Combined Share Price Index (IHSG) In Indonesia Stock Exchange Affected By Regional Asia Southeast Exchange Index

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Abstract **: This study aims to examine the effect of the Southeast Asia Regional Stock Exchange Index on the Indonesia Stock Exchange Index either partially or simultaneously. The three indexes for Southeast Asia are the Kuala Lumpur Stock Exchange (Malaysia), the Straits Times Index (Singapore), and the Stock Exchange Thailand (Thailand). Meanwhile, Indonesia is represented by the Composite Stock Price Index (IHSG). Simple sample method used by collecting data for 60 months from January 2014 to December 2017. Data analysis to test the hypothesis of this study using Eviews version 8. The data analysis method used is multiple linear regression analysis method. The results of this study indicate that the three Asian Regional Stock Exchange Indices partially or simultaneously have a positive effect on the Composite Stock Price Index (IHSG).**

Keywords: **Kuala Lumpur Stock Exchange (KLSE), Strait Times Index (STI), Thailand Stock Exchange (SET), and Composite Stock Price Index (IHSG)**

I. INTRODUCTION

The investment business is a business that is excellent in various countries in the world. Even the business involves the finance of various large companies in the world. The development of technology and information provides convenience in global communication, especially investment transactions. Computerization is an attempt to modernize in this case the investment business.

There are two places to do investment business, namely the money market and the capital market. Both have more or less similarities and differences. The equation is where the excess and undercapitalized parties meet. This capital is intended to meet liquidity needs, working capital, and so on. However, the money market and the capital market have very striking differences, namely the instruments used and the investment period. The financial market tends to be used for short-term needs with a period of less than one year. The instruments available on the Indonesian money market include Bank Indonesia Certificates (SBI), Money Market Securities, and Certificates of Deposit. Meanwhile, the capital market is used to meet long-term needs with a period of more than one year. Instruments available in the Indonesian capital market include stocks and bonds.

With globalization, investors can invest without territorial restrictions. This is because globalization seems to be removing restrictions in carrying out activities, including investment transactions between countries. Thus there are many potential options with different risks. According to the UN, there are at least 193 countries in the world. Of course, they have different economic capabilities. Each country has its own capital market success indicators. Through these indicators, it can be seen which one is superior in the competition to win the hearts of investors. This indicator usually appears in the form of a composite stock price index. This index serves as an indicator of the country's ability to manage the stock exchange in supporting the economy, especially the capital market. If the economic condition of a country is good, the stock price index will certainly show a positive trend, but if the economic condition of a country is in bad condition, it will also affect the decline in the stock price index. The rise and fall of the stock price index is influenced by many factors including economic, social, and political conditions. Apart from these internal factors, there are also external factors that influence a country's economy, one of which is the economic capacity of another country. Countries with stronger economic capabilities have a tendency to dominate countries with weak economies.

When an economic crisis occurs in the Southeast Asian region, it usually affects the stock markets of developing countries. Countries in the Asian region have a very high contagion effect and generally have the same characteristics. Meanwhile the crisis has also caused several countries to exempt foreign investment limits, while there are also some countries that open themselves to foreign investment in order to increase economic growth, one of which is Indonesia. Foreign investors are the best choice when domestic investors are unable to encourage economic growth as expected. In Indonesia itself, the number of domestic investors is very worrying. Of the approximately 240,000,000 (two hundred and forty million) residents, only about 400,000 (four hundred thousand) people become local investors. The composition of the share ownership portion of local investors is only 40% compared to foreign investors, which is 60%. Based on data, according to an announcement from the Investment Coordinating Board (BKPM), from 60% share ownership in Indonesia, the highest investment wave was dominated by Japan, namely 17%. Singapore is in the second place,

approaching the Japanese investment rate at 16%. America occupies the third position with 9%. The fourth is South Korea with 7%.

There are benefits from foreign investment activities including the entry of new capital for development, increasing foreign exchange, and the establishment of new companies. The positive things that arise include the existence of income for the state in the form of income taxes, employment, good management, experience in international trade (export-import), and creating demand for domestic products as raw materials. However, there are also losses due to foreign investment activities, including foreign companies in Indonesia which are managed by foreign parties, usually their management policies will be adjusted to the operations of foreign companies. Furthermore, foreign companies usually seek the maximum profit and the profits will be brought to their country. In addition, foreign companies will dominate the local market so that it is feared that domestic products will not be able to compete with foreign products and will lose the local market. Another thing is the large number of foreign companies that carry out mergers, acquisitions of local companies and even the issue of shares of State-Owned Enterprises (BUMN) which have been sold to foreign companies so that this can lead to price monopolies.

Indonesia has advantages compared to other countries such as advantages in the economic field. Currently, Indonesia is included in the top 15 countries in the world that have a nominal Gross Domestic Product (GDP). The per capita income of the Indonesian population is predicted to be $ 3,900. Indonesia also has oil reserves of 9.7 million barrels and natural gas reserves of 146.7 trillion cubic feet. Therefore, Indonesia is the 16th largest gas producer in the world. Indonesia's gas consumption alone is only 35% of natural gas and oil production. The population in Indonesia is known to be in the fourth position in the world and number 3 in Asia. The country with the highest population was China at 1.3 billion, followed by India at 1.14 billion and followed by the United States at 303 million. In June 2008, the total population of Indonesia was 237.5 million, with a community development rate in the range of 1, 2, or 1.3%. Therefore, the Government of Indonesia must prioritize its development which regulates its public facilities. The population of Indonesia is predicted to increase by 337 million in 2050. This rate of community development is predicted to result in an imbalance in the carrying capacity of the environment.

The advantages of Indonesia can also be seen in the stock market which is more developed and has special characteristics compared to other Asean countries. Some information can be used as benchmarks and examples. One of them is the statement mentioned by Hidayah (2013) that partially the Kuala Lumpur Stock Exchange (KLSE) has a positive effect on the Composite Stock Price Index (IHSG). Meanwhile, the Straits Times Index (STI) has a negative effect on the Composite Stock Price Index (IHSG). Furthermore, the Stock Exchange of Thailand (SET) has no effect on the Composite Stock Price Index (IHSG). Simultaneously the Kuala Lumpur Stock Exchange (KLSE), the Strait Times Index (STI) and the Stock Exchange of Thailand (SET) have a joint influence on the Composite Stock Price Index (IHSG). This is supported by the opinion of Muzammil (2011) which states that partially the KLSE and PSE have a significant positive effect on the Composite Stock Price Index (IHSG). Meanwhile, STI has a significant negative effect. Simultaneously the KLSE, PSE, and STI have a significant effect on the Composite Stock Price Index (IHSG).

Meanwhile, according to Santosa (2013) the capital market of Malaysia, the Philippines, Singapore, Thailand and China has a significant positive effect on the Indonesian capital market. Immanuel (2015) further states that the ASEAN Strait Times Index (STI) regional index has no influence on the Composite Stock Price Index (IHSG).

Table 1 Movement of Southeast Asian Stock Price Indices(Indonesia, Malaysia, Singapore, and Thailand)

Date	IHSG	KLSE	STI	SET
Jan 01, 2014	4418.75	1804.03	3027.22	1274.28
Feb 01, 2014	4620.21	1835.66	3110.78	1325.33
Mar 01, 2014	4768.27	1849.21	3188.62	1376.26

Source: www.investing.com

Based on table 1, the Singapore Stock Price Index (STI) has increased by 2.76% from January to February in 2014. This also happened from February to March 2014, which increased by 2.50%. However, the Indonesian Stock Index (IHSG) also increased by 4.56% and 3.20% in the same month and year. Meanwhile, other research states that there is a negative influence between the Singapore Stock Price Index (STI) on the Indonesian Stock Price Index (IHSG). However, the reality is that this is an inconsistency from the results of previous study.

Scope of The Problem:

1. The number of stock exchange indices in the Southeast Asia region is not small, so only 4 (four) will be used, namely the Kuala Lumpur Stock Exchange (Malaysia), Straits Times Index (Singapore), Thailand Stock Exchange (Thailand), and Price Index for Joint Stock Indonesia (JCI).

2. The time of the research data to be used is 5 (five) years from 2010-2014. The research time data is monthly, which means there are 60 (sixty) data for each research variable.

II. LITERATURE REVIEW

Stock Exchange

According to Darmadji, et al (2001: 17) Stock Exchange is an institution or company that organizes or provides a system (market) facility to bring together buying and selling offers of securities between various companies or individuals involved with the aim of trading the securities of companies that have been listed on the Stock Exchange. According to the Capital

Market Law No.8 of 1995, a Stock Exchange is "a party that provides a system or means of bringing together the buying and selling offers of other parties' securities for the purpose of trading securities between them".

Index Figures

The stock price index is an indicator of stock trading, which is compiled with a specific formula that takes place on the stock exchange. Each stock exchange has a different stock price index. On the New York Stock Exchange (NYSE) there is the Dow Jones Industrial Average (DJIA), which contains 30 types of leading stocks. The Indonesia Stock Exchange (IDX) recognizes several stock price indexes. An index that contains the totality of shares listed on the Indonesian stock exchange is called the IHSG. In addition, on the IDX, there is the LQ 45 Index which contains 45 types of stocks. Every certain period, the 45 types of shares will be evaluated so that the composition of the shares will change. The thing that happens is that there are shares that are out and there are shares that are just coming in. The IDX also has sectoral indexes, such as the Financial Index, Property Index and so on. The Sharia index is called the Jakarta Islamic Index (JII), consisting of 30 types of stocks whose business is in accordance with Islamic Sharia. Other indexes on the IDX are the Main Board Index and the Development Board Index. This index contains stocks listed on the IDX according to the main board and development boards. The index functions as an indicator of market trends, meaning that the movement of the index describes market conditions at one time, or in other words, the index can measure the market is active or sluggish. The index, therefore, can find out the current trend of stock price movements, for example the stock is rising, stable or falling. The index movement is an important indicator for investors to determine whether they will sell, hold or buy a stock or the number of shares.

Capital market

According to Husnan (2004) the capital market can be defined as a market for various financial instruments or long-term securities that can be traded, either in the form of debt or equity, whether issued by the government, public authorities, or private companies. Meanwhile, according to the Decree of the Minister of Finance of the Republic of Indonesia No.1548 / KMK / 90, regarding Capital Market Regulations, the definition of capital market in general is an organized financial system including commercial banks and all intermediary institutions in the financial sector, as well as all documents. securities in the form of shares outstanding. Meanwhile, according to Law No.8 of 1995 concerning the Capital Market, Article 1 paragraph 13, the capital market is an activity concerned with public offerings and securities trading as well as public companies related to the securities issued by them and institutions and professions related to securities. Securities in question are securities in the form of debt instruments, commercial securities, bond shares, proof of debt, collective contract participation unit, contra-futures securities, and any derivative of securities. Furthermore, according to Sunariyah (2006), the definition of capital market in general is an organized financial system, including commercial banks and all intermediary institutions in the financial sector, as well as all marketable securities in circulation. There are several attractions in the capital market. First, the capital market can enable investors to diversify their investments, form portfolios according to the risks they are willing to take and the level of returns they expect (Husnan, 2004).

In Indonesia, this market occurs in two places, namely: the first exchange is the regular exchange or the official stock exchange, for example the Jakarta Stock Exchange. The second exchange is a parallel exchange regulated by Money and Securities Trading (PPUE) and supervised by the Capital Market Supervisory Agency (Bapepam).

Kuala Lumpur Composite Index (KLSE)

In July 2009, the Kuala Lumpur Stock Exchange or KLSE was changed to FTSE BM KLCI as the basis for measuring the Malaysian capital market. The KLSE was introduced in 1986 and is used as an indicator of the performance of the Malaysian stock market and economy. In this index, there are 30 of the most liquid companies on the Malaysian stock exchange. The base value of this index is 100 which has been established since January 1977 (www.ftse.com). The method of calculating the FTSE Bursa Malaysia Index uses the formula (en.wikipedia.com):

$$\text{KLSE Index} = \frac{\sum p}{\text{divisor}}$$

Where Σp is the total number of shares listed. The divisor is a number determined by the exchange authority as a denominator.

Straits Times Index (STI)

Singapore Exchange Ltd (SGX) is the first integrated and demutualized Asia-Pacific stock exchange. Singapore Exchange Ltd became the first exchange in Asia-Pacific to be listed through public offerings and private placements on 23 November 2000. As of 31 January 2013, 776 companies were listed on the Singapore Exchange Lt. The Singapore Stock Index that is often used as a reference is the Straits Times Index (www.straitstimes.com). Straits Times Index or STI is a stock market index based on capitalization on the Singapore Stock Exchange. The Straits Times Index is used to record and monitor daily changes of the 30 largest companies in the Singapore Stock Market and as a main indicator of market performance in Singapore. Straits Times Index was founded on January 10, 2008 as a continuation of the Straits Times Industrial Index. The method of calculating the STI index uses the formula (en.wikipedia.com):

$$\text{STI Index} = \frac{\sum p}{\text{divisor}}$$

In this formula, Σp is the total number of listed shares. The divisor is a number determined by the exchange authority as a denominator. Pricing is determined based on the largest company in the Singapore Stock Market.

Stock Exchange of Thailand Index (SET)

The Stock Exchange of Thailand Index (SET) is the main index of the Thai Capital Market, namely the Stock Exchange of Thailand (SET), which was established in July 1962 and was suspended in the early 1970s due to declining trading volume. Then on April 30, 1975, SET returned to operations as a center for recorded securities trading and financial planning and provided services related to these activities. The SET index is formed from all companies listed on the Thailand Stock Exchange. There are currently 538 companies listed on the Thailand Stock Exchange. The base value of this index is 100 which has been established since April 1975. The calculation of the SET index is made by comparing the present market value of all common shares listed in the index with the market value of the base day (www.set.or.th). The SET index calculation method uses the formula:

$$\text{SET Index} = \frac{\text{Current Market Value}}{\text{Base Market Value}} \times 100$$

Composite Stock Price Index (IHSG)

The Composite Stock Price Index (IHSG) is one of the indexes listed on the Indonesian Stock Exchange (IDX) and was first introduced on April 1, 1983 (www.idx.co.id). IHSG is a reference to see the average representation of stock price movements as a whole on the IDX. The basis for calculating the IHSG is August 10, 1982. On that date, the Index was determined with a base value of 100 and listed shares at that time totaled 13 shares. Currently, the number of issuers listed on the Indonesia Stock Exchange (IDX) has reached 491 issuers. JCI uses all listed companies as a component of the Index calculation. In order for the JCI to describe a fair market condition, the Indonesian Stock Exchange has the authority to exclude and or not include one or several listed companies from the IHSG calculation. The basis for consideration is, among others, if the number of shares of a listed company held by the public or free float is relatively small while the market capitalization is quite large, changes in the share price of the listed company have the potential to affect the fairness of the JCI movement. The Indonesia Stock Exchange is not responsible for products issued by users who use IHSG as a benchmark (www.idx.co.id).

According to Ang (1997) there are two methods of calculating the Composite Stock Price Index:

1. Unweighted Index Method

The use of this method is to consider the factors that will influence the rise and fall of the index number. The rise and fall of the index number is due to the influence of issuers' corporate actions such as rights issues (adding new shares to increase capital), stock splits (splitting the nominal shares into smaller fractions). The formula is as follows:

$$\text{IHSG} = \frac{\sum p}{\text{Divisor}}$$

Information:

IHSG = Composite Stock Price Index

∑p = Total Price of all shares at the time applicable

Divisor = Total Share Price at base time

Weighted Average Method

It is a method that adds weight to the index calculation in addition to the stock market price and the stock base price. The weighting made in the index calculation is generally the number of shares issued.

$$\text{IHSG} = \frac{\sum(Ps \times Ss)}{\sum(Pbase \times Ss)}$$

Information:

IHSG = Composite Stock Price Index

Ps = Current Stock Price

Ss = Initial Share Price

Pbase = Basic Share Price

Hypotheses:

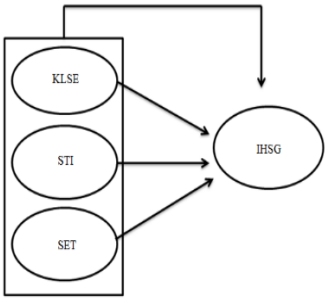
H1: The Kuala Lumpur Stock Exchange (KLSE) has a positive effect on the Indonesian stock index (IHSG)

H2: The Straits Times Index (STI) has a negative effect on the Indonesian stock index (IHSG)

H3: The Thailand Stock Exchange (SET) has a positive effect on the Indonesian stock index (JCI)

H4: Kuala Lumpur Stock Exchange (KLSE), Straits Times Index (STI), and Stock Exchange Thailand (SET) have a positive effect on the Indonesian stock index (IHSG)

Theoretical Framework:



III. RESEARCH METHODS

The scope of this research is the Southeast Asian Regional Stock Exchange Index obtained through publications regarding the development of related stock exchange indices in various journal sources and previous research theses. The type of research in this research is descriptive research using quantitative data or secondary data. This study has a limitation of data collection in a period of 5 years, from 2010-2014. The research was conducted by analyzing the Southeast Asian Regional Stock Exchange Index during the sampling period. So, when viewed from the time dimension used, this study is included in the time series data group using the 2010-2014 montlhy report.

In this research, sampling was carried out using secondary data using purposive sampling method:

1. Southeast Asia regional stock exchange index in 2010-2014.
2. The stock exchange index has consistent data from 2010-2014.
3. The stock exchange index is used when the closing price.
4. The stock exchange index used is the 1st of each month.

The data used in this research is documentary data, namely the closing price of the Southeast Asian regional stock exchange indexes, namely Malaysia, Singapore, Thailand, and Indonesia at the beginning of each month from 2010-2014. This study uses secondary data in the form of time series data on a monthly scale taken from www.investing.com.

Testing Regression Model Assumptions

Prior to multiple regression testing, it is necessary to test the classical assumptions so that the regression model becomes a more representative model. The classical assumption test used in this study is the multicollinearity test, heteroscedasticity test, data normality test, and autocorrelation test used because the data used in this study is more than one year old. If all assumptions are met, then the estimation obtained from this method has the characteristics of BLUE (Best Linear Unbiased Estimator). It is called Unbiased because the expected value of the estimation is the same as the value of the meters, and it is called best because with this method the smallest variance/deviation will be obtained.

1. Multicollinearity Test

The multicollinearity test aims to test whether there is a correlation between the independent variables in the regression model. If there is a correlation, then there is a multicollinearity problem.

2. Heteroscedasticity Test

The heteroscedasticity test aims to test whether in the regression model there is an inequality of variance from the residuals or observations to other observations using the White Hetetoskedasticity test.

3. Normality Test

The normality test aims to test whether in the regression model, the dependent variable and the independent variable have a normal data distribution or not.

4. Autocorrelation Test

The autocorrelation test aims to test whether in a linear regression model there is a correlation between the confounding error in period t and the error in period t-1 (previous).

Data Analysis Method

Testing of the proposed hypothesis is done by using multiple regression analysis method. Multiple regression method was used to determine the effect of the three independent variables, namely the Kuala Lumpur Stock Exchange, Straits Times Index, and Thailand Stock Exchange on the dependent variable, namely the Indonesia Stock Exchange Composite Stock Price Index. The model used by the multiple regression equation is as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3$$

Information:

Y = Composite Stock Price Index (JCI)

0 = Constant

X1 = Kuala Lumpur Stock Exchange (KLSE)

X2 = Straits Times Index (STI)

X3 = Thai Stock Exchange (SET)

1, 2, 3 = Regression coefficient of each variable

IV. RESEARCH DISCUSSION

Southeast Asian Stock Exchange Index.

Table .1 Southeast Asian Stock Price Index (Closing)

YEAR	X1	X2	X3	Y
	KLSE	STI	SET	IHSG
Jan 01, 2010	1259.16	2745.35	696.55	2610.79
Feb 01, 2010	1270.78	2750.86	721.37	2549.03
Mar 01, 2010	1320.57	2887.46	787.98	2777.3
Apr 01, 2010	1346.38	2974.61	763.51	2971.25
May 01, 2010	1285.01	2752.6	750.43	2796.95
Jun 01, 2010	1314.02	2835.51	797.31	2913.68
Jul 01, 2010	1360.92	2987.7	855.83	3069.28
Aug 01, 2010	1422.49	2950.33	913.19	3081.88
Sep 01, 2010	1463.5	3097.63	975.3	3501.29
Oct 01, 2010	1505.66	3142.62	984.46	3635.32

Nov 01, 2010	1485.23	3144.7	1005.12	3531.21
Dec 01, 2010	1518.91	3190.04	1032.76	3703.51
Jan 01, 2011	1519.94	3179.72	964.1	3409.16
Feb 01, 2011	1491.25	3010.51	987.91	3470.34
Mar 01, 2011	1545.13	3105.85	1047.48	3678.67
Apr 01, 2011	1534.95	3179.86	1093.56	3819.61
May 01, 2011	1558.29	3159.93	1073.83	3836.96
Jun 01, 2011	1579.07	3120.44	1041.48	3888.56
Jul 01, 2011	1548.81	3189.26	1133.53	4130.8
Aug 01, 2011	1447.27	2885.26	1070.05	3841.73
Sep 01, 2011	1387.13	2675.16	916.21	3549.03
Oct 01, 2011	1491.89	2855.77	974.75	3790.84
Nov 01, 2011	1472.1	2702.46	995.33	3715.08
Dec 01, 2011	1530.73	2646.35	1025.32	3821.99
Jan 01, 2012	1521.29	2906.69	1083.97	3941.69
Feb 01, 2012	1569.65	2994.06	1160.9	3985.21
Mar 01, 2012	1596.33	3010.46	1196.77	4121.55
Apr 01, 2012	1570.61	2978.57	1228.49	4180.73
May 01, 2012	1580.67	2772.54	1141.5	3832.82
Jun 01, 2012	1599.15	2878.45	1172.11	3955.57
Jul 01, 2012	1631.6	3036.4	1199.3	4142.33
Aug 01, 2012	1646.11	3025.46	1227.48	4060.33
Sep 01, 2012	1636.66	3060.34	1298.79	4262.56
Oct 01, 2012	1673.07	3038.37	1298.87	4350.29
Nov 01, 2012	1610.83	3069.95	1324.04	4276.14
Dec 01, 2012	1688.95	3167.08	1391.93	4316.68
Jan 01, 2013	1627.55	3282.66	1474.2	4453.7
Feb 01, 2013	1637.63	3269.95	1541.58	4795.78
Mar 01, 2013	1671.63	3308.1	1561.06	4940.98
Apr 01, 2013	1717.65	3368.18	1597.86	5034.07
May 01, 2013	1769.22	3311.37	1562.07	5068.62
Jun 01, 2013	1773.54	3150.44	1451.9	4818.89
Jul 01, 2013	1772.62	3221.93	1423.14	4610.37
Aug 01, 2013	1727.58	3028.94	1294.3	4195.08
Sep 01, 2013	1768.62	3167.87	1383.16	4316.17
Oct 01, 2013	1806.85	3210.67	1442.88	4510.63
Nov 01, 2013	1812.72	3176.35	1371.13	4256.43
Dec 01, 2013	1866.96	3167.43	1298.71	4274.17
Jan 01, 2014	1804.03	3027.22	1274.28	4418.75
Feb 01, 2014	1835.66	3110.78	1325.33	4620.21
Mar 01, 2014	1849.21	3188.62	1376.26	4768.27
Apr 01, 2014	1871.52	3264.71	1414.94	4840.14
May 01, 2014	1873.38	3295.85	1415.73	4893.9
Jun 01, 2014	1882.71	3255.67	1485.75	4878.58
Jul 01, 2014	1871.36	3374.06	1502.39	5088.8
Aug 01, 2014	1866.11	3327.09	1561.63	5136.86
Sep 01, 2014	1846.31	3276.74	1585.67	5137.57
Oct 01, 2014	1855.15	3274.25	1584.16	5089.54
Nov 01, 2014	1820.89	3350.5	1593.91	5149.88
Dec 01, 2014	1761.25	3365.15	1497.67	5226.94

Source: www.investing.com

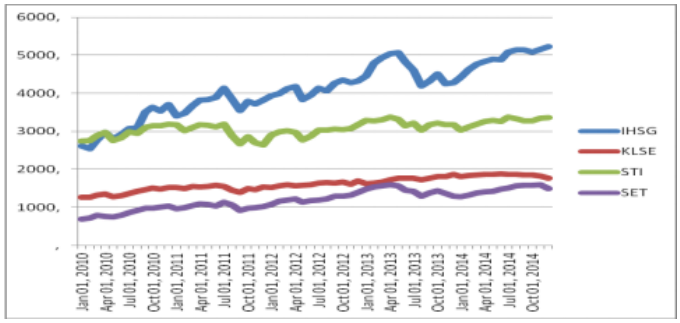
Based on table 1, it can be seen that the stock price index on the Kuala Lumpur Stock Exchange (KLSE) during the 2010-2014 period did not experience any significant price movements, either increasing or decreasing. The movement tends to be stable and constant towards increasing by an average of 1617.90 points. The highest value occurred in June 2014 amounting to 1882.71 points. While the lowest value occurred in January 2010 amounting to 1259.16 points with a standard deviation of 177.98.

The stock index value on the Singapore Stock Exchange (STI) during the 2010-2014 period experienced quite high fluctuation in price movements with an average of 3081.38 points. The highest value occurred in July 2014 amounting to 3374.06 points. While the lowest value occurred in December 2011 amounting to 2646.35 points with a standard deviation of 191.00.

The value of the stock index on the Thai stock exchange (SET) during the 2010-2014 period did not experience much price movement, either increasing or decreasing. The movement tends to be stable with an average of 1205.85 points. The highest value occurred in April 2013 amounting to 1597.86 points. Meanwhile, the lowest value occurred in January 2010 amounting to 696.55 points with a standard deviation of 257.65.

The value of the stock index on the Indonesian stock exchange (IHSG) during the 2010-2014 period did not experience much price movement, either increasing or decreasing. The movement tends to be stable with an average of 4100.74 points. The highest value occurred in December 2014 amounting to 5226.94 points. While the lowest value occurred in February 2010 at 2549.03 points with a standard deviation of 706.12.

For more details regarding the depiction of the movement of the Stock Price Index on the four Southeast Asian stock exchanges during the period 2010 to 2014 can be seen in the chart below:



Source: processed data

Figure 1 Movement Chart of The Four Southeast Asian Stock Indices

Data Analysis

Data analysis is done, namely multiple regression analysis using the help of the computer program Eviews 08.

Classic Assumption Testing

This test is carried out to determine whether there are deviations from the classical assumptions, this test includes:

Multicolinearity Test

Table 2 : Multicolinearity Test (Equation One)

Dependent Variable: IHSG

Variable	Coefficient	Std. Error	t-Statistic	Prob.
KLSE	0.796995	0.273660	2.912353	0.0051
STI	-0.033411	0.167710	-0.199216	0.8428
SET	2.186427	0.204829	10.67441	0.0000
C	277.7195	454.9937	0.610381	0.5441
R-squared	**0.954999**	Mean dependent var		4100.742
Adjusted R-squared	0.952589	S.D. dependent var		706.1184
S.E. of regression	153.7511	Akaike info criterion		12.97289
Sum squared resid	1323807.	Schwarz criterion		13.11251
Log likelihood	-385.1866	Hannan-Quinn criter.		13.02750
F-statistic	396.1434	Durbin-Watson stat		0.596607
Prob(F-statistic)	0.000000			

Source: processed data

Table 3 Multicolinearity Test (Equation Two)

Dependent Variable: KLSE				
Variable	Coefficient	Std. Erro	t-Statistic	Prob.
STI	0.056954	0.080821	0.704688	0.483
SET	0.596332	0.059914	9.953205	0.000
C	723.3191	198.2875	3.647830	0.000
R-squared	**0.831112**	Mean dependent var		1617.904
Adjusted R-squared	0.825187	S.D. dependent var		177.9843
S.E. of regression	74.41648	Akaike info criterion		11.50594
Sum squared resid	315655.3	Schwarz criterion		11.61066
Log likelihood	342.1782	Hannan-Quinn criter.		11.54690
F-statistic	-140.2513	Durbin-Watson stat		0.332825
Prob(F-statistic)	0.00000			

Source: processed data

Table 4 Multicolinearity Test (Equation Three)

Dependent Variable: STI				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
KLSE	0.151645	0.215195	0.704688	0.4839
SET	0.481721	0.148654	3.240552	0.0020
C	2255.149	199.7608	11.28925	0.0000
R-squared	**0.609523**	Mean dependent var		3081.381
Adjusted R-squared	0.595822	S.D. dependent var		191.0009
S.E. of regression	121.4288	Akaike info criterion		12.48524
Sum squared resid	840462.3	Schwarz criterion		12.58996
Log likelihood	371.5572	Hannan-Quinn criter.		52620
F-statistic	44.48765	Durbin-Watson stat		
Prob(Fstatistic)	0.000000			

Source: processed data

Tabel 5 Multicolinearity Test (Equation Four)

Dependent Variable: SET

Variable	Coefficient	Std. Error	t-Statistic	Prob.
KLSE	1.064459	0.106946	9.953205	0.0000
STI	0.322947	0.099658	3.240552	0.0020
C	-1511.462	215.6107	-7.010144	0.0000
R-squared	0.856144	Mean dependent var		1205.854
Adjusted R-squared	0.851096	S.D. dependent var		257.6540
S.E. of regression	99.42364	Akaike info criterion		12.08536
Sum squared resid	563448.5	Schwarz criterion		12.19008
Log likelihood	-359.5609	Hannan-Quinn criter.		12.12632
F-statistic	169.6146	Durbin-Watson stat		0.363789
Prob(F-statistic)	0.000000			

Source: processed data

Output result:

For equation (1) R^2_1 is 0.954999

For equation (2) R^2_{11} is 0.831112

For equation (3) R^2_{12} is 0.609523

For equation (4) R^2_{13} is equal to 0.856144

Based on the output results, it shows that $R^2_1 > R^2_{11}$, R^2_{12}, R^2_{13}, so the model does not find any multicollenarity problems.

Heteroscedasticity Test

Table 6 White Heteroskedasticity Test Results

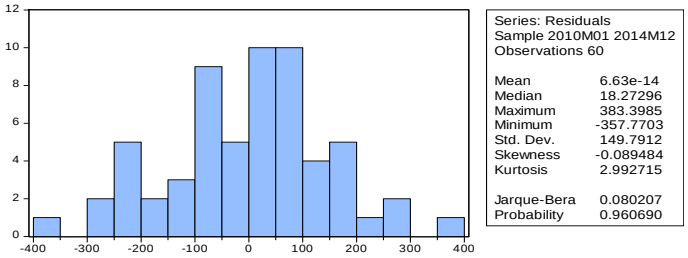
Heteroskedasticity Test: White			
F-statistic	0.201292	Prob. F(3,56)	0.8951
Obs*R-squared	0.640108	Prob. Chi-Square(3)	0.8872
Scaled explained SS	0.555574	Prob. Chi-Square(3)	0.9065

Source: processed data

From the results of the output above, it appears that the obs *R-square value for the estimated results of the white no coss terms test is 0.640108 and the X2 table value with a confidence degree of 5% and df according to the many independent variables, namely 3, is 7.81473. Because the R-squared value is 0.640108 < X^2 table 7.81473, it can be concluded that the above model passes the heteroscedasticity test.

Normality Test

Table 7 Normality Test Results



Source: processed data

The results of the normality test in Table 7 show that the Jarque Bera value is 0.080207 < X^2 table 5.99146, it can be concluded that the residuals are normally distributed.

Autocorrelation Test

Table 8 Estimation Results of the OLS Method

Dependent Variable: IHSG				
Method: Least Squares				
Date: 06/14/15 Time: 21:58				
Sample: 2010M01 2014M12				
Included observations: 60				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
KLSE	0.796995	0.273660	2.912353	0.0051
SET	2.186427	0.204829	10.67441	0.0000
STI	-0.033411	0.167710	0.199216	0.8428
C	277.7195	454.9937	0.610381	0.5441
R-squared	0.954999	Mean dependent var		4100.742
Adjusted R-squared	0.952589	S.D. dependent var		706.1184
S.E. of regression	153.7511	Akaike info criterion		12.97289
Sum squared resid	1323807.	Schwarz criterion		13.11251
Log likelihood	-385.1866	Hannan-Quinn criter.		13.02750
F-statistic	396.1434	Durbin-Watson stat		0.596607
Prob(F-statistic)	0.000000			

Source: processed data

From the OLS results above, it can be explained that the above model contains autocorrelation because the dw value is 0.596607, so to minimize the autocorrelation problem, use the treatment to enter the AR (1) (lagged variable) variable into the model estimate. Here are the estimation results after entering the lagged variable into the model:

Table 9 Estimation Results for OLS Addition of AR (1)Dependent Variable: IHSG

Variable	Coefficient	Std. Error	t-Statistic	Prob.
KLSE	0.442955	0.410070	1.080192	0.2849
STI	0.459158	0.186795	2.458086	0.0172
SET	1.673690	0.324627	5.155728	0.0000
C	40.70047	613.0301	0.066392	0.9473
AR(1)	0.866033	0.078649	11.01131	0.0000
R-squared	0.976773	Mean dependent var		4125.995
Adjusted R-squared	0.975052	S.D. dependent var		684.3070
S.E. of regression	108.0856	Akaike info criterion		12.28466
Sum squared resid	630854.8	Schwarz criterion		12.46072
Log likelihood	-357.3975	Hannan-Quinn criter.		12.35339
F-statistic	567.7116	Durbin-Watson stat		1.785362
Prob(F-statistic	0.000000			
Inverted AR Roots	.87			

Source: processed data

The durbin waston value is 1.785362 in an area where there is no autocorrelation, namely the durbin waston value between 1.55 to 2.46 which indicates that this model is free from autocorrelation problems.

Regression Equation Model

Multiple linear estimation test and interpreted in Table 10 below:

Table 10 Estimation Results of the OLS Method

Dependent Variable: IHSG				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
KLSE	0.442955	0.410070	1.080192	0.2849
STI	0.459158	0.186795	2.458086	0.0172
SET	1.673690	0.324627	5.155728	0.0000
C	40.70047	613.0301	0.066392	0.9473
AR(1)	0.866033	0.078649	11.01131	0.0000
R-squared	0.976773	Mean dependent var		4125.995
Adjusted R-squared	0.975052	S.D. dependent var		684.3070
S.E. of regression	108.0856	Akaike info criterion		12.28466
Sum squared resid	630854.8	Schwarz criterion		12.46072
Log likelihood	-357.3975	Hannan-Quinn criter.		12.35339
F-statistic	567.7116	Durbin-Watson stat		1.785362
Prob(F-statistic)	0.000000			
Inverted AR Roots	.87			

Source: processed data

Based on the linear regression output above, the multiple regression model used in this study can be formulated as follows:

JCI = 40,70047 + 0.442955 KLSE + 0.459158 STI + 1.673690 SET

Estimated Coefficient of Determination (R^2)

The estimation result of the model using the OLS method shows the coefficient of determination (R2) of 0.976773. This means that around 97.68% of the change in the Composite Stock Price Index is influenced by the determining variables in this model, namely the Kuala Lumpur Stock Exchange (KLSE), Straits Times Index (STI), and the Thailand Stock Exchange (SET) while the remaining 2.32% is explained by other variables not included in this model.

T-Statistical Test

In the econometric model used to estimate, the t-critical value is obtained as follows:

Table 11 T-tatistical Test

Degree of freedom df = (n – k)	Significance Level	T-table
56	0,05 (5%)	1,67252

n = number of observations = 60

k = number of parameters used including constant = 4

Kuala Lumpur Stock Exchange Variable

From the estimation results obtained t count = 1.080192 and t table (0.05; 56) = 1.67252. This research proves t count 1.080192) < t table 1.67252 and a significance value of 0.2849 or > 0.05. So it is in the reception area of Ho, not in the reception area of Ha. This means that the Kuala Lumpur Stock Exchange (X1) variable has a positive and insignificant effect on the Indonesia Stock Exchange Composite Stock Price Index (Y).

Straits Times Index Variable

The hypothesis is:

From the estimation results obtained t count = 2.458086 and t table (0.05; 56) = 1.67252. This study proves that the t-value obtained from the regression estimation is t count 2.458086 > t table 1.67252 and the significance value is 0.0172 or < 0.05. Then it is in the reception area of Ha, not in the reception area of Ho. This means that the Straits Times Index (X2) variable has a positive and significant effect on the Indonesia Stock Exchange Composite Stock Price Index (Y).

Variable Stock Exchange Thailand

From the estimation results obtained t count = 5.155728 and t table (0.05; 56) = 1.67252. This study proves t count 5.15728 > t table 1.67252 and a significance value of 0.0000 or < 0.05. Then it is in the reception area of Ha, not in the reception area of Ho. This means that the Thai Stock Exchange variable (X3) has a positive and significant effect on the Indonesia Stock Exchange Composite Stock Price Index (Y).

F-Statistical Test

The test is carried out using the F distribution by comparing the F-count value obtained from the regression results with the F-table.

Table 12 F-Statistical Test

Degree of freedom df1 = (k – 1) df2 = (n – k)	Significance Level	T-table
df1 = 3 df2 = 56	0,05 (5%)	2,77

n = number of observations = 60

k = number of parameters used including constant = 4

The analysis shows that F count (F-Statistics) is 567.7116 and F table (0.05; 3; 56) is 2.77, thus F counts 371.8836> F table 2.77 and the significance value is 0.0000 or <0.05. This means that all the independent variables together have a significant effect on the dependent variable. In other words, the variables Kuala Lumpur Stock Exchange (X1), Strait Times Index (X2), and Stock Exchange Thailand (X3) together have a significant effect on the Indonesia Stock Exchange Composite Stock Price Index (Y).

Interpretation of Results

The first independent variable Kuala Lumpur Stock Exchange (KLSE) has a coefficient value of 0.442955 which means that this variable has a positive effect on the composite stock price index with a confidence level of 95%. The interpretation shows that for every 1 point increase from the Kuala Lumpur Stock Exchange, assuming the other variable is equal to 0

(zero), it will increase the composite stock price index by 0.44 points. This study is supported by previous researchers Azhar (2010) who found a positive influence between the Kuala Lumpur Stock Exchange on the composite stock price index.

The second independent variable, the Straits Times Index (STI), initially has a coefficient value of -0.03341 in the model, but after testing the classic autocorrelation assumption which shows that Durbin Watson's value does not meet the correlation criteria so it is necessary to add the AR (1) or (lagged variable) into the model estimate that causes changes to the regression model itself. The Straits Times Index (STI) has a coefficient value of 0.459158 which means that this variable has a significant positive effect on the composite stock price index with a confidence level of 95%. The interpretation shows that for every 1 point increase of the Straits Times Index, assuming the other variables are equal to 0 (zero), it will increase the composite stock price index by 0.46 points. The results of this study are supported by previous researchers conducted by Kowanda, et al (2014) to prove empirically that the Singapore Stock Index has a significant positive effect on the Indonesian capital market.

The third independent variable, Stock Exchange Thailand (SET) has a coefficient value of 1.673690 which means that this variable has a significant positive effect on the composite stock price index with a confidence level of 95%. The interpretation shows that each increase in the Thai Stock Exchange by 1 point, assuming the other variables are equal to 0 (zero), it will increase the composite stock price index by 1.67 points. This study is supported by previous researchers Santosa, Budi (2013) who stated that there was a positive and significant influence on the Thai capital market on the Indonesian capital market.

Discussion of Research Results

The partial hypothesis test results show that the first independent variable of the Kuala Lumpur Stock Exchange (KLSE) has a positive effect on the composite stock price index. This is consistent with the hypothesis given that the Kuala Lumpur Stock Exchange (KLSE) has a positive effect on the Indonesian stock index (IHSG). As developing countries, Indonesia and Malaysia turned out to be better in the economic sector, especially the capital market. The effect of the Kuala Lumpur Stock Exchange (KLSE) on the IDX IHSG is positive or directly proportional. In other words, an increase in the SEA will be followed by an increase in the IDX IHSG.

The second independent variable, namely the Straits Times Index (STI), has a significant positive effect on the composite stock price index. These results contradict the hypothesis that the Straits Times Index (STI) has a negative effect on the Indonesian stock index (IHSG). This means that if the Straits Times Index (STI) increases, it will cause the IDX IHSG to increase because the relationship between the two is positive. This is due to the high interest of Singaporean investors in the Indonesia Stock Exchange. As a developed country, Singapore is able to dominate the Indonesian capital market.

The third independent variable, Thailand Stock Exchange (SET), has a significant positive effect on the composite stock price index. These results are in accordance with the hypothesis proposed that the Thai Stock Exchange (SET) has a positive effect on the Indonesian stock index (IHSG). This is due to the high level of cooperation in the economic sector for the two countries in recent years. The effect of the Thailand Stock Exchange (SET) has a positive or proportional effect on the IDX IHSG. In other words, if the SET increases it will be followed by an increase in the IDX IHSG.

Analysis of the effect of three stock exchange indices in Southeast Asia using statistical methods, the simultaneous test has a significant effect on the composite stock price index. This is consistent with the hypothesis given that the Malaysian Stock Index (KLSE), Singapore (STI), and Thailand (SET) have a positive effect on the Indonesian stock index (IHSG).

V. CONCLUSION

The sudy are based on the results of analysis and hypothesis testing on the composite stock price index of four Southeast Asian regional countries, namely: Kuala Lumpur Stock Exchange (KLSE), Straits Times Index (STI), Thailand Stock Exchange (SET), and Composite Stock Price Index (IHSG) during from January 2010 to December 2014 (60 months). The method used in this research is multiple regression analysis.

It is also based on the results of the Adjusted R Square test, the coefficient of determination (R2) which was 97.68% while the remaining 2.32% was another factor outside the study. Changes in the Composite Stock Price Index are influenced by the determining variables in this study, namely the Kuala Lumpur Stock Exchange (KLSE), the Straits Times Index (STI), and the Stock Exchange Thailand (SET).

Partially it shows that the three independent variables, namely the Kuala Lumpur Stock Exchange (KLSE), the Straits Times Index (STI), and the Thailand Stock Exchange (SET) have a positive influence on the dependent variable of the Composite Stock Price Index (IHSG). However, of the three independent variables, there are only two variables that have a significant effect, namely the Straits Times Index (STI) and the Stock Exchange of Thailand (SET). So it can be concluded that the Straits Times Index (STI) and the Stock Exchange Thailand (SET) have a positive and significant effect on the Composite Stock Price Index (IHSG) while the Kuala Lumpur Stock Exchange (KLSE) has a positive effect on the Composite Stock Price Index (IHSG).

Simultaneously, it shows that the three independent variables, namely the Kuala Lumpur Stock Exchange (KLSE), the Straits Times Index (STI), the Thailand Stock Exchange (SET) together have a significant effect on the Composite Stock Price Index (IHSG).

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