would affect a smaller market (Mansur, 2005). Larger stock exchange, in this case is the stock exchange in Singapore, especially Straits Times Index, acts as a party (the agent) send the signal through the Strait Times Index movement toward smaller exchanges , the Indonesian Stock Exchange as the recipient . Investors and market participants in the Indonesian Stock Exchange would interpret the information signal by investment behavior . Based on these results , it appears that investors and market participants in the Indonesian Stock Exchange interprets the signal information carried by the Straits Times Index movement in the same direction .

The relationships between stock market caused by the ability to influence each other in terms of information. Such as information about stock price index. Movement of the stock price index in the market is presumed contain information signal about how the market will move and what the movement direction. Positive effect shown by the Straits Times Index to the Jakarta Composite Index (JCI) may occur due to the dynamics of stock prices in the one exchange may affect other markets, especially the markets of neighboring countries.

# CHAPTER V

# CONCLUSION AND SUGGESTION

## A. Conclusion

Based on the data analysis and discussion that has been done, the conclusion of this research are:

1. Dow Jones Industrial Average, Nikkei 225, Hang Seng Index, and Straits Times Index simultaneouslly has significant effect on the Jakarta Composite Index (JCI), and partially only Dow Jones Industrial Average, Nikkei 225,and Straits Times Index has significant effect on the Jakarta Composite Index (JCI). Meanwhile, the Hang Seng Index partially has no significant effect on the Jakarta Composite Index (JCI) in period of 2010-2012
2. Dow Jones Industrial Average has most significant effect and positive value on the Jakarta Composite Index (JCI) at Indonesian Stock Exchange (IDX) in period of 2010-2012.

## B. Suggestion

Suggestion and the limitations from the results of this research are:

1. Investors and market participants that will make portfolio investment in Indonesian Stock Exchange shall observe the movement of the Dow Jones Industrial Average , the Nikkei 225 , and the Straits Times Index , and also the

stock market condition of the United States , Japan , and Singapore in the investment decision-making process .

2. Investors candidate or international investors can do diversify internationally by buying shares on the stock market of Japan, Hong Kong , and Indonesia and put it in their international portfolio in order to obtain the potential benefits of international diversification to increase return and reduce the risk investment.
3. Indonesian government should increase cooperation for investment with another countries , especially with United States , Japan , Hong Kong , and Singapore . It aims to improve Capital Inflows to Indonesia
4. Next researcher need to use daily closing stock price index data and extend the study period to get a more accurate research results .
5. Know more clearly and completely about the effect of the stock price index in the foreign stock exchange at the stock exchange in the country , need to do analyzed with additional variables in foreign stock exchanges that have not been covered in this study .
6. Next research need to use another stock price index in the domestic market, to get a more complete measurement of the condition in Indonesia stock market.