

# ANALYSIS OF FACTORS AFFECTING IHSG (COMPOSITE INDEX) IN INDONESIA STOCK EXCHANGE IN 2012-2017 PERIOD

**Rizaldi**

Departemen of Management, Faculty of Economics, University of Andalas, Padang, Indonesia  
Email – rizaldi@semenindonesia.com

**Abstract:** *This study discusses the analysis of macroeconomic factors that affect the IHSG. Information about the Composite Stock Price Index (CSPI) that is difficult to predict is very important for investors to make investment decisions in the capital market. The IHSG is an index that states the development of stock prices on the IDX (Indonesia Stock Exchange). The IHSG is an index that shows the general movement of stock prices listed on the stock exchange which is a reference for the development of activities in the capital market. This study analyzes the CSPI as the object of research, and took 2012-2017 as the study period. The factors that influence the Composite Stock Price Index include Exchange Rate (IDR / USD), Inflation, BI Rate, Straits Times Index, S & P500 Index. Macroeconomic changes in Indonesia will certainly affect the national economy and the entire industry.*

**Key Words:** *IHSG, STI, S&P500, Exchange Rate, Inflation, BI Rate.*

## 1. INTRODUCTION:

Information about the Composite Stock Price Index (CSPI) that is difficult to predict is very important for investors to make investment decisions in the capital market. The JCI is an index that states the development of stock prices on the IDX (Indonesian Stock Exchange), so that JCI fluctuations will affect the condition of the capital market in Indonesia whether in a bullish position (tends to rise) or bearish (tends to fall). JCI is an index that shows the general movement of stock prices listed on the stock exchange as a reference for the development of activities in the capital market (Anoraga and Pakarti; 2001: 101), the JCI has several benefits, among others, as markers of market direction, as a benchmark for portfolio performance, and as a measure of profit. This study analyzes the CSPI as the object of research and took 2012-2017 as the study period.

The factors that influence the Composite Stock Price Index include Exchange Rate (IDR / USD), Inflation, BI Rate, Straits Times Index, S & P500 Index, and others. Its influence can be positive or negative towards the level of the Indonesia Stock Exchange. Rini Astuti (2016) Macro change the economy in Indonesia will certainly affect the national economy and the entire industry. For example, high inflation and the weakening of the rupiah will make many industries experience shocks, declining production due to rising prices of raw materials which results in a decrease in the level of profit. With the decline in the level of profit will certainly have an impact on the decline in stock prices in the industry because dividends that will be received by shareholders will decrease so that many investors will withdraw their investment. Rising interest rates will make investors more interested in investing in bank savings rather than investing in the capital market. The decline in stock prices in the industry will also have an impact on the decline in the value of the Composite Stock Price Index (IHSG) on the Indonesia Stock Exchange (IDX).

When the interest rate set is higher than the rate of return expected by investors, investors tend to shift their investment in money market instruments. The transfer of investment funds will reduce the JCI level. But on the contrary, JCI will increase if the interest rate set is smaller than the expected rate of return by investors, then investors will tend to save their funds in the form of shares rather than in the form of deposits or savings.

Inflation has an influence on the JCI. If inflation increases, the price of goods will tend to increase and the company's burden will also increase due to the increase in raw material costs, operational costs, etc. so that it will impact on the decline in company revenues. This will cause investors to divert their funds to more risk-free instruments which will cause the JCI to decline. Suramaya Suci Kewal (April 2012) The macroeconomic environment is an environment that affects the company's daily operations. The ability of investors to understand and predict conditions economy macro in the Century come will very useful in manufacture decision investment profitable. For that, an investor should consider coming an indicator economy macro that can help an investor in arouses decision investment. Indicator economics macro that often related to market cash is fluctuations rate flower, inflation, exchange rate rupiah, and growing GDP.

The exchange rate (IDR / USD) affects company profits. If the value of the rupiah depreciates, it will reduce the profits of companies that import raw materials. In addition, it will also affect companies that have extensive public debt.

Similarly, the Straits Times Index and the Standard & Poor's 500 Index. If the Straits Times Index and the S & P500 Index strengthen, the JCI will also strengthen. Because the Straits Times Index shows the conditions in the Asian regional market and the S & P500 index showing global conditions, the rise and fall of the index are very influential on the JCI.

The movement of regional or global stock indices influences the local stock index can be explained considering that the international financial system in the current era has no bulkhead and can be accessed by all market players around the world quickly and easily. Thus, regional and global economic conditions will easily affect the economy of other countries in a fast time.

Capital markets or stock exchanges have an important role for the economy of a country because capital markets carry out two functions, namely first as a means for business funding or as a means for companies to get funds from investors or investors (Husnan, 2004). Funds obtained from the capital market can be used for business development, expansion, additional working capital, and others. Second, the capital market is a means for the community to invest in financial instruments such as stocks, bonds, mutual funds, and others. Thus the community can place its funds in accordance with the characteristics of the advantages and risks of each financial instrument,

Each stock exchange has a different stock price index. Singapore has the Straits Times Index, Hong Kong has the Hang Seng, HSCCEL, and HSCCI Index. America has the Dow Jones Index, Standard & Poor's 500, and NASDAQ. The Indonesia Stock Exchange (IDX) has several stock price indices. An index containing the totality of shares listed on the exchange is called the CSPI. In addition there are LQ 45 index, JII index (Jakarta Islamic Index), Kompas-100 index, and Business-27 index.

The stock price on the exchange is not always fixed, there are times when it increases and can also decrease, depending on the strength of demand and supply, where the fluctuations in stock prices make the stock exchange attractive to some investors (investors). On the other hand, the increase and decrease in stock prices can occur due to fundamental, psychological, and external factors.

The interest rate policy is controlled directly by Bank Indonesia through the BI Rate or Bank Indonesia interest rate, which is a one-year interest rate set by BI as a benchmark for lending and deposit rates for banks and/or financial institutions throughout Indonesia, This benchmark is only referral and is not a regulation, so it is not binding or compelling. So, conventional banks can increase the interest on loans to people who apply for credit on the grounds that the BI Rate rises, but on the other cases, the interest on deposits or savings for customers can increase or not have to increase depending on the policies of their respective banks.

For companies that are active in exporting and importing, the stability of the value of the Rupiah exchange rate against the Dollar is important. Because when the value of the rupiah depreciates (decreases) with US \$, this results in expensive imported goods. If most of the company's raw materials use imported materials, this will automatically result in an increase in production costs. The increase in production costs will certainly reduce investor buying interest in the shares of the company concerned. In general, this will encourage a weakening of the stock price index in the country.

## 2. LITERATURE REVIEW:

According to Adisetiawan (2017), the Indonesian capital market has been integrated with global capital markets with varying degrees between the types of global capital markets, as indicated by the unidirectional movement and significant influence of global capital market developments in the Indonesian capital market. Although integrated, each global capital market has a varied level of integration.

The results of previous studies on the JCI showed inconsistent results. In the Kewal study (2012) concluded that partially inflation did not affect (negative) the JCI. This National Research is also supported by the results of a study from Hermawan (2014) which concluded that partially inflation had no negative effect on the JCI. The results of the study contradict the research of Krisna and Wiratin (2013) which concluded that partially inflation had a positive (positive) effect on the JCI. The results of Krisna and Wiratin's research were also supported by Arifin's (2014) study which concluded that partially inflation had a positive (positive) effect on the JCI. In Krisna and Wiratin's research (2013) Hermawan (2014), Kewal (2014), Arifin (2014), Hartanto (2013), concluded that partially SBI had no negative effect on the JCI. This is contrary to the research of Witjaksono (2010) who concluded that partially SBI had an effect (positive) on the JCI.

Because of the different results of the study, researchers chose the JCI as a topic of discussion in the hope that they could find conclusions that were different from previous studies and that explanatory variables could be searched that could predict and explain the fluctuations of the JCI which were more accurate.

Based on the description described above, this research was conducted with the aim of knowing well simultaneously or partially the effect of the value of exchange rates, inflation, the BI Rate, the Straits Times Index (representing the regional stocks) and Standard and Poor's 500 (representing global stocks) so that the author took the title of the thesis "Analysis of Factors influencing JCI (Composite Index) on the Indonesia Stock Exchange for the period 2012-2017".

### 3. BASIC THEORY:

#### 3.1 Theoretical Study

##### 3.1.1 Composite Stock Price Index (CSPI)

An index is basically a number that is made in such a way that it can be used to make comparisons between the same activities in two different times. The stock price index is an indicator of stock trading, which is arranged with one particular formula that takes place on the stock exchange. Each stock exchange has a different stock price index. On the New York Stock Exchange (NYSE), the Dow Jones Industrial Average (DJIA), the Standard & Poor's 500 indexes and the NASDAQ index were known. On the Indonesia Stock Exchange (IDX), we know several stock price indices. The index that contains the totality of shares listed on the exchange is called the Composite Stock Price Index (CSPI).

IHSG was first introduced on April 1, 1983 with a base day calculated on August 10, 1982 at a value of 100. If the JCI represents the average of all shares on the IDX, for other indices such as LQ45 only counts the index for 45 leading stocks which are quite active. The Jakarta Islamic Index (JII) contains 30 selected stocks that meet the requirements set by the National Sharia Council (DSN) of the MUI. Kompas-100 is an index of 100 shares published by Kompas daily analysts. While Bisnis-27 is an index released by Bisnis Indonesia daily. The sectoral index as the name implies contains similarities in the business field. While the individual index is only one share.

The index functions as a market trend indicator, meaning that the index movement describes the market conditions at one time, whether the market is active or lethargic. With the index, we can find out the current stock price movement trend, whether it is rising, stable or down. The movement of the index becomes an important indicator for investors to determine whether they will sell, hold or buy a stock or several shares. Because stock prices move in seconds and minutes, the index value also moves up and down in a matter of fast times too. Likewise, with the stock price index, the index here will compare changes in stock prices from time to time.

The movement of the index value will show changes in the market situation that occurs. Markets that are currently active transactions are indicated by the stock price index that has increased. Stable conditions are indicated by a fixed stock price index, while a sluggish market is addressed by a stock price index that has decreased.

Because basic time is an important component in determining the stock price index, to determine the base time should be done correctly because it will be used as a benchmark. Basic time is selected when the situation is stable. When the situation is unstable, for example when the index is high, for the determination of the price index the results are less valid because it will show that the price index tends to continue to decline. The next thing is if the basic time is determined when the market is sluggish, the price index will tend to show an increase. The general market situation can only be known if we know the Composite Stock Price Index.

##### 3.1.2 Exchange Rate (IDR / USD)

An exchange rate is the price of a currency of a country that is measured or expressed in another currency. Exchange rates play an important role in spending decisions because exchange rates allow us to translate prices from various countries into the same language. If all other conditions remain, the depreciation of the currency of a country against all other currencies (an increase in the price of foreign exchange for the country concerned) causes its exports to be cheaper and imports more expensive. Whereas the appreciation (decrease in the price of foreign exchange in the country concerned) makes exports more expensive and imports are cheaper.

Exchange rates are very important in the foreign exchange market (foreign exchange market). Although foreign exchange trading takes place in various financial centers throughout the world, modern telecommunications technology has linked them to a single market series that operates 24 hours a day. One important category in foreign exchange trading is futures trading, where some parties agree to exchange currencies in the future on the basis of the exchange rate they agree on. While other categories, namely spot trading (spot trading) immediately carry out these exchanges (usually for urgent or practical purposes).

Exchange rates can also be referred to as value comparisons. In exchanging two different currencies, there will be a comparison of the value/price between the two currencies. This value comparison is called the exchange rate. In reality, there are often various exchange rates for one foreign exchange. This difference arises because several things include the difference between the bell and selling rates by foreign exchange traders, the difference in exchange rates due to differences in the time of payment, differences in the level of security in receiving payment rights. Exchange rates consist of three types, namely buying, selling and middle rates. The buying rate is the exchange rate used when foreign exchange traders or banks buy foreign exchange. The selling rate is a cur which is used if a forex trader or bank sells foreign exchange, while the middle rate is the sum and division between the buying rate and the selling rate. The following are foreign exchange rates:

1. Fixed exchange rate

It can happen because of two things, namely the foreign exchange rate is still the gold standard and the fixed exchange rate is the paper standard. The gold standard fixed foreign exchange rate is the exchange rate with the exchange rate by indicating the value of a currency with gold. This exchange rate consists of 4 types of foreign exchange rates, namely: Parita Arsa Yasa exchange rate (the weight ratio of gold obtained by exchanging a unit of money in a country with one unit of another country's money), the point of export of gold (the highest foreign exchange rate in the gold standard

system), the point of import of gold (the lowest foreign exchange rate in the gold standard system), and the foreign exchange rate (the exchange rate moves up and down around the Parita Arta Yasa exchange rate). whereas, the fixed exchange rate of paper standards is a government policy to determine the exchange rate of a country's currency with another country's currency and try to maintain it with various kinds of policies.

## 2. Free exchange rate

This occurs when the comparison of the value of a country's currency with another country's currency is allowed to be freely determined by attractive market forces (demand and supply). The free exchange rate system is often referred to as a floating foreign exchange rate.

## 3. Exchange rates are controlled.

Also called the exchange rate stabilized. Free exchange rates as mentioned above often lead to uncertainty in foreign exchange rates, so the state is expected to be able to implement exchange rate controls or stabilization at a reasonable level. Basically, in a controlled mining system, the exchange rate is determined by market forces, so it is free to move up or down. But in order to avoid too much turmoil, the criteria determined by the Central Bank, the government can intervene to certain limits. The forms of government intervention can be in the form of clean floats if they occur if government interference is not slim, that is by setting interest rates, and gross float if it occurs directly if the government intervenes, namely by selling or buying foreign exchange.

The factors that affect the exchange rate include inflation, changes in prices of exported goods, changes in government regulations, economic development of a country, and demand and offer of foreign exchange. The USD has been the world's major currency since the end of World War II to the present. This is understandable considering that at that time the economy in European countries was destroyed by the war and on the other hand American land was not touched by the war even though America participated in the war. With the holding of an international conference on the exchange rate system held at Bretton Woods, New Hampshire, the United States in 1944 which marked the start of the Fixed Exchange Rate System, it increasingly confirmed the role of the US Dollar as the world's major currency. Time travel also shows that the US Dollar as a currency is quite stable even in critical circumstances.

### 3.1.3 Inflation

Inflation is an event or process of increasing prices in general and continuously (continue). Another means of inflation is the ongoing process of decreasing the value of a currency. Inflation can be classified into several types, namely, inflation is mild, moderate, severe, and hyperinflation. Mild inflation occurs when the price increase is below the 10% a year; inflation is between 10% -30% a year; inflation weighs between 30% -100% a year; and hyper weight or uncontrolled inflation occurs when the price increase is above 100% a year.

To calculate inflation can use the Consumer Price Index (CPI) or the Consumer Price Index (CPI). CPI is an index that measures the average price of goods and services consumed by households (household). CPI is often used to measure inflation in a country and can also be used as consideration for adjusting salaries, wages, pensions, and others. Here is a way to calculate CPI (Soetanto, 2009):

$$IHK = \frac{P_n}{P_o} \times 100\%$$

Information :

$P_n$  = Current price

$P_o$  = Base year price

After the Consumer Price Index (CPI) is known, the following is a formula to find the inflation rate:

$$Inflasi = \frac{IHK_n - IHK_o}{IHK_o} \times 100\%$$

Information :

$IHK_n$  = Consumer Price Index period t

$IHK_o$  = Period t-1 Consumer Price Index

Inflation occurs because of several factors caused by the large production costs and large demand for goods. The large increase in demand for an excessive item can make the price of the item more expensive as happened in the price of crude oil. Conversely, the reduced demand for an item will also affect inflation. Inflation can also have a negative-positive effect, depending on some levels of inflation and market reactions. For example, if inflation reaches extreme levels, the price of goods soars uncontrollably so that people with fixed income are like civil servants, middle to lower private employees, and workers will be overwhelmed to bear and compensate for the soaring prices of goods. Companies will also experience a decline in profits because people's consumption is declining.

Conversely, if mild inflation, it actually has a positive influence, in the sense of encouraging a better economy, namely increasing national income and making people excited to work, save, and make investments. To reduce the inflation rate, usually, the government will carry out economic policies by increasing interest rates. This increase in interest rates also had a positive and negative impact, when the bank's interest rates were greatly increased to control a



very high inflation rate, debt interest expense and interest on public housing loans became higher, which would cause a decline in people's economic growth.

### **3.1.4. BI Rate**

Interest is a service reward for money loans, this service fee is compensation to the lender for the future benefits of the loan if invested. The BI Rate is a policy interest rate that reflects the monetary policy stance or stance set by Bank Indonesia and announced to the public.

Every monthly Board of Governors' meeting, the BI Rate is announced by the Board of Governors of Bank Indonesia and implemented in the monetary operation through liquidity management on the money market to achieve operational targets for monetary policy. In monetary policy, the operational target is reflected in the development of Overnight Interbank Money Market interest rates. This interest rate movement will be followed by developments in deposit rates and bank lending rates.

By considering other economic factors, if future inflation is expected to exceed the set targets, generally Bank Indonesia will raise the BI Rate. Likewise, vice versa, if future inflation is expected to be below the set target, Bank Indonesia will reduce the BI Rate.

### **3.1.5 . Straits Times Index**

The Straits Times Index or the Straits Times Index (abbreviated as STI) is a stock market index based on capitalization on the Singapore Stock Exchange. The Straits Times Index was launched in order to reclassify the companies listed on the Singapore Exchange, replacing the Straits Times Industrial Index (STII), and began functioning on August 31, 1998 at 885.26 points. The Straits Time Index is calculated based on the Weighted Market Value of 30 shares of companies representing companies listed on the Singapore Exchange. This index is made by the Singapore Press Holdings (SPH), Singapore Exchange (SGX) and FTSE Group (FTSE) and is reviewed at least once a year or whenever needed. The index represents 78% of the average daily transaction value for 12 months and 61.2% of the total market capitalization of the securities. But since March 18, 2005, the number of shares entered into this index was added to 50 daily companies on average in the 12 month period to 60% and increase the total market capitalization in the Singapore stock exchange to 75%

### **3.1.6. Standard & Poor's 500 Index**

Standard & Poor's, also known as (S & P), is a subsidiary of McGraw-Hill, which is a rating company for stocks and bonds, which is one of the 3 major companies in the securities rating industry with Moody's and Fitch Rating.

One of its products that are widely known is the ranking of 500 shares in America known as S & P500, and a ranking of 200 shares in Australia known as the S & P / ASX 200 joint stock price index and a rating in Canada known as S&P / TSX.

The history of the S & P began in 1860, with the publication of the book History of Railroads and Canals in the United States compiled by Henry Varnum Poor. The book contains comprehensive information about the operational and financial conditions of all railway companies in the United States. In 1868, Hendry Varnum Poor and his son, Henry William Poor founded HV and HW Poor Co, the company published two books published each year, entitled Poor's Manual of Railways of the United States and Poor's Directory of Railway Officials.

Meanwhile, in 1906, Luther Lee Blake founded the Standard Statistics Bureau, which aims to provide financial information to non-railroad companies. The company publishes a 5-inch x 7-inch card, which allows more frequent publishing.

In 1941 Poor's Publishing and Standard Statistics joined and formed Standard & Poor's Corp. In 1966, the company was acquired by Mc-Grow-Hill to expand into the financial information service industry.

As a credit rating agency, Standard & Poor's issuer credit ratings for debts from companies. And currently, S&P is recognized as an American national statistical rating organization by the US Securities and Exchange Commission (the capital market supervisory agency in America. S&P ranks short and long-term debt.

S&P ranks companies on a scale from AAA and D. The middle rating is at each level between AA and CCC (for example BBB +, BBB and BBB-). For some companies, S & P can also issue a guideline called "credit watch" (credit that must be monitored), namely credit that can change its ranking to increase (positive) or down (negative) or fixed (neutral).

## **3.2. Thinking Framework**

### **3.2. 1. Effect of Exchange Rate (IDR / USD) on JCI**

The exchange rate (IDR / USD) is the exchange rate of Rupiah (IDR) against the US Dollar (USD). Exchange rate depreciation will occur if the value of the IDR exchange rate weakens against the USD, otherwise, the exchange rate appreciation will occur if the IDR exchange rate experiences a strengthening against the USD exchange rate. The strengthening of the IDR exchange rate against the USD indicates a better economy. With a strong IDR exchange rate, companies that have a high import content of raw materials will be able to reduce production costs so that the products sold can have a lower cost of production. This will encourage a higher demand for products so that company profits will increase.

When the company's profits increase, the value of the company's shares will also increase, and when such conditions occur in almost all companies listed on the IDX where the company experiences an increase in stock prices, it will increase the JCI. On the other cases, the strengthening of the rupiah coupled with the growth of the company will also benefit companies that have foreign debt in USD denominations. They will benefit from the difference in money that is supposed to pay off debt can be allocated to foster the growth sector from the other side. Conditions that occur on the IDX, many companies use debt denominated in USD as company financing. Thus, the strengthening of the IDR exchange rate against USD will negatively affect the JCI.

### **3.2. 2. Influence of Inflation on the JCI**

Inflation is a condition of increasing prices in general and continuously (continue). The increase in the price of goods in general and continuously will affect the decline in people's purchasing power which is characterized by a decrease in demand for goods and services, where it will affect demand for companies in general, as the provider of goods and services. The decline will directly affect the company's turnover so that financial performance will decline. The decrease in company earnings will cause the market to respond negatively to the shares concerned so as to make the stock market sluggish. Such a situation if it befalls almost all companies listed on the IDX will weaken the CSPI as the composite index on the IDX. But the opposite is that the JCI will strengthen if the inflation rate drops, the prices of goods will decline and the company can optimize its profits because of lower production prices. Thus, inflation has a negative effect on JCI.

### **3.2. 3. Influence of BI Rate on JCI**

The BI Rate is a reference interest rate that reflects the attitude or standard of monetary policy stipulated by Bank Indonesia and announced to the public. If the BI Rate is set too high it will affect the interest on both deposit interest and loan interest, when the loan interest is set too high companies that have debts will be burdened and will have fewer profits, causing stock prices to fall. If this condition is experienced by most companies listed on the IDX, it will reduce the JCI rate. Conversely, the JCI will increase if the BI Rate falls, because if the loan interest is set smaller, then the company will get again from the difference in funds to pay the debt so that the funds can be used to pay the debt so that the funds can be used to optimize profits so that the stock price of shares can increase. Thus, the BI Rate has a negative effect on the JCI.

### **3.2. 4. Effect of the Straits Time Index on the JCI**

The Straits Time Index (STI) is a stock index originating from Singapore which is currently still above the JCI and still the largest in Southeast Asia. This allows that if the STI index decreases, the JCI will also be affected. So that it shows that the linkages between one stock exchange and another, especially the existing exchanges in one regional region.

If a country is involved in international economic trade, its national economic growth will be influenced by international economic activities directly related. So that the progress of the Singapore exchange reflected in the Straits Times index will have a positive impact on Asian regional exchanges including Indonesia. This is because Singapore's regional exchanges are the main market driving Asian capital. The researcher considers the behavior of investors or market participants in the Singapore Stock Exchange in explaining the JCI, because in addition to the index in the Singapore Stock Exchange, especially the Straits Times, it is a regional capital market driving index, also because investment in the Indonesian stock exchange is more than 70% investment foreign. Therefore, investment behavior in the Indonesia Stock Exchange will be greatly affected by foreign economic conditions, especially the condition of the country where foreign investors place their funds or invest. Considering the explanation above, the Straits Times index has a positive effect on the composite stock price index (CSPI)

### **3.2. 5. Effects of the Standard & Poor's 500 Index on the JCI**

The Standard & Poor's 500 Index is one of the three main indices in the United States. The other indexes are Nasdaq Composite and Dow Jones. This index represents economic activity in the United States. This index can describe how the American economy is performing. Companies listed on the Standard & Poor's 500 Index are large companies that have been operating globally.

If the Wall Street stock falls, then the whole world is no exception Indonesia will be affected, this was proven in 2008, when the United States experienced a crisis, almost all other countries were affected, including Indonesia, which at that time decreased by 50%, but if the exchange America has experienced an increase, so the indexes of other countries including Indonesia will also strengthen. The researcher considered the behavior of investors or market participants in the Wall Street market in explaining the JCI, because in addition to the existing indexes in the Wall Steet, especially the Standard & Poor's 500, the global capital market drive index was also caused by investments of more than 70% in the Indonesia Stock Exchange is a foreign investment. Therefore, investment behavior in the Indonesia Stock Exchange will be greatly affected by the conditions of the foreign economy, especially the state where investors place their funds or invest. Considering the above explanation, the Standard & Poor's 500 index has a positive effect on the Composite Stock Price Index (CSPI).

### **3.3. Development of Hypotheses**

Arifin (2014) Conducted research on "The Influence of Inflation, SBI, Changes in Exchange Rates, and Standard & Poor's 500 on the IHSG on the IDX for the period 2011-2013". He concluded that partially SBI had no effect on the JCI, while Changes in Exchange Rate, Standard & Poor's 500 Index, and Inflation had an effect on the JCI. Simultaneously Inflation, SBI, exchange rate changes, and the Standard & Poor's 500 indexes affect the JCI.

Munib, Muhammad Fatih (2016) examined the Effect of Rupiah Exchange Rate, Inflation and BI Rate on the Price of Corporate Banking Sector Stocks on the Indonesia Stock Exchange concluded that Variable Rupiah Exchange Rate, Inflation and BI Rate simultaneously had a significant effect on the stock market of the Stock Exchange Indonesia (IDX). Variables of Rupiah and BIRate rates, partially have a significant effect on the stock prices of banking sector companies in the Indonesia Stock Exchange (IDX). While variable inflation, partially no significant effect on the company's stock price in the banking sector Ind Stock Exchange on a waste.

H 1: Level rupiah exchange rate Exchange (IDR / USD) has a positive effect on stock prices

Andriani (2016) with title influence condition Fundamental, Inflation and invest rate certificate Indonesia Bank For Stock Price (Study case for company Real Estate and Property register in Stock Exchange Indonesia year 2010-2013) founded Current Ratio, Total Asset Turn Over, and inflation not influence for price stock, invest rate SBI influence negative for stock price condition fundamental, Inflation, and invest rate SBI will simultaneously influence for stock price.

Kusuma & Badjra (2016) with title Influence Inflation, Interest rate Dollar and growth GDP for IHSG in Stock Exchange Indonesia found that Inflation is not influenced for Stock Exchange Indonesia Index, Number money circulating is not influence for Stock Exchange Indonesia Index, Interest Rate Dollar influence positive significant for Stock Exchange Indonesia Index, and Growth Gross Domestic Product influence positive significant for Stock Exchange Indonesia Index.

H 2: Rate Inflation influence positive for Stock Exchange

Hermawan (2014) with title Influence Interest Rate Indonesia Bank, Interest Rate Dollar, Inflation, Price oil in the world and HKSI influence for Stock Exchange Indonesia Index in period 2006-2011 conclude that partially inflation, Interest Rate Indonesia Ban, and oil price in the world, does not influence for Stock Exchange Indonesia Index, while HKSI and Intrest Rate Dollar influence for Stock Exchange Indonesia Index. In a manner simultaneous Interest Rate Indonesia Bank, Inflation, Interest Rate Dollar, price oil in the world and HKSI influence for stock Exchange Indonesia Index.

H 3: Interest Rate Indonesia Bank influence positive for Exchange price

Imbayani, I Gusti Ayu (2015) examine Analysis Influence Index Dow Jones, Index Strait Times, Index Nikkei 225, Index Hang zinc, and invest Rupiah for stock Exchange Indonesia Index examine that Variable index Dow Jones di New York Stock Exchange is influenced positively for Stock Exchange Indonesia Index. Variable Nikkei 225 in Tokyo Stock Exchange is influenced negatively for Stock Exchange Indonesia Index. Therefor Variable invest Rate rupiah is influenced negatively for Stock Exchange Indonesia Index.

H 4 Index Straits Times influence negative for stock price.

Dastanta Tarigan, Razak, Suhadak and Tupowijoyono examine Influence Stock Exchange Indonesia Index and Price index global influence stock Exchange Indonesia Index. Study in Stock Exchange Indonesia) Period 2011 – 2014 Conclude that examine in a manner simultaneous that DJIA, DAX, SSE dan STI in a manner simultaneous influence significant for the stock Exchange Indonesia Index. Therefore result from an analysis in a manner partial that influence and significant is variable DJIA, SSE dan STI for Stock Exchange Indonesia index. Is there with Signaling Theory give result empirical evidence that information and shock that stock Exchange in American, China dan Singapore in response with a direction that the same by investor and shareholders in Stock Exchange Indonesia.

Riantini, Suskim, Tambunan, Maria (2013). Examine about Analysis Influence Variable Macro Economic and Index Global for Return stock. They conclude that variable macroeconomic and index global influence significant for return stock. Therefore because that for make prediction return stock, investor must pay attention to movement variable macroeconomic (invest rate rupiah for dollar AS and invest rate Indonesia Bank and pay attention to movement stock global index (index Hang Zinc dan Index Dow Jones) because Indonesia Capital Market has been integration with Capital Market of the world, there for movement stock index in global market will be influence for movement stock price in capital market Indonesia.

Syarif, Moh Maulidi dan Asandimitra, Nadia (2015) examine about influence indicator Macro Economic and Factor Global for Indonesia stock exchange index conclude that from the six variable independent, there for indicator macroeconomic reflected by inflation rate, interest Indonesia Bank and exchange rate rupiah there for dollar and factor global there for there for there for there for there for oil price in the world, price the gold world and interest The Fed for period 2005-2014, only interest rupiah for dollar and the oil price in the world influence for in the world influence negative for Indonesia Stock Exchange Index. Therefor oil price in the world influence positive for Indonesia stock exchange index for period 2005-2014.

H 5 Index S&P500 influence negative for stock price.

#### 4. MATERIALS:

Information about the Composite Stock Price Index (CSPI) that is difficult to predict is very important for investors to make investment decisions in the capital market. The JCI is an index that states the development of stock prices on the IDX (Indonesian Stock Exchange), so that JCI fluctuations will affect the condition of the capital market in Indonesia whether in a bullish position (tends to rise) or bearish (tends to fall). JCI is an index that shows the general movement of stock prices listed on the stock exchange as a reference for the development of activities in the capital market, the JCI has several benefits, among others, as markers of market direction, as a benchmark for portfolio performance, and as a measure of profit. This study analyzes the CSPI as the object of research and took 2012-2017 as the study period.

#### 5. METHOD:

##### 5.1 Research design

Based on the level of exploration, this research depends as causal associative research, namely research that aims to determine the relationship (correlation) of causation between two or more variables namely independent or independent variables on the dependent variable or bound (Gujarati, 2003:33). In this study, the dependent variable is the Composite Stock Price Index (CSPI), while the independent variable is the Straits Times Index, Hang Seng Index, Dow Jones Index, Exchange Rate (IDR / USD), Inflation, and BI Rate.

##### A. Formulation of the problem

Based on the background of the problem, identification of the problem, and limitation of the problem, the author will formulate the main issues in this study are:

1. How does the rupiah exchange rate (IDR / USD) influence the stock price on the IDX?
2. What is the effect of inflation on stock prices on the IDX?
3. How does the BI Rate affect the stock price on the IDX?
4. What is the influence of regional exchanges on the price of shares on the IDX?
5. What is the influence of the developed stock market on the stock price on the IDX?

##### B. Research Purposes

Based on the formulation of the problem, the authors convey the objectives of the research to be carried out by the researchers are as follows:

1. To find out the effect of Exchange (IDR / USD) on the stock price on the IDX during the period 2012 - 2017
2. To find out the effect of inflation on stock prices on the IDX during the period 2012 - 2017.
3. To find out the effect of the BI Rate on stock prices on the IDX during the period 2012 - 2017.
4. To find out the effect of the Straits Times index on stock prices on the IDX during the period 2012 - 2017.
5. To find out the effect of the S & P500 index on the stock price on the IDX during the period 2012 - 2017.

##### C. Benefits of research

The benefits or uses of this study include:

1. For Investors and Prospective Investors

This research can be used as an analysis tool for stocks traded on the stock through the variables used in this study so that investors can invest wisely and in accordance with what is expected.

2. For Academics

This research is expected to be able to contribute to the development of science, especially in the field of financial management, especially theories related to fundamental analysis. This research is also expected to be used as an additional reference in the expansion of further research.

3. Share further research

The findings produced by this study are expected to be a benchmark and theoretical reference for further research, especially those that take the subject matter of the Composite Stock Price Index (CSPI).

##### D. The scope of research

Based on the background of the problem and identification of the problems already stated, the authors limit the problem in this study by focusing on analysis that affects the Composite Index on the Indonesian stock exchange for the period 2012-2017 using the independent variable BI Rate, Exchange Rate (IDR / USD), inflation rate, Straits Times Index, and S&P500 Index.

##### E. Writing system

The systematics of writing this thesis is broadly divided into five chapters, between one chapter and another related chapter. The systematics of writing and its description are as follows:



## CHAPTER I INTRODUCTION

This chapter will discuss the contents of the research carried out, which consists of the background of the problem, the formulation of the problem, the purpose of the research, the benefits of the research and the systematic writing of the thesis.

## CHAPTER II BASIC THEORY

This chapter will discuss the previous research with topics that are almost the same as the research conducted, the theoretical basis used as the basis of research, the framework of inquiry and the research hypothesis that will be tested in this study.

## CHAPTER III RESEARCH METHODOLOGY

This chapter outlines the research methods which consist of: research design, research boundaries, variable identification, operational definition and measurement of variables, population, sample and sampling techniques, data and data collection methods and data analysis techniques used by researchers to test hypotheses that have been compiled before.

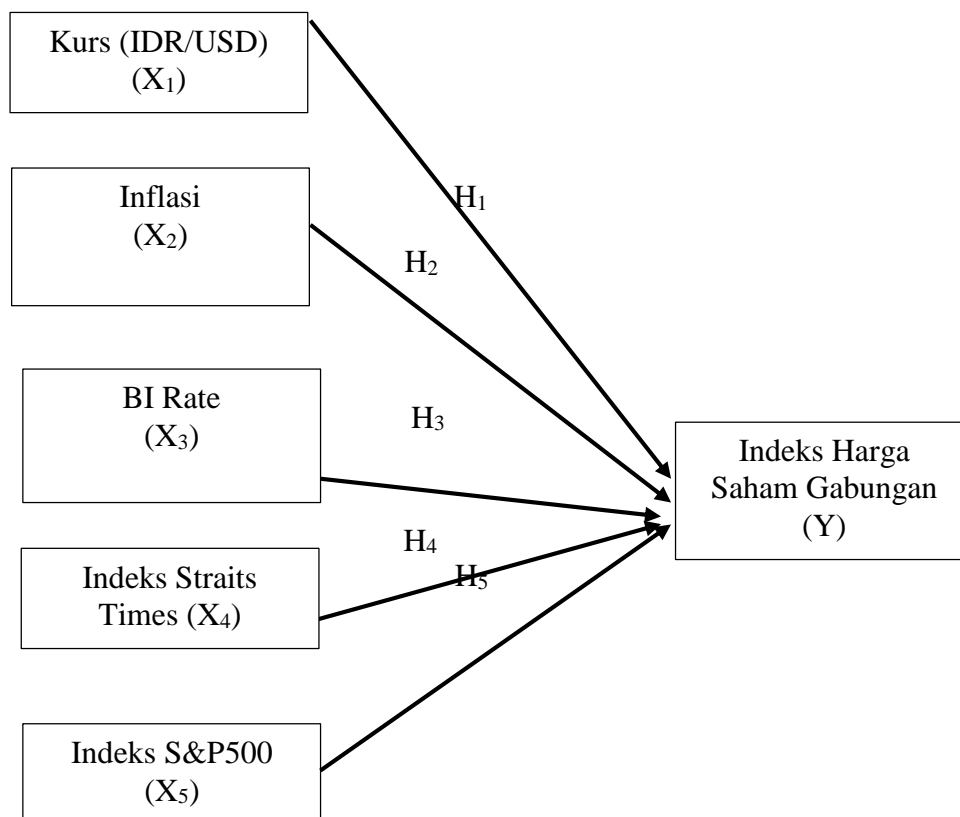
## CHAPTER IV RESEARCH RESULTS AND DISCUSSION

This chapter explains the description of the subjects used in the study. Providing analysis of the results of the research obtained and discussion of the problems being tested, and comparing with previous research and the theoretical basis that became the reference. With the analysis carried out, it is expected that there is a solution to the problem that has been formulated previously.

## CHAPTER V CONCLUSIONS AND SUGGESTIONS

This chapter presents the conclusions obtained from the research conducted. Explain the limitations that researchers have during conducting research, and provide suggestions that can later be used as a basis for the development of science and further research.

### F . Research Framework



Information :

- X 1 : Variable independent interest rupiah (IDR/USD)
- X 2 : Variable independent Inflation
- X 3 : Variable independent Interest Indonesia Bank Rate
- X 4 : Variable independent Index Straits Times
- X 5 : Variable independent Index S&P500
- Y : Variable dependent
- H 1 : Hipotesis influence X 1 for Y

H 2 : Hipotesis influence X 2 for Y  
H 3 : Hipotesis influence X 3 for Y  
H 4 : Hipotesis influence X 4 for Y  
H 5 : Hipotesis influence X 5 for Y

## 5.2 Variable Operational Definition

### 5.2.1. Dependent Variable

The dependent variable is a variable that is influenced by independent variables. The dependent variable in this study is the CSPI. JCI is one of the stock market indices used by the Indonesia Stock Exchange, First introduced on April 1, 1983, as an indicator of stock price movements on the IDX. This index includes the price movements of all ordinary shares and preferred shares listed on the IDX. The basic day for the calculation of the JCI was August 10, 1982. On that date, the index was set at a base value of 100 and the listed shares at that time amounted to 13 shares. The data taken for this study is the daily JCI price at the closing price during 2012-2017. The following is the calculation to determine the CSPI:

Calculation method Return IHSG :

$$IHSG = \frac{\text{nilaipasar} = \text{jumlahsahamtercatat} \times \text{argaterakhir}}{\text{nilaidasar} = \text{jumlahsahamtercatat} \times \text{argaterakhir}} \times 100\%$$
$$\text{ReturnIHSG} = \frac{IHSG_t - IHSG_{t-1}}{IHSG_{t-1}}$$

Information:

JCI t = JCI index period t

IHSG t-1 = JCI index t-1 period

### 5.2.2. Independent Variables

The independent variable is a variable that affects or is the cause of change or the emergence of the dependent variable. The independent variables in this study are, Exchange (IDR / USD), Inflation, BI Rate, Straits Times Index and S & P500 Index.

The Straits Times Index is the main stock index in Singapore which was launched in order to reclassify companies listed on the Singapore Exchange, replacing the Straits Times Industrial Index (STII), and began functioning on August 31, 1998 at 885.26 points. The Straits Time Index is calculated based on the Weighted Market Value of 30 shares of companies representing companies listed on the Singapore Exchange. This index is made by the Singapore Press Holdings (SPH), Singapore Exchange (SGX) and FTSE Group (FTSE) and reviewed at least once a year or at any time if needed. The index presented 78% of the average daily transaction value for 12 months and 61.2% of the total market capitalization of the securities. But since March 18, 2005, the number of shares entered into this index was added to 50 daily companies on average in the 12-month period to 60% and increase the total market capitalization in the Singapore stock exchange to 75%. In this study, researchers used data a day late, when the closing price of the Straits Times during the period 2012-2017

How to calculate STI Return:

$$\text{ReturnSTI} = \frac{STI_t - STI_{t-1}}{STI_{t-1}}$$

Information:

STI t = period STI index t

STI t-1 = STI index period t-1

The S & P500 index is a free-float capitalization-weighted index published since 1957, consisting of 500 leading stocks that are actively traded in the United States. The shares included in the S & P500 are only large companies that trade their shares in one of the two largest stock market companies in the United States; NYSE Euronext and NASDAQ OMX. S & P500 is one of the most widely followed and considered indices of the American economy even included in the Index of Leading Indicators. The index fluctuations of the S & P500 are very dependent on many factors such that the overall pattern of predictions becomes very complex. In this study, researchers used data a day late, during the S & P500 closing price during the period 2012-2017

How to calculate the Return S & P500:

$$\text{Return } S \& P500 = \frac{S \& P500_t - S \& P500_{t-1}}{S \& P500_{t-1}}$$

Information:

S & P500 t = S & P500 index period t

S & P500 t-1 = S & P500 index period t-1

The exchange rate is the price of a currency of a country that is measured or expressed in another currency. In this study, researchers took a middle rate (IDR / USD) from Bank Indonesia per month were lumped into daily data s over the 2012-2017 period. The way the BI middle exchange rate is calculated is as follows:

$$\text{KursTengah} = \frac{(\text{KursJual} + \text{KursBeli})}{2}$$

Inflation is an event or process of increasing prices in general and continuously. Inflation occurs because of factors caused by a large number of production costs and demand stuff. In this study, researchers took monthly data which is equated to daily inflation data during the period 2012-2017. How to calculate inflation:

$$\text{Inflasi} = \frac{\text{IHK}_n - \text{IHK}_o}{\text{IHK}_o} \times 100\%$$

Information:

IHK<sub>n</sub> = Consumer Price Index period t

IHK<sub>o</sub> = period t-1 Consumer Price Index

The BI Rate is a one- month interest rate set by BI as a benchmark for lending and deposit rates for banks and/or financial institutions throughout Indonesia. The BI Rate data taken is monthly data which is equated to daily data during the period 2012-2017.

### 5.3 Place and time of research

Retrieval of data on the Composite Stock Price Index (IHSG), Exchange Rate (IDR / USD), Inflation, and monthly BI Rate, Straits Times Index and S & P500 Index during the period 2012-2017 was obtained from Indonesia Stock Exchange (IDX), [www.finance.yahoo.com](http://www.finance.yahoo.com), and [www.bi.go](http://www.bi.go) for the period 2012-2017. Implementation of data collection in July 2018.

### 5.4 Data Types and Data Collection Techniques

Data to be used in this study are time series data from IHSG, Exchange Rate (IDR / USD), Inflation, BI Rate, Straits Times Index and S & P500 Index 2012-2017 obtained from the official website of Bank Indonesia and Indonesia Stock Exchange (IDX).

The data collection method used in this study is the documentation method. The documentation method is looking for data about things or websites in the form of notes, transcripts, books, newspapers, magazines, and so on (Arikunto, 2002; 55).

### 5.5. Data analysis technique

#### 5.5.1. Classic assumption test

##### a) Normality test

The normality test aims to test whether in a regression model, residuals are normally distributed or not (Ghozali, 2011; 160). In this study to test residual normality, the researcher used the non-parametric statistical test Kolmogorov-Smirnov (KS). The hypothesis used is:

Ho: residual data is not normally distributed

Ha: residual data is normally distributed

Normality testing is done by assessing probability by measuring the 5% significance level. Data is said to be normally distributed if the probability value (P-Value) is greater than 0.05 or 5% (Santoso, 2009; 133).

##### b) Autocorrelation Test

The autocorrelation test aims to test whether in the regression model there is a correlation between usage errors in period t with period t-1 usage errors (previously). A good regression model is a regression that is free from autocorrelation. To find out whether there is autocorrelation, it needs to be tested first using Durbin Watson (DW) statistics. The hypotheses to be tested in this study are:

Ho : no autocorrelation (r = 0)

Ha: there is an autocorrelation ( $r \neq 0$ )

Based on the Durbin-Watson test, the decision to make autocorrelation is based on the following conditions:

Ho (null hypothesis)

| Ho (hipotesis nol)                    | Decision    | If                     |
|---------------------------------------|-------------|------------------------|
| No. autokorelasi positive             | Refuse      | $0 < d < dl$           |
| No. autokorelasi positive             | No Decision | $dl \leq d \leq du$    |
| No. autokorelasi negative             | Refuse      | $4 - dl < d < 4$       |
| No. autokorelasi negative             | No Decision | $4 - du \leq d \leq 4$ |
| No. autokorelasi positive or negative | Accept it   | $du < d < 4 - du$      |

Source: Ghozali (2009)

### c) Heteroskedasticity Test

The Heteroskedasticity test aims to test whether in the regression model there are inequalities in residual variance from one observation to another (Ghozali, 2011; 139). If the residual variance from one observation to another observation remains the same, it is called homoskedasticity, whereas the opposite is called heteroskedasticity. Heteroskedasticity results in estimator values (regression coefficients) of the model being inefficient even though the estimator is not biased and consistent. The way to detect the presence or absence of heteroskedasticity is by using the Glejser test. The Glejser test is to regression each independent variable with the absolute residual as the dependent variable. The hypotheses used in testing heteroskedasticity are as follows:

Ho: there is no heteroskedasticity

Ha: there is heteroskedasticity

In decision making, if the significance is  $< 0.05$ ,  $H_0$  is rejected, meaning that there is heteroskedasticity, whereas if the significance is  $> 0.05$ ,  $H_0$  is accepted, meaning that there is no heteroskedasticity.

### d) Multicollinearity Test

The multicollinearity test aims to test whether the regression model found a correlation between independent variables. According to Gozali (2011; 105), a good regression model should not have a correlation between independent variables. If there is a high correlation between these variables, then the relationship between the independent variable and the dependent variable becomes disturbed.

The presence or absence of multicollinearity in the regression model is seen from the Variance Inflation Factor (VIF) and Tolerance (T). If the VIF value is  $< 10$  and the value of  $T > 0.01$ , multicollinearity does not occur.

## 5.5.2. Hypothesis Testing

### a) Multiple Regression Test

The analytical tool used in this study is multiple regression with the IHSG dependent variable and the independent variables Exchange Rate (IDR / USD), Inflation, BI Rate, Straits Times Index and S & P500 Index. According to Gujarati (2003; 55), the main assumptions underlying classical regression based on OLS (Ordinary Least Square) models is that the model must fulfill all classical assumption tests. However, because this study does not fulfill several OLS model requirements, namely passing the autocorrelation and linearity test, and non-stationary data, while the data type in this study is time series, the existing model must be converted into a non linear regression model by all variables independent and dependent must be transformed into a logarithmic form (Ghozali, 2011; 173). The regression model used is as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + e$$

Y = CSPI variable

$\alpha$  = Constant

$\beta_1$  = Exchange rate independent variable regression coefficient (IDR / USD)

$X_1$  = Exchange Rate Variables (IDR / USD)

$\beta_2$  = Independent variable regression coefficient Inflation

$X_2$  = Variable Inflation

$\beta_3$  = Independent variable regression coefficient BI Rate

$X_3$  = BI Rate Variable

$\beta_4$  = Independent variable regression coefficient Straits Times index

$X_4$  = Variable Straits T Index imes

$\beta_5$  = independent variable regression coefficient S & P500

$X_5$  = Variable Index S & P500

e = Error term



### b). Partial T statistical test (Individual specificity test)

The testing of the regression results is done using statistical tests t. This test aims to determine whether there is an influence of the Exchange (IDR / USD), Inflation, the Straits Times BI Rate Index and the S & P500 Index partially on the JCI.

This test is carried out at a 95% confidence level with the following conditions:

If the significance level is less than 5% or t count is greater than t table, it can be concluded that there is an effect of variable X on variable Y.

If the level of significance is greater than 5% or t count is smaller than t table, it can be concluded that there is no effect of variable X on variable Y.

The T table is formulated as follows:

$$t \text{ tabel} = t \left( \frac{\alpha}{2}; n - k - 1 \right)$$

Where:  $\alpha$  = standard significance level = 0.05

n = Number of data distribution = 1565 data

k = number of variables = 5 variables

The proposed hypothesis is formulated as follows:

1) Effect of Exchange Rate (IDR / USD) on JCI

Ho 1: sig 1 < 5% or t 1 > t table, meaning that there is an influence of the Exchange (IDR / USD) on the JCI.

Ha 1 : sig 1 > 5% or t 1 < t table, meaning that there is no influence of the Exchange (IDR / USD) on the JCI.

2) Influence of Inflation on JCI

Ho 2: sig 2 < 5% or t 2 > t table, meaning that there is an influence of inflation on the CSPI.

Ha 2: sig 2 > 5% or t 2 < t table, meaning that there is no influence of inflation on the CSPI.

3) Effect of the BI Rate on the JCI

Ho 3: sig 3 < 5% or t 3 > t table, meaning that there is the influence of the BI Rate on the CSPI.

Ha 3: sig 3 > 5% or t 3 < t table, meaning that there is no influence of BI Rate on the JCI.

4) Effect of the Straits Times Index on the CSPI

Ho 4: sig 4 < 5% or t 4 > t table, meaning that there is an influence of the STI Index on the CSPI.

Ha 4: sig 4 > 5% or t 4 < t table, meaning that there is an influence of the STI Index on the CSPI.

5) Effect of S & P500 Index on JCI

Ho 5: sig 5 < 5% or t 5 > t table, meaning that there is the influence of index S & P500 against JCI.

Ha 5: sig 5 > 5% or t 5 < t table, meaning that there is no influence of the S & P500 Index on the CSPI.

### c). Analysis of Variance Test

ANOVA test which is indicated by the value F is used to determine whether or not there is a simultaneous effect (together) given the independent variable X to the dependent variable Y. This test is carried out at a 95% confidence level with the following conditions:

If the significance level is smaller than 5%, or F count is greater than the F table, it can be concluded that there is an effect of X variable simultaneously on variable Y.

If the significance level is greater than 5%, or t count is smaller than t table, it can be concluded that there is no simultaneous effect of variable X on variable Y.

F table values are formulated by:

$$F_{\text{tabel}} = F(k; n - k)$$

Where n = Number of data distribution = 1565 data

k = number of variables = 5 variables

A significant F-test value that is with the sig indicator .050.05 (5%) indicates relatively good goodness of fit value.

### d) The coefficient of determination (R<sup>2</sup>)

The coefficient of determination ( $R^2$ ) is used to measure how far the component models in explaining the independent variables (Ghozali, 2011; 110) is to give a presentation of the total variance in the dependent variable explained by all independent variables. The coefficient of determination is between zero and one.

The formula to calculate the coefficient of determination ( $R^2$ ) (Gozhali, 2011; 110):

$$R^2 = \frac{JK_{(Reg)}}{\sum Y^2}$$

Information :

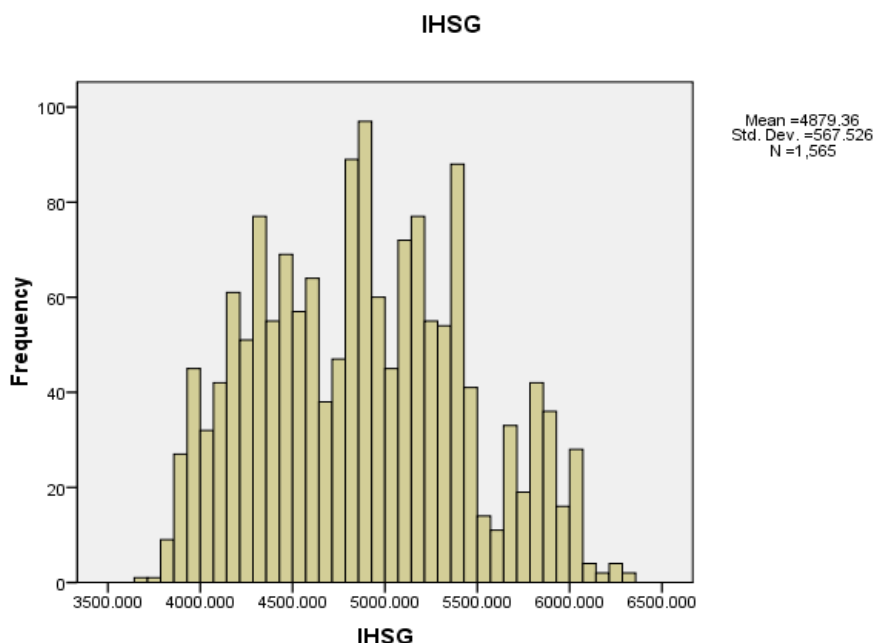
JK (Reg) = number of squares of regression

$\sum Y^2$  = number of total squares corrected

## 6. RESEARCH RESULTS AND DISCUSSION:

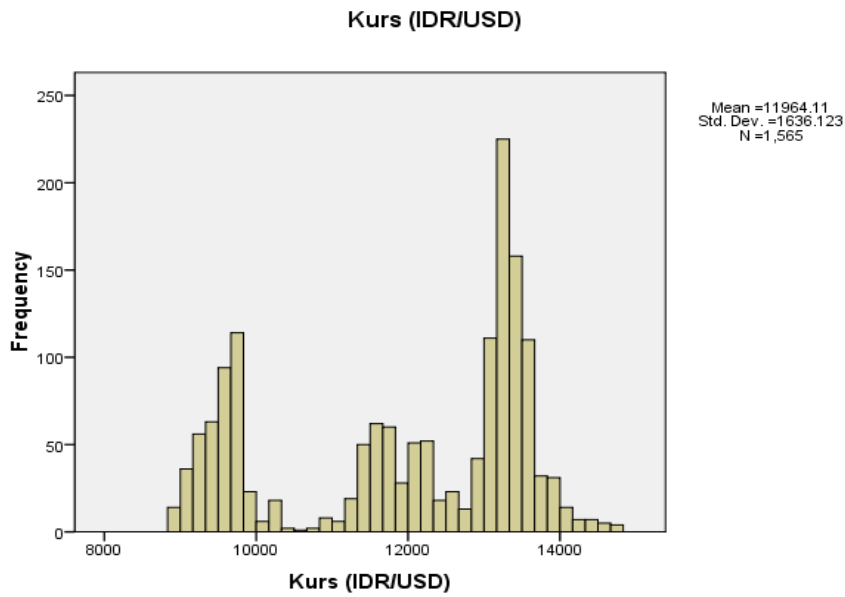
### 6.1 Descriptive Statistics of Research Data

Descriptive statistics provide a description or descriptive data that is seen from the minimum value, maximum value, average value (mean), and standard deviation. The results of the data analysis of the dependent and independent variables used in this study from data collection and data processing are as follows:



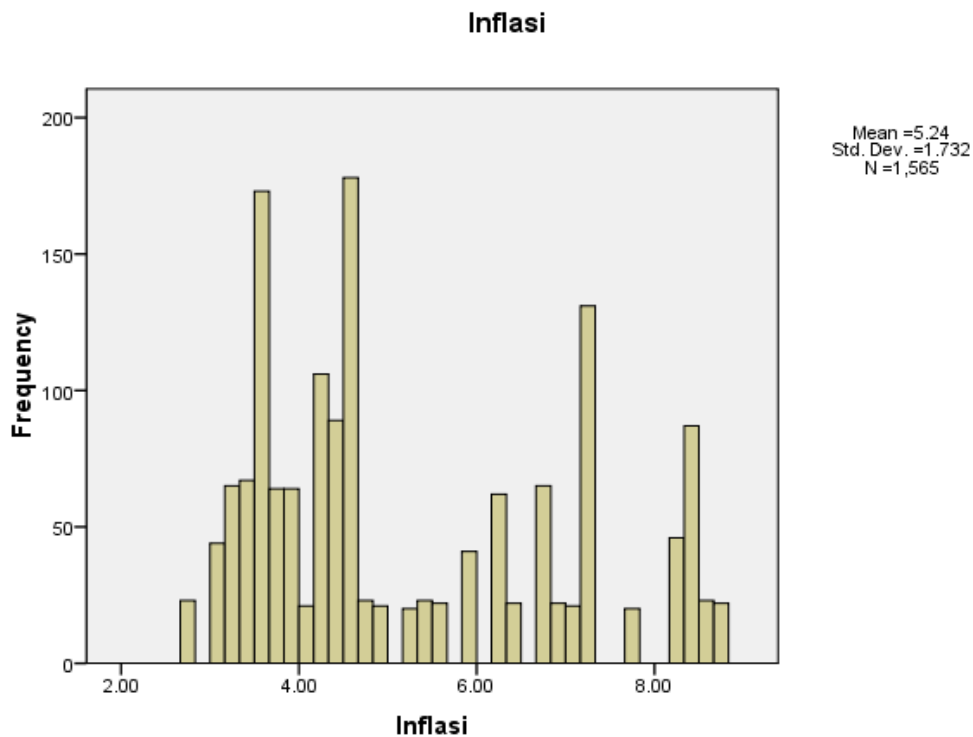
Graph 1. Test of Descriptive Statistics of I HSG

Based on graph 1 descriptive statistics, the size of I HSG from 15 65 samples has a minimum value of 3654.3, the maximum value is 6356.3, the mean (Mean) is 4879.3 and the standard deviation is 567.52. These results indicate that the size of I HSG which is the sample of this study ranges from 3654.3 and 6356.3



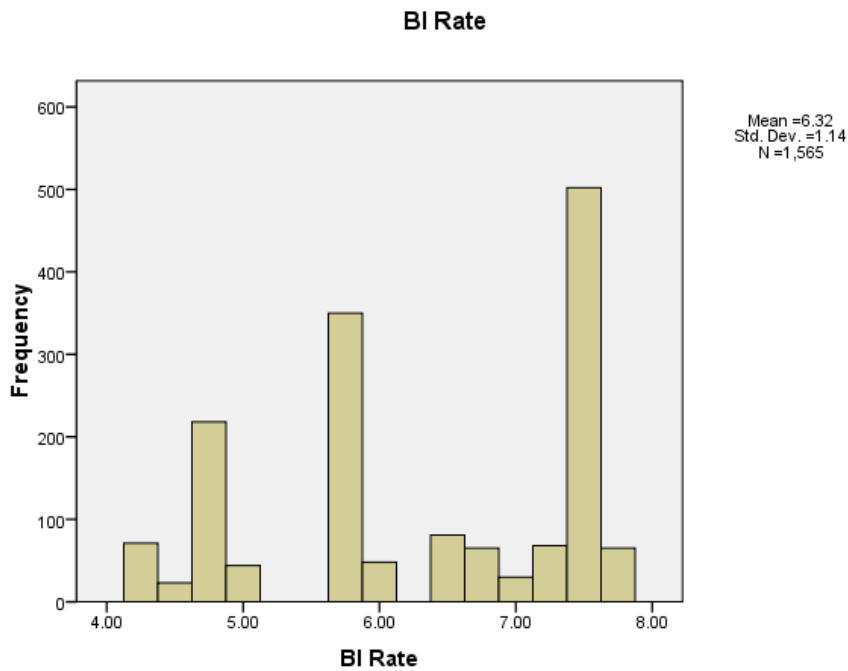
Graph 2. Test Descriptive Exchange Rate Statistics (IDR / USD)

Based on graph 2 descriptive statistics, the magnitude of the Exchange Rate (IDR / USD) of 15 65 samples has a minimum value of 8892 , the maximum value is 14728 , the mean (Mean) is 11964.11 and the standard deviation is 1636.123 These results indicate that the rate (IDR / USD) which was the sample of this study ranged from 8892 and 14728



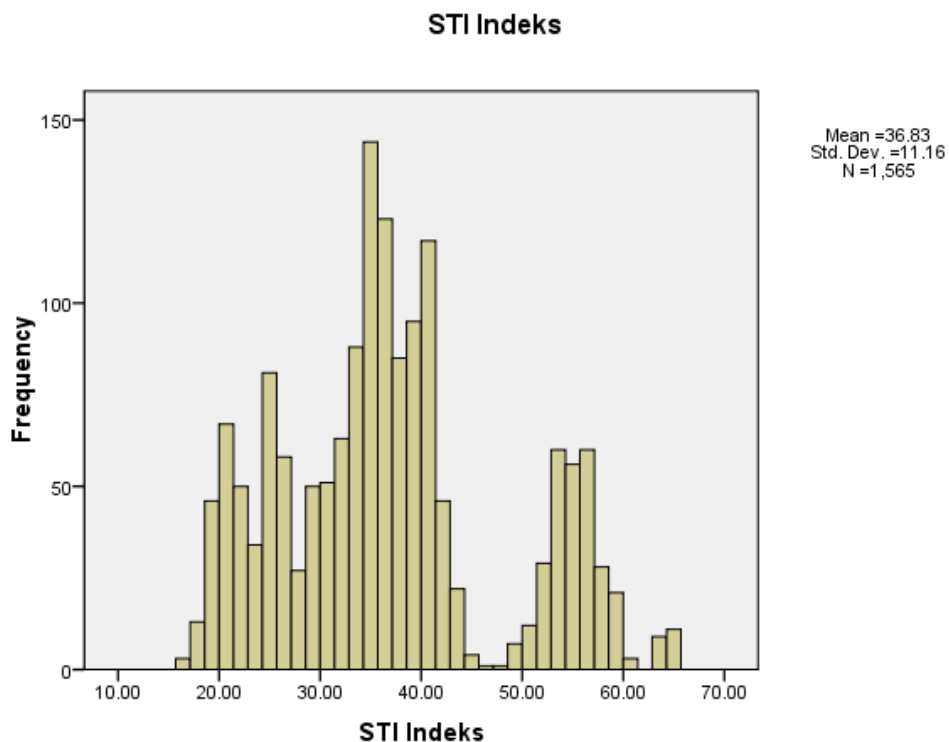
Graph 3. Test Descriptive Statistics inflation

Based on graph 3 descriptive statistics, the magnitude of inflation of 15 65 samples has a minimum value of 2.79, the maximum value is 8.79, the average (Mean) is 5.2354 and the standard deviation is 1.73185. These results indicate that the amount of inflation that is the sample of this study ranges from 2.79 and 8.79



Graph 4. Test of BI Rate Descriptive Statistics

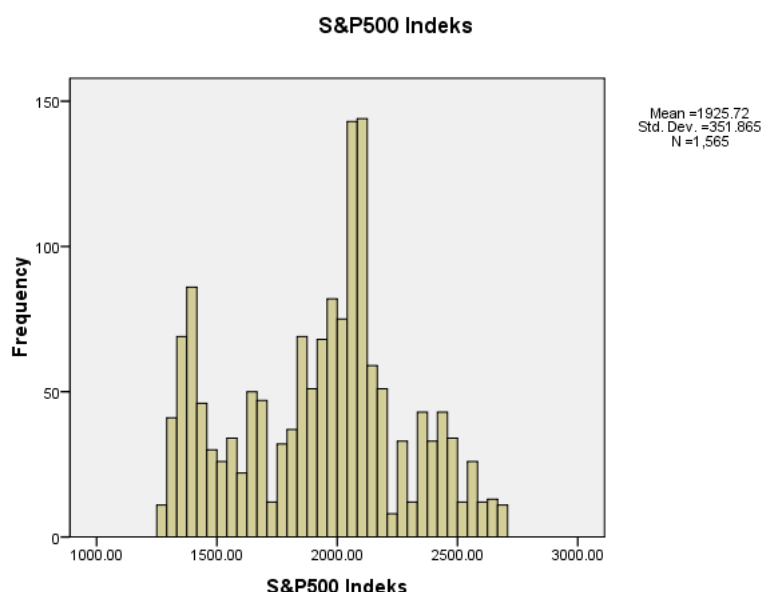
Based on graph 4 descriptive statistics, the magnitude of the BI Rate from 15 65 samples has a minimum value of 4.25, the maximum value is 7.75, the average (Mean) is 6.3248 and the standard deviation is 1.13991. These results indicate that the magnitude of the BI Rate that is the sample of this study ranges between 4.25 and 7.75



Graph 5. Test Descriptive Statistics for STI indexes

Based on graph 5 descriptive statistics, the magnitude of the STI index of 15 65 samples has a minimum value of 16.37, the maximum value is 65.27, the average (Mean) is 36.8296 and the standard deviation is 11.16028. These results indicate that the magnitude of the STI index that is the sample of this study ranges between 16.37 and 65.27





Graph 6. Test Descriptive Statistics I S & P500 index

Based on graph 6 descriptive statistics, the magnitude of the S & P 500 index of 15 65 samples has a minimum value of 1257.60, the maximum value is 2690.16, the mean (Mean) is 1925.7184 and the standard deviation is 351.86486. These results indicate that the magnitude of the S & P500 indexes that are the sample of this study ranges between 1257.60 and 2690.16.

## 6.2 Test Result

### 6.2.1. Test Results for Prerequisite Analysis

Before the data is analyzed first, an analysis prerequisite test (classic assumption test) which consists of the normality test, heteroscedasticity test, multicollinearity test, autocorrelation test, and linearity test is conducted.

#### a) Autocorrelation and Linearity Test.

In this study, there is a positive autocorrelation. Positive autocorrelation can be improved with the Difference method, but this will produce a constant value and irrational and biased regression coefficients to predict the dependent variable, thus the appropriate regression model is a non linear multiple regression model, namely by way of regressing all independent and dependent variables in the form of natural logarithms (Ghozali, 2011; 173). The following are the results of the autocorrelation test and linearity test:

Table 1. Autocorrelation Test

#### Model Summary<sup>b</sup>

| Model | R                 | R Square | Adjusted Square | R Std. Error of the Estimate | Durbin-Watson |
|-------|-------------------|----------|-----------------|------------------------------|---------------|
| 1     | .953 <sup>a</sup> | .907     | .907            | 172.991241                   | .100          |

a. Predictors: (Constant), S&P500 Indeks, BI Rate, Inflasi, Kurs (IDR/USD), STI Indeks

b. Dependent Variable: IHSG (Rupiah)

Table 2. Exchange Rate Linearity Test (IDR / USD) on the JCI

| ANOVA Table                       |                |                          |                |      |             |         |      |
|-----------------------------------|----------------|--------------------------|----------------|------|-------------|---------|------|
|                                   |                |                          | Sum of Squares | df   | Mean Square | F       | Sig. |
| IHSG (Rupiah) *<br>Kurs (IDR/USD) | Between Groups | (Combined)               | 4.606E8        | 1030 | 447142.907  |         | .000 |
|                                   |                | Linearity                | 1.998E8        | 1    | 1.998E8     | 2.470E3 | .000 |
|                                   |                | Deviation from Linearity | 2.608E8        | 1029 | 253435.380  | 3.134   | .000 |
|                                   | Within Groups  |                          | 4.318E7        | 534  | 80869.137   |         |      |
|                                   | Total          |                          | 5.037E8        | 1564 |             |         |      |

Based on Table 2, the test results linearity Exchange Rate (IDR / USD) against JCI show Deviation from Linearity significance value of 0.000 smaller than 0.05 so that it can be concluded that the exchange rate (IDR / USD) does not have a relationship that is the linearity significantly against JCI

Table 3. Inflation Linearity Test Results on JCI

Based on Table 3, the test results linearity Inflation on JCI show Deviation from Linearity 0.000 significance value less than 0.05 so it can be concluded that inflation does not have a relationship that is the linearity significantly against JCI.

**ANOVA Table**

|                               |         |                             | Sum of Squares | df   | Mean Square | F       | Sig. |
|-------------------------------|---------|-----------------------------|----------------|------|-------------|---------|------|
| IHSG<br>(Rupiah) *<br>Inflasi | Between | (Combined)                  | 4.530E8        | 62   | 7306323.851 | 216.242 | .000 |
|                               | Groups  | Linearity                   | 3.554E7        | 1    | 3.554E7     | 1.052E3 | .000 |
|                               |         | Deviation from<br>Linearity | 4.175E8        | 61   | 6843467.038 | 202.543 | .000 |
| Within Groups                 |         |                             | 5.075E7        | 1502 | 33787.773   |         |      |
| Total                         |         |                             | 5.037E8        | 1564 |             |         |      |

Table 4. Test results of the BI Rate Linearity on the CSPI

Table 4. Hasil uji Linearitas BI Rate terhadap IHSG

**ANOVA Table**

|                               |         |                             | Sum of Squares | df   | Mean Square | F       | Sig. |
|-------------------------------|---------|-----------------------------|----------------|------|-------------|---------|------|
| IHSG<br>(Rupiah) *<br>BI Rate | Between | (Combined)                  | 3.556E8        | 11   | 3.232E7     | 338.779 | .000 |
|                               | Groups  | Linearity                   | 7.039E7        | 1    | 7.039E7     | 737.709 | .000 |
|                               |         | Deviation from<br>Linearity | 2.852E8        | 10   | 2.852E7     | 298.886 | .000 |
| Within Groups                 |         |                             | 1.482E8        | 1553 | 95413.250   |         |      |
| Total                         |         |                             | 5.037E8        | 1564 |             |         |      |

Based on Table 4, the results of the BI Rate linearity test on the IHSG show a Deviation from Linearity of 0,000 significance values that are smaller than 0.05 so that it can be concluded that the BI Rate does not have a line a r relationship significantly to the JCI

Table 5. STI Linearity Test Results Index on JCI

**ANOVA Table**

|                                  |         |                             | Sum of Squares | df   | Mean Square | F       | Sig. |
|----------------------------------|---------|-----------------------------|----------------|------|-------------|---------|------|
| IHSG<br>(Rupiah) *<br>STI Indeks | Between | (Combined)                  | 4.751E8        | 1174 | 404687.891  | 5.511   | .000 |
|                                  | Groups  | Linearity                   | 3.718E8        | 1    | 3.718E8     | 5.063E3 | .000 |
|                                  |         | Deviation from<br>Linearity | 1.033E8        | 1173 | 88079.390   | 1.200   | .016 |
| Within Groups                    |         |                             | 2.864E7        | 390  | 73430.077   |         |      |
| Total                            |         |                             | 5.037E8        | 1564 |             |         |      |

Based on table 5, the results of the STI linearity test index on the CSPI shows the significant value of deviation from linearity of 0, 016 which is smaller than 0.05, so that the STI Index does not have a linearity relationship to the CSPI and its significance is not significant.

Table 6. S & P500 Linearity Test Results on JCI

| ANOVA Table                   |                |                          |                |      |             |         |      |
|-------------------------------|----------------|--------------------------|----------------|------|-------------|---------|------|
|                               |                |                          | Sum of Squares | df   | Mean Square | F       | Sig. |
| IHSG (Rupiah) * S&P500 Indeks | Between Groups | (Combined)               | 5.031E8        | 1500 | 335408.670  | 34.165  | .000 |
|                               |                | Linearity                | 3.925E8        | 1    | 3.925E8     | 3.998E4 | .000 |
|                               |                | Deviation from Linearity | 1.106E8        | 1499 | 73774.899   | 7.515   | .000 |
|                               | Within Groups  |                          | 628309.274     | 64   | 9817.332    |         |      |
|                               | Total          |                          | 5.037E8        | 1564 |             |         |      |

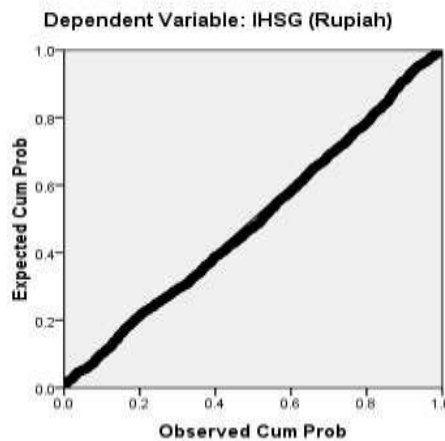
Based on Table 6, the test results linearity S & P500 against JCI show significant value Qu deviation from linearity of 0.000 which is smaller than 0.05, so that the S & P 500 did not have a relationship that is the linearity significantly against JCI.

**b) Normality Test**

The normality test aims to test whether a regression model, interrupting or residual variables are normally distributed. As it is known that the t-test and F assume that the residual value follows a normal distribution. If this assumption is violated, the statistical test becomes invalid for a small number of samples. The normality test in this study uses the Kolmogorov-Smirnov (KS) test on- parametric n test.

Normality testing is done by assessing probability through measurement of the 5% significance level. Data is said to be normally distributed if the probability value (P-Value) is greater than 0.05 or 5% (Santoso, 2009; 133). The normality test results are obtained as follows:

Normal P-P Plot of Regression Standardized Residual



Graph 7. Normality test

Table 7 . Normality test

**One-Sample Kolmogorov-Smirnov Test**

|                                |                | Unstandardized Residual |
|--------------------------------|----------------|-------------------------|
| N                              |                | 1565                    |
| Normal Parameters <sup>a</sup> | Mean           | .0000000                |
|                                | Std. Deviation | 1.72714499E2            |
| Most Extreme Differences       | Absolute       | .029                    |
|                                | Positive       | .029                    |
|                                | Negative       | -.018                   |
| Kolmogorov-Smirnov Z           |                | 1.158                   |
| Asymp. Sig. (2-tailed)         |                | .137                    |

a. Test distribution is Normal.

Based on the results of the normality test using graph 7 which states the points that tend to form a diagonal line. Then from the Kolmogorov-Smirnov test in Table 7 shows a normal relationship. Based on the value of the output Minilab Kolmogorov-Smirnov was 1,158 by Asymp. Sig. (2-tailed) 0.137. The value of P-Value far above = 0. 05 indicates that the data is normally distributed. This means that hypothesis no 1 (H 0 ) is rejected or data is normally distributed.

**c) Heteroscedasticity Test**

The heteroskedasticity test aims to test whether in the regression model variance inequalities occur from residuals to one observation to another observation. If the residual variance from one observation to another observation remains, then it is called homoskedasticity and if not still called heteroscedasticity. A good regression model is that homoskedasticity or heteroscedasticity does not occur.

Testing is done using the Glejser test, which is to regression each independent variable with the absolute residual as the dependent variable. As a basic understanding, residual is the difference between the value of observation and the value of predictions, while the absolute residual is the absolute value. Detection of the presence or absence of heteroscedasticity using a 5% confidence level. If the significance is <0.05 then there is heteroscedasticity, whereas if the significance is > 0.05 then there is no heteroskedasticity. The results of heteroskedasticity testing are as follows:

Table 8. Heteroskedasticity test

**Coefficients<sup>a</sup>**

| Model |                | Unstandardized Coefficients |            | Standardized Coefficients | T      | Sig. |
|-------|----------------|-----------------------------|------------|---------------------------|--------|------|
|       |                | B                           | Std. Error | Beta                      |        |      |
| 1     | (Constant)     | 73.791                      | 25.192     |                           | 2.929  | .003 |
|       | Kurs (IDR/USD) | .016                        | .004       | .248                      | 3.580  | .000 |
|       | Inflasi        | 11.887                      | 2.155      | .197                      | 5.517  | .000 |
|       | BI Rate        | -35.297                     | 5.164      | -.385                     | -6.835 | .000 |
|       | STI Indeks     | -13.047                     | 1.322      | -1.392                    | -9.869 | .000 |
|       | S&P500 Indeks  | .268                        | .041       | .900                      | 6.564  | .000 |

a. Dependent Variable: res2

Based on table 8 the results of heteroscedasticity tests indicate that there are no independent variables that are statistically significant affecting the dependent variable absolute residual value. This result can be seen from the probability of its significance above the 5% confidence level. So, it can be concluded that the regression model does not contain heteroscedasticity.

**d) Multicollinearity Test**

The multicollinearity test aims to test whether the regression model found a correlation between independent variables. A good regression model should not have a correlation between independent variables. If the independent



variables correlate with each other, then these variables are not orthogonal. Orthogonal variables are independent variables whose correlation value between equal independent variables is zero (Ghozali, 2011; 105).

According to Ghozali (2011; 105), to detect the presence or absence of multicollinearity in the regression model is to look at the tolerance value and Variance Inflation Factor (VIF). Both of these measures indicate which independent variables are explained by other independent variables. The boundary values used to indicate the presence of multicollinearity are tolerance values <0.10 and VIF values > 10. The results of multicollinearity testing are obtained as follows:

Table 9. Multicollinearity Test

| Coefficients <sup>a</sup>            |                |                             |            |                           |         |      |                         |        |
|--------------------------------------|----------------|-----------------------------|------------|---------------------------|---------|------|-------------------------|--------|
| Model                                |                | Unstandardized Coefficients |            | Standardized Coefficients | T       | Sig. | Collinearity Statistics |        |
|                                      |                | B                           | Std. Error | Beta                      |         |      | Tolerance               | VIF    |
| 1                                    | (Constant)     | 2799.323                    | 43.784     |                           | 63.935  | .000 |                         |        |
|                                      | Kurs (IDR/USD) | -.246                       | .008       | -.710                     | -31.938 | .000 | .120                    | 8.313  |
|                                      | Inflasi        | 9.132                       | 3.745      | .028                      | 2.438   | .015 | .455                    | 2.198  |
|                                      | BI Rate        | -73.309                     | 8.975      | -.147                     | -8.168  | .000 | .183                    | 5.470  |
|                                      | STI Indeks     | -37.302                     | 2.298      | -.734                     | -16.234 | .000 | .029                    | 34.366 |
|                                      | S&P500 Indeks  | 3.539                       | .071       | 2.194                     | 49.962  | .000 | .031                    | 32.466 |
| a. Dependent Variable: IHSG (Rupiah) |                |                             |            |                           |         |      |                         |        |

Based on Table 9 the results of the calculation of tolerance values indicate that the independent variables of Exchange (IDR / USD), Inflation, BI Rate, STI Index and S & P500 Index have tolerance values > 0.10, which means there is a correlation between independent variables which are more than 95%. The result of the calculation of the Variance Inflation Factor (VIF) value of Exchange (IDR / USD), Inflation, BI Rate shows the same value of VIF <10, while STI Index and S & P500 Index > 10 .. So, it can be concluded that Exchange (IDR / USD) , Inflation, BI Rate, STI Index and S & P500 The index has multicollinearity between independent variables in the regression model.

### 6.2.2. Multiple Regression Test Results

This multiple regression examines the effect of two or more independent variables on one dependent variable (Ghozali, 2011; 96) which is expressed by the following equation:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + e$$

To determine the effect of independent variables namely Exchange Rate (IDR / USD), Inflation rate, BI Rate, STI and S & P500 on the dependent variable, IHSG. The results obtained will then be tested partially for the significance of the model. Regression coefficients are seen from unstandardized coefficients because the independent and dependent variables have the same measurement scale, namely ratio. The results of multiple regression tests are obtained as follows:

Table 10. Multiple Regression Tests

| Coefficients <sup>a</sup>            |                |                             |            |                           |         |      |
|--------------------------------------|----------------|-----------------------------|------------|---------------------------|---------|------|
| Model                                |                | Unstandardized Coefficients |            | Standardized Coefficients | T       | Sig. |
|                                      |                | B                           | Std. Error | Beta                      |         |      |
| 1                                    | (Constant)     | 2799.323                    | 43.784     |                           | 63.935  | .000 |
|                                      | Kurs (IDR/USD) | -.246                       | .008       | -.710                     | -31.938 | .000 |
|                                      | Inflasi        | 9.132                       | 3.745      | .028                      | 2.438   | .015 |
|                                      | BI Rate        | -73.309                     | 8.975      | -.147                     | -8.168  | .000 |
|                                      | STI Indeks     | -37.302                     | 2.298      | -.734                     | -16.234 | .000 |
|                                      | S&P500 Indeks  | 3.539                       | .071       | 2.194                     | 49.962  | .000 |
| a. Dependent Variable: IHSG (Rupiah) |                |                             |            |                           |         |      |

The results of the Multiple Regression Test can be explained in the equation as follows:

$$IHSG = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + e$$

$$IHSG = 2799,323 - 0,246X_1 + 9,132X_2 - 73,309X_3 - 37,302X_4 + 3,539X_5 + e$$

According to Nurhayati (2012) examined the analysis of the ASEAN Regional Capital Market Integration in the Framework Towards an ASEAN Economic Community argued that in the short term integration capital markets do not happen, while in the long term integration of capital markets, although not completely.

**a) Test Statistic for Partial Method (Individual Significance Test)**

The t statistical test basically shows how far the influence of one explanatory variable or individually independent in explaining the variation of the dependent variable (Ghazali, 2011; 64). Regression coefficients are used to determine the effect of variable Exchange Rate (IDR / USD), Inflation rate, BI Rate, STI Index and S & P500 Index partially on the JCI. This test is carried out at a 95% confidence level with the following conditions:

1. If the significance level is less than 5%, or t count is greater than t table, it can be concluded that there is an effect of variable X on variable Y.
2. If the level of significance is greater than 5%, or t count is smaller than t table, it can be concluded that there is no effect of variable X on variable Y.

$$t \text{ tabel} = t \left( \frac{\alpha}{2}; n - k - 1 \right) = t (0.025; 1559) = 1.960$$

The partial test results are obtained as follows:

Table 11. Partial T Statistic Test Results (Individual Significance Test)

| Coefficients <sup>a</sup>            |                |                             |            |                           |         |      |
|--------------------------------------|----------------|-----------------------------|------------|---------------------------|---------|------|
| Model                                |                | Unstandardized Coefficients |            | Standardized Coefficients | T       | Sig. |
|                                      |                | B                           | Std. Error |                           |         |      |
| 1                                    | (Constant)     | 2799.323                    | 43.784     |                           | 63.935  | .000 |
|                                      | Kurs (IDR/USD) | -.246                       | .008       | -.710                     | -31.938 | .000 |
|                                      | Inflasi        | 9.132                       | 3.745      | .028                      | 2.438   | .015 |
|                                      | BI Rate        | -73.309                     | 8.975      | -.147                     | -8.168  | .000 |
|                                      | STI Indeks     | -37.302                     | 2.298      | -.734                     | -16.234 | .000 |
|                                      | S&P500 Indeks  | 3.539                       | .071       | 2.194                     | 49.962  | .000 |
| a. Dependent Variable: IHSG (Rupiah) |                |                             |            |                           |         |      |

After testing, Inflation and S & P500 variables have a positive direction towards the JCI while the Exchange (IDR / USD), BI Rate and STI Index have a negative direction towards the JCI. Partial testing is carried out with the following conditions:

1. Testing the hypothesis 1

Based on Table 11, the value of t 1 for the exchange rate (IDR / USD) is -31,938 with a significance of 0,000. With a sig value of 0,000 <0.05 and -31,938 > 1,960, it indicates that there is a negative effect of the Exchange Rate (IDR / USD) on the JCI, the period 2012-2017. so the first hypothesis submitted is accepted.

2. Testing of hypothesis 2

Based on Table 11, the value of t 2 Inflation is 2.438 with a significance of 0.015. With a value of 0.015 <0.05 and 2.438 > 1.960, there was a positive effect of inflation on the JCI, in the period 2012-2017. so the second hypothesis submitted is accepted.

3. Testing of hypothesis 3

Based on Table 11, the value of t 3 for the BI Rate is -8,168 with a significance of 0,000. With a value of sig 0,000 <0.05 and -8,168 > 1,960, there is a negative effect of inflation on the CSPI, the period 2012-2017. so the third hypothesis submitted is accepted.

4. Testing of hypothesis 4

Based on Table 11, the value of t 4 STI amounted to -16 234 indexes with a significance of 0.000. With a value of sig 0,000 <0.05 and -16,234 > 1,960, there is a negative influence on the STI Index on the JCI, the period 2012-2017. so that the fourth hypothesis submitted is accepted.

5. Testing of hypothesis 5

Based on Table 11, the value of  $t_{5 S \& P 500}$  index by 49,962 with a significance of 0.000. With a value of  $\text{sig } 0,000 < 0.05$  and  $49,962 > 1,960$ , there is a positive effect of S & P500 Index on the JCI, the period 2012-2017. so that the fifth hypothesis submitted is accepted.

**b) Analysis of Variance Test**

Anova test which is indicated by the value F, is used to determine whether or not there is a simultaneous effect (together) given X independent variables which in this case are Exchange Rate (IDR / USD), Inflation, BI Rate, STI Index and S & P500 Index of variables bound Y which in this case is the CSPI. This F test is carried out at a 95% confidence level with the following conditions:

1. If the significance level is smaller than 5%, or F count is greater than Ftable, it can be concluded that there is an effect of X variable simultaneously on variable Y.
2. If the significance level is greater than 5%, or t count is smaller than t table, it can be concluded that there is no simultaneous effect of variable X on variable Y.

$$F_{table} = F(k; n - k) = F(5; 1560) = 2.22$$

A significant F test value, namely the sig indicator  $5 \ 0.05$  (5%) indicates a relatively good value of goodness of fit.

Table 12 Anova Test Results

**ANOVA<sup>b</sup>**

| Model |            | Sum of Squares | Df   | Mean Square | F       | Sig.              |
|-------|------------|----------------|------|-------------|---------|-------------------|
| 1     | Regression | 4.571E8        | 5    | 9.142E7     | 3.055E3 | .000 <sup>a</sup> |
|       | Residual   | 4.665E7        | 1559 | 29925.969   |         |                   |
|       | Total      | 5.037E8        | 1564 |             |         |                   |

a. Predictors: (Constant), S&P500 Indeks, BI Rate, Inflasi, Kurs (IDR/USD), STI Indeks

b. Dependent Variable: IHSG (Rupiah)

Analysis of Variance results shows that the research model has good goodness of fit. This is evidenced by the significance value of  $0.000 < 0.05$  and the value of  $F \ 3055 > 2.22$ .

**c) The coefficient of determination (R 2)**

The coefficient of determination is basically used to measure how far the ability of the model to explain the independent variables (Ghozali, 2011; 110). The coefficient of determination ranges from zero to one. A small R 2 value indicates the ability of the independent variables is very limited. Conversely, the value of R 2 which approaches one indicates that the independent variables provide almost all the information needed to predict the dependent variable.

The fundamental weakness in the use of the coefficient of determination is the bias towards the number of independent variables included in the model. Every additional one independent variable, eating R 2 will definitely increase without seeing whether the variable has a significant effect on the dependent variable. Therefore, many researchers recommend using adjusted R 2 to evaluate the regression model because adjusted R 2 can go up or down if one independent variable is added to the model (Ghozali, 2009). Thus, in this study did not use the R 2 but using adjusted R 2 to evaluate the regression model. The test results of the coefficient of determination in this study were obtained as follows:

Table 13. Determination Coefficient Test Results

**Model Summary**

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1     | .953 <sup>a</sup> | .907     | .907              | 172.991241                 |

a. Predictors: (Constant), S&P500 Indeks, BI Rate, Inflasi, Kurs (IDR/USD), STI Indeks

Based on Table 13, the SPSS output model summary, based on the adjusted R 2, is 0.907. This shows that 90.7% of the JCI variation can be explained by the independent variable BI rate, inflation, exchange rate (IDR / USD), STI and S & P500. While the rest of  $(100\% - 90.7\% = 9.3\%)$  is influenced by other variables outside of this regression model. The magnitude of the influence of other variables is often referred to an error (e). To calculate the Error value you can use the formula  $e = 1 - R^2$ . The amount of the determination coefficient or R Square is only between 0 - 1. While

the value of R Square is minus (min), it can be said that there is no effect of Exchange (IDR / USD), Inflation, BI Rate, STI and S & P500 on the JCI. The smaller the value of the coefficient of determination (R Square), then this means that the influence of independent variables on the dependent variable is getting weaker. Conversely, if the value of R Square gets closer to 1, then the effect will be stronger.

### 6.2.3. Discussion of the Hypothesis

#### a) Effect of Exchange Rate (IDR / USD) on JCI

Based on the t-test, the value of t 1 of the exchange rate is -31,938 with a significance of 0,000. Significance value (0.000) which is smaller than the expected significance (0.05) and negative t1 value indicate that the exchange rate (IDR / USD) has a negative and significant influence on the JCI in the period 2012-2017. So that the first hypothesis submitted is accepted.

This study is in accordance with Krisna's (2013) study which concluded that partially the exchange rate of the Rupiah against the Dollar had a negative and significant effect on the JCI.

#### b) Influence of Inflation on the JCI

Based on the t-test, the t value of 2 Inflation is 2.438 with a significance of 0.015. Significance value (0.015) which is smaller than the expected significance (0.05) and a positive t 2 value indicates that inflation has a positive and significant influence on the JCI in the period 2012-2017. So that the second hypothesis proposed is accepted.

This study is contrary to Kewal's (2012) study which concluded that partially the inflation rate did not have a significant effect on the CSPI.

#### c) Effect of the BI Rate on the JCI

Based on the t-test, the value of t 3 for the BI Rate is -8,168 with a significance of 0,000. Significance value (0,000) which is smaller than the expected significance (0.05) and negative t 3 indicates that the BI Rate has a negative and significant influence on the JCI in the period 2012-2017. So that the third hypothesis submitted is accepted.

This study contrasts with Arifin's (2014) study which concluded that partially SBI interest rates did not have a significant effect on the JCI.

#### d) Effect of STI Index on JCI

Based on the t-test, the value of t 4 for the STI Index is obtained at -16,234 with a significance of 0,000. Significance value (0,000) which is smaller than the expected significance (0.05) and negative t 4 indicates that the STI Index has a negative and significant influence on the JCI in the period 2012-2017. So that the fourth hypothesis submitted is accepted.

This study is contrary to the study of Hartanto (2013) who concluded that partially the KOSPI, Hang Seng, SSE, FTSE 100, DAX, CAC40, ASX 200 and STI indices did not significantly influence the JCI.

#### e) Effect of S & P500 Index on JCI

Based on the t-test, the value of t 5 Index S & P500 is obtained at 49,962 with a significance of 0,000. Significance value (0,000) which is smaller than the expected significance (0.05) and negative t 5 indicates that the S & P500 Index has a positive and significant influence on the JCI in the period 2012-2017. So that the fifth hypothesis submitted is accepted.

This study is in accordance with Hartanto's (2013) study which concluded that the DJIA partially had a positive and significant effect on the JCI. This point is also supported by researcher Witjaksono (2010) who concluded that the Dow Jones Index had a positive and significant effect on the JCI.

## 7. DISCUSSION:

Because of the different results of the study, researchers chose the JCI as a topic of discussion in the hope that they could find conclusions that were different from previous studies and that explanatory variables could be searched that could predict and explain the fluctuations of the JCI which were more accurate.

Based on the description described above, this research was conducted with the aim of knowing well simultaneously or partially the effect of the value of exchange rates, inflation, the BI Rate, the Straits Times Index (representing the regional stocks) and Standard and Poor's 500 (representing global stocks) so that the author took the title of the thesis "Analysis of Factors influencing JCI (Composite Index) on the Indonesia Stock Exchange for the period 2012-2017".

## 8. ANALYSIS:

Based on the background of the problem, identification of the problem, and limitation of the problem, the author will formulate the main issues in this study are:



6. How does the rupiah exchange rate (IDR / USD) influence the stock price on the IDX?
7. What is the effect of inflation on stock prices on the IDX?
8. How does the BI Rate affect the stock price on the IDX?
9. What is the influence of regional exchanges on the price of shares on the IDX?
10. What is the influence of the developed stock market on the stock price on the IDX?

## 9. FINDINGS:

Based on the formulation of the problem, the authors convey the objectives of the research to be carried out by the researchers are as follows:

6. To find out the effect of Exchange (IDR / USD) on the stock price on the IDX during the period 2012 - 2017
7. To find out the effect of inflation on stock prices on the IDX during the period 2012 - 2017.
8. To find out the effect of the BI Rate on stock prices on the IDX during the period 2012 - 2017.
9. To find out the effect of the Straits Times index on stock prices on the IDX during the period 2012 - 2017.
10. To find out the effect of the S & P500 index on the stock price on the IDX during the period 2012 - 2017.

## 10. RESULT:

### a) Effect of Exchange Rate (IDR / USD) on JCI

Based on the t-test, the value of t 1 of the exchange rate is -31,938 with a significance of 0,000. Significance value (0.000) which is smaller than the expected significance (0.05) and negative t1 value indicate that the exchange rate (IDR / USD) has a negative and significant influence on the JCI in the period 2012-2017. So that the first hypothesis submitted is accepted.

This study is in accordance with Krisna's (2013) study which concluded that partially the exchange rate of the Rupiah against the Dollar had a negative and significant effect on the JCI.

### b) Influence of Inflation on the JCI

Based on the t-test, the t value of 2 Inflation is 2.438 with a significance of 0.015. Significance value (0.015) which is smaller than the expected significance (0.05) and a positive t 2 value indicates that inflation has a positive and significant influence on the JCI in the period 2012-2017. So that the second hypothesis proposed is accepted.

This study is contrary to Kewal's (2012) study which concluded that partially the inflation rate did not have a significant effect on the CSPI.

### c) Effect of the BI Rate on the JCI

Based on the t-test, the value of t 3 for the BI Rate is -8,168 with a significance of 0,000. Significance value (0,000) which is smaller than the expected significance (0.05) and negative t 3 indicates that the BI Rate has a negative and significant influence on the JCI in the period 2012-2017. So that the third hypothesis submitted is accepted.

This study contrasts with Arifin's (2014) study which concluded that partially SBI interest rates did not have a significant effect on the JCI.

### d) Effect of STI Index on JCI

Based on the t-test, the value of t 4 for the STI Index is obtained at -16,234 with a significance of 0,000. Significance value (0,000) which is smaller than the expected significance (0.05) and negative t 4 indicates that the STI Index has a negative and significant influence on the JCI in the period 2012-2017. So that the fourth hypothesis submitted is accepted.

This study is contrary to the study of Hartanto (2013) who concluded that partially the KOSPI, Hang Seng, SSE, FTSE 100, DAX, CAC40, ASX 200 and STI indices did not significantly influence the JCI.

### e) Effect of S & P500 Index on JCI

Based on the t-test, the value of t 5 Index S & P500 is obtained at 49,962 with a significance of 0,000. Significance value (0,000) which is smaller than the expected significance (0.05) and negative t 5 indicates that the S & P500 Index has a positive and significant influence on the JCI in the period 2012-2017. So that the fifth hypothesis submitted is accepted.

This study is in accordance with Hartanto's (2013) study which concluded that the DJIA partially had a positive and significant effect on the JCI. This point is also supported by researcher Witjaksono (2010) who concluded that the Dow Jones Index had a positive and significant effect on the JCI.

## 11. RECOMMENDATIONS:

### Research Implications (For Investors and others)

Based on the conclusions and openness that have been stated, some suggestions can be given as follows:

Investors are expected to pay attention to the JCI, Exchange Rate (IDR / USD), BI Rate and S & P500 Index before investing in the Indonesian capital market.

Further researchers need to conduct research on factors other than Exchange (IDR / USD), Inflation, BI Rate, STI Index and S & P500 Index which have the potential to contribute to the JCI, for example, other Country Indexes (Nikkei-225,

KOSPI, Dow Jones Index, Hang Zinc Index, etc.) Other countries foreign exchange (JPY, HKD, SGD, etc.) and other macroeconomic factors.

## 12. RESEARCH LIMITATIONS:

This study still has several limitations including the selection of variables suspected of having an effect on the JCI consisting of only five aspects, namely Exchange Rate (IDR / USD), Inflation, BI Rate, STI Index and S & P500 Index so that other factors which also have influence For the JCI, for example other foreign indices and foreign currencies of other countries.

## 13. CONCLUSION:

Based on the results of data analysis regarding the effect of Exchange (IDR / USD), Inflation, BI Rate, STI Index and S & P500 Index on the Composite Stock Price Index (IHSG) for the period 2012-2017 it can be concluded that:

The exchange rate (IDR / USD) has a significant and negative effect on the CSPI, this is evidenced by the value of the unstandardized beta coefficient of - 0. 246. Significance value (0.000) that is smaller than the specified value (0.05) indicates that the Exchange Rate ( IDR / USD) has a negative and significant influence on the JCI in the period 2012-2017. The first hypothesis proposed is accepted so that the Exchange Rate (IDR / USD) can be used to predict the JCI for the period 2012-2017.

Inflation affects a significant and positive on JCI, this is evidenced by obtaining the unstandardized beta coefficient inflation amounted to 9.132 with 0.015 significance. Significance value (0.015) which is smaller than the significance value set (0.05) indicates that inflation has a positive influence on the JCI in the period 2012-2017. This is because the inflation data pattern tends to fluctuate so that the inflation fluctuation does not affect the JCI. The second hypothesis proposed was rejected so that inflation cannot be used to predict the JCI for the period 2012-2017.

The BI Rate has a significant and negative effect on the JCI, this is evidenced by the unstandardized beta coefficient of the BI Rate being -73,309 with a significance of 0,000. Significance value (0,000) which is smaller than the specified significance value (0.05) shows that the BI Rate has a negative and significant influence on the JCI in the period 2012-2017. The third hypothesis proposed is accepted so that the BI Rate can be used to predict the JCI for the period 2012-2017.

The STI Index has a significant and negative effect on the JCI. This is evidenced by the STI Index's unstandardized beta coefficient value of -37,302 with a significance of 0,000. Significant values that are smaller than the specified significance value (0.05) indicate that the STI Index index has a negative influence on the IHSG for the period 2012-2017. This is because the STI Index tends to be stable while the JCI data tends to fluctuate so that the rise and fall of the STI Index will negatively affect the JCI. This is also due to one region. Actually, the investor will be spending the money on the STI and IHSG investors, that's all. As soon as the STI Index drops, investors will catch up so that in the short term STI will rise for a moment while the JCI will be abandoned. Likewise, if the JCI falls, investors will pursue the JCI index while STI is abandoned. Thus, the proposed fourth hypothesis is rejected so that the STI Index cannot be used to predict the JCI for the 2012-2017 period.

The S & P500 Index has a significant and positive effect on the CSPI, this is evidenced by the value of the unstandardized beta S & P500 Index of 3.539 with a significance of 0.000. Significance value (0,000) which is smaller than the specified significance value (0.05) indicates that the S & P500 Index has a significant effect on the JCI in the period 2012-2017. The fifth hypothesis proposed is accepted so that the S & P500 Index can be used to predict the JCI for the period 2012-2017.

The Coefficient Determination Test results in this study obtained the adjusted R<sup>2</sup> value of 0.907. This shows that 90.7% of the JCI variation can be explained by the independent variables of Exchange (IDR / USD), Inflation, BI Rate, STI Index and S & P500 Index. While the remaining 9.3% is explained by other factors not examined in this study.

## REFERENCES:

### Journal Papers:

1. Mansur, Moh (2002) *Effect of the Global Stock Index on the Composite Stock Price Index (CSPI) on the Jakarta Stock Exchange (JSX) Period 2000-2002*: Unpad Journal.
2. Arifin (2014) *Influence of Inflation, SBI, Changes in Exchange Rates, and Standard & Poor's 500 on the IHSG on the IDX for the period 2011-2013*; Journal
3. Munib, Muhammad Fatih (2016) *Effect of Rupiah Exchange Rate, Inflation and BI Rate on the Price of Banking Sector Company Stocks on the Indonesia Stock Exchange*; Journal
4. Andriani (2016) *Effect of Fundamental Conditions, Inflation and interest rates on Bank Indonesia Certificates on Stock Prices (Case Study on Real Estate and Property Companies listed on the Indonesia Stock Exchange 2010-2013)*; Journal

5. Kusuma & Badjra (2016) *Effect of Inflation, Jub, Exchange Rate of Dollar and GDP Growth on JCI on the Indonesia Stock Exchange*; Journal
6. Hermawan (2014) *Effect of SBI, Dollar Exchange Rate, Inflation, World Oil and HKSI on JCI on IDX Perio de 2006-2011*; Journal
7. Imbayani, I Gusti Ayu (2015) *Analysis of the Effect of the Dow Jones Index, the Straits Times Index, the Nikkei 225 Index, the Hang Seng Index, and the Rupiah Exchange Rate on the Composite Stock Price Index on the Indonesia Stock Exchange*; Journal
8. Dastanta Tarigan, Razak, Suhadak and Tupowijoyono (2015) *Effects of the Global Stock Price Index on the Composite Stock Price Index (IHSG) Study on the Indonesia Stock Exchange (IDX) for the Period of 2011 - 2014*; Journal
9. Syarif, Moh Maulidi, and Asandimitra, Nadia (2015) *Effects of Macroeconomic indicators and Global Factors on the Composite Stock Price Index (CSPI)*; Journal
10. Astuti Rini (2016) *Effect of Macroeconomic Factors on the Composite Stock Price Index (IHSG) on the Indonesia Stock Exchange (IDX) for the Period 2006-2015*; Journal
11. Nurhayati, M (2012) *Analysis of the ASEAN Capital Market Integration in the Framework of Towards the ASEAN Economic Community*; Journal
12. Riantini, Suskim, Tambunan, Maria (2013). *Analysis of the Effect of Macroeconomic Variables and the Global Index on Stock Returns*: Journal of Management Dynamics 6 (2)

#### Proceedings Papers:

1. Arifin, Tri Moch (2014). *Influence of Inflation, SBI, Exchange Rate Changes, and Standard & Poor's 500 against the JCI on the IDX for the 2011-2013 period*. Yogyakarta State University, Yogyakarta Special Region.

#### Books:

1. Ang, Robert (1997), *SmartBook on Indonesian Capital Markets*. Jakarta: Revised Edition, Mediasoft Indonesia.
2. Ghozali Imam. (2009). *Econometrics Theory, Concepts, and Applications with SPSS 17*. Semarang: Diponegoro University Publishing Agency.
3. Hartanto, Andrew, (2013). *Analysis of the Effects of G20 Relations and Influence on JCI*. Petra Christian University. Surabaya.
4. Anoraga, P akarti (2001). *Introduction to Capital Market: Mold III* Revised Edition, Rineka Cipta, Jakarta.
5. Brigham , Eugene F, and Houston, Joel F. (2012). *Fundamentals of Financial Management*, Jakarta: Salemba Empat.
6. Darmadji, Tjiptono, & Fakhruddin, H. M (2006). *Capital Market in Indonesia; Question and Answer Approach*, Jakarta: Salemba Empat.
7. Hadi, Soetanto. (2009). *Zero Risk High Return Investment*, Jakarta: PT. Alex Media Komputindo.
8. Hartono, Jogiyanto, (2008). *Portfolio Theory and Investment Analysis*. Yogyakarta: BPPE.
9. Her m cloud, Wahyu, (2014). *Influence of SBI, Dollar Exchange Rate, Inflation, World Interest, and HKSI on JCI on IDX 2008-2011*. Yogyakarta State University. Special Region of Yogyakarta.
10. Husnan, Saud & Pudjiastuti, Enny, (2004). *Fundamentals of Financial Management*, Yogyakarta: UPP AMP YKPN.
11. Indartono, Bambang Sukono, (2012). *Analysis of Factors Affecting the CSPI on the IDX for the period 2007-2011*. Universitas Semarang, Central Java.
12. Jonathan Sarwono, (2007). *Path Analysis for Business Research*. Yogyakarta: Andi.
13. Kusnedi, (2008). *Structural Equation Models*. Bandung: Alfabeta.
14. Krisna Anak Agung Gde Aditya and Ni Gusti Putu Wirawatin, (2013). *Influence of Inflation, Level of SBI Interest Rate and Rupiah Exchange Rate Against JCI on the Indonesia Stock Exchange 2008-2012*. Udayana University, Bali.
15. Suci, Kewal, Suramaya, (2012). *Influence of Inflation, SBI, Exchange Rate, and GDP Growth Against JCI*, College of Economics. Musi, Palembang.
16. Supranto, J (1994). *Statistics*. Erlangga, Jakarta.
17. Sunariah, (2003). *Introduction to Basic Knowledge of Capital*. UPP AMP YKPN. Yogyakarta.
18. Tandelilin, Eduardus, (2001). *Investment Analysis and Portfolio Management*, Yogyakarta: BPFE.
19. Witjaksono, Ardian Agung (2010). *Analysis of the Effect of Bank Indonesia Interest Rates, World Gold Prices, Rupiah Exchange Rate, Nikkei 225 Index, and Dow Jones Index Against JCI*. Semarang.
20. Van Horne, James C & Wochowicz, Jr., Jhon M. (2009). *Principles of Financial Management*. Jakarta: Salemba Empat.

### Web References:

- <http://pitt.libguides.com/citationhelp/APA>
- <http://ijrcs.org/guidelines-for-auther-2/>
- <https://market.bisnis.com>market>
- <https://finance.yahoo.com/quote/^sti/>
- <https://finance.yahoo.com/quote/^gspc/>
- <https://www.bi.go.id/id/moneter/inflasi/data/default.aspx>
- <https://www.bi.go.id/id/moneter/informasisi-kurs/transaksi-bi/default.aspx>