

# **The Influence of Macroeconomic and Global Factors on the Composite Stock Price Index (CSPI) in Indonesia Stock Exchange (IDX) for the Period 2013-2017**

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## **ABSTRACT**

The Composite Stock Price Index (CSPI) is an index used by investors as a reference in looking at the development conditions of the capital market in Indonesia. This research aims to explain the effect of macroeconomic factors (Gross Domestic Product, SBI interest rate, RER, Money Supply) and Global (World Oil Prices) on the Composite Stock Price Index (CSPI) in the Indonesia Stock Exchange for the period 2013-2017. The sample used in this research is a saturated sample where all members of the population are sampled. The analytical method used in this research is multiple linear regression analysis with the help of the SPSS program to explain the impact of independent variables on the dependent variable. The research used quarterly data from 2013-2017 for each research variable. The results of the research show that all independent variables simultaneously have a significant effect on CSPI. Partially, RER has a significant negative effect on the CSPI, Gross Domestic Product and the Amount of Money Supply has a negative not significant effect on the CSPI. SBI interest rates and World Oil Prices have a positive not significant effect on the CSPI.

## KEYWORDS

Macroeconomics, CSPI, Gross Domestic Product, SBI interest rate, RER, Money Supply, World Oil Prices, Indonesia

## INTRODUCTION

Investment is an investor's commitment to total assets currently carried out in the hope of obtaining future profits (Tandelilin, 2010). According to Salsabila (2018), an investment can be divided into 2 types, namely real assets and financial assets. Investment in real assets such as buildings, land, machinery, and others. The forms of financial assets, such as securities are traded on the money market and capital markets.

The capital market is the place for public offerings and trade in various long-term instruments by companies, institutions, and individuals such as bonds, stocks, derivatives, mutual funds, and other instruments. Capital markets have an important role in the economy of a country because businesses can easily get funds from investors that can be used to maximize their operating profits. For example to purchase productive assets, increase working capital, and expand business premises. In addition, people can easily invest in long-term instruments based on their characteristics, rate of return and risk. One of the long-term instruments traded on the capital market is stocks. According to Samsul (2015), shares are proof of ownership of some companies, and shareholders are entitled to get dividends when the company earns profits.

Stock performance in the capital market can be measured by using the Composite Stock Price Index (in short the CSPI). The CSPI describes a series of historical information regarding the movement of prices of common stock and preferred stock in all companies listed on the Indonesia Stock Exchange (IDX). The increase in the CSPI showed an increase in overall stock prices, and the decline in the CSPI showed a decline in overall stock prices. The CSPI is used as a basis in analyzing the conditions of the capital market in Indonesia and as a reference that shows the health condition of the Indonesian economy. The following can be seen in the macroeconomic & global movement diagram that can affect the CSPI.

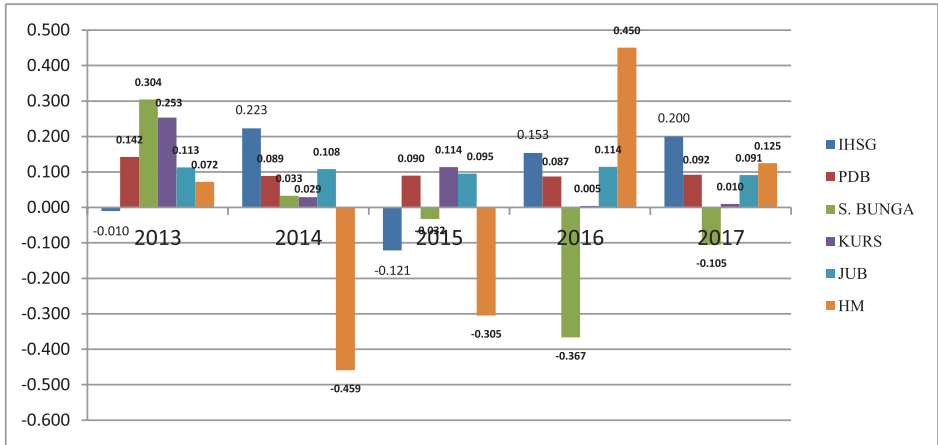


Diagram 1. CSPI, Macroeconomic dan Global Movement  
(December 31, 2013-2017)

Overall it can be seen that the development of the CSPI has changes always. Most of these changes show positive growth. CSPI growth reflected the country's improving economic condition. Improving the country's economy has an impact on increasing company profits. This is a positive signal for investors to invest in stocks because they will get more benefit from the company. However, the development of the CSPI has not always positive growth. For example in 2013 and 2015 showed a negative number. This proves that there is uncertainty in the CSPI movement. This uncertainty will pose a big risk for investors if they do not pay attention to the condition of the CSPI movement. This risk occurs because of the movement of macroeconomic and global factors.

In 2014, the number in the CSPI has increased at 0.223 from the previous level of -0.010 in 2013, this was due to world oil prices which dropped dramatically. This decline has a positive impact on the company. The movement of world oil prices is positively related to the prices of goods and services on the market. Therefore, the decline in world oil prices will be reduced the operational costs of companies to produce products. The declining company operating costs will increase profits which can affect stock prices.

However, in 2015 the condition of CSPI changes showed a sharp decline as the condition of the Indonesian economy was deteriorating which was marked by a depreciation of the rupiah against the dollar to reaching Rp. 13,855 from the previous Rp12.438. This caused the finance of the importing company to be drained because they have to pay their debt abroad with a larger amount of rupiah which affects the price of their stocks.

In 2016, changes in the CSPI increased significantly at 0.153. Interest rates moved down from the level of 7.5% in 2015 to 4.8% in 2016 provided a positive signal for the CSPI because investors would prefer investment in stocks rather than saving money

in deposits with a small interest. Then, in 2017 the changes in the CSPI showed a significant increase to 0.200 from the previous 0.153 in 2016. The government had made various policies to deal with economic problems and improve the welfare of the community which was marked by rising GDP numbers, rising money supply, and declining interest rates.

The phenomenon of the CSPI movement is influenced by many macroeconomic and global factors, so it is very important for investors to know the macroeconomic conditions and global factors to make decisions before investing in the capital market.

According to Samsul (2015), the macroeconomic variables that affect the CSPI movement are gross domestic product (GDP), inflation, interest rates, tax regulations, the RER against foreign currencies, world economic conditions, government policies, credit interest rates foreign affairs, economic understanding, economic cycle, money supply, and so on. However, in this research, only a few macroeconomic variables were taken, namely GDP, interest rates, the RER, and the money supply, as well as global factors, namely world oil prices.

Gross Domestic Product (GDP) is the value of goods and services produced by domestic and foreign at a certain time. Research conducted by Pražák & Stavárek (2017) stated that GDP has a positive effect on the CSPI.

SBI interest rates are securities issued by Bank Indonesia in recognition of short-term debt denominated in rupiah in the discount system. Research conducted by Gumilang (2014); Halim (2014); Hsing (2014) stated that interest rates negatively affect the CSPI.

The RER of Rupiah is a number of rupiah currencies to get foreign currency. In this research using the RER against the US dollar because America is a country that is the strongest economic center in the world so that almost all countries use dollars for foreign transactions. Research conducted by Jamaludin, Ismail, & Ab Manaf (2017) states that the RER has a positive effect on the CSPI while the research of Gumilang (2014) stated that the RER had a negative effect on the CSPI.

The Money Supply is the amount of money in a country's economy at a certain time. The research conducted by Singh (2016) stated that MS had a negative effect on the CSPI, while Pražák & Stavárek, (2017) who stated that MS had a positive effect on the CSPI.

World oil prices are one of the global factors that can affect the world economy. Research conducted by Gurloveleen & Bhatia (2015) which states that oil prices have a positive effect on the CSPI, while the research of Gumilang (2014) which states that oil prices have a negative effect on the CSPI, and his research is Effiong (2014) which states that oil prices have a positive & negative effect on the CSPI.

Based on the fluctuating of Composite Stock Price Index and the differences in the results of previous research, the researchers were interested in testing the effect of macroeconomic and global factors on the Composite Stock Price Index (CSPI) on the Indonesia Stock Exchange (IDX) during the period 2013-2017.

## FRAMEWORK

### **Macroeconomic Theory**

Macroeconomics is one branch of economics that examines the phenomenon of the economy as a whole such as interest rates, inflation, economic growth, unemployment, money supply, trade balance, the country's debt, and others. The economic condition of a country is one of the factors that can affect the increase or decrease in stock performance. According to Samsul (2015), macroeconomic factors that can affect the performance of the capital market, namely: inflation rates, domestic interest rates, tax regulations, RERs, foreign loan interest rates, world economic conditions such as world oil prices, economic cycles, money supply, economic ideas, and government policies.

Macroeconomic changes will have a direct impact on overall stock performance. Poor macroeconomic conditions will make the composite stock price index in the country decline because investors will calculate the impact on the company in the future. Thus, investor demand for the stock will decrease. The decline in demand for the stock will affect the performance of the CSPI in the country.

### **Signalling Theory**

Signaling theory is information that is needed by investors to determine whether investors invest in the stock market or not. Many investors must consider before investing their stock. This theory greatly facilitates investors in making their decisions in developing their stock. Signal theory provides information for users of financial statements, for example about what has been done by company management to realize the wishes of the owner. The signal is in the form of information that the company is more feasible than other companies.

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

The composite stock price index is a stock price expressed in the index number, where the CSPI is one of the indices used to measure the performance of the capital market in the Indonesia Stock Exchange. The CSPI was first introduced on April 1, 1983, as an indicator of stock market movements on the JSX (before the IDX). This index included the price movements of all common stock and preferred listed on the IDX. The Basic Day for the calculation of the CSPI is August 10, 1982, with a base value of 100 and the listed stock at that time amounted to 13 stocks.

### **Gross Domestic Product (GDP)**

According to Sukirno (2003), gross domestic product is the value of goods and services produced by domestic and foreign production factors within one year. Gross domestic product is a reflection of the economic development of a country. GDP

growth is a measure of social welfare so GDP is the most important variable in analyzing a country's economic growth.

### **SBI Interest Rate (SBI)**

Bank Indonesia Certificates (SBI) are securities in recognition of short-term debt denominated in rupiah issued by Bank Indonesia with a discount system. The interest rate reflected the attitude of the monetary policy set by Bank Indonesia and announced to the public. A low-interest policy can make people not interested in saving, so they choose to invest.

Interest rates are announced by the Bank Indonesia governing board every monthly board governor meeting and implemented in monetary operations conducted by Bank Indonesia through liquidity management in the money market to achieve the operational objectives of the monetary policy.

### **Rupiah Exchange Rate (RER)**

According to Gumilang (2014), The RER is the currency of a country that is measured using the currency of another country. The RER states the relationship of a value between a unit of foreign currency and the unity of the domestic currency. RERs always change in value and tend to be unstable because these changes depend on foreign currency demand and supply on the forex market from time to time.

### **Money Supply (MS)**

Gumilang (2014) explained that the money supply is the total stock of money in the economy in a given time. According to Sukirno (2003), the money supply can be divided into two, namely the definition of limited/narrow (M1) and broad understanding (M2). In a limited sense, money supply is the currency in circulation plus additional money held by individuals, companies, and government agencies. In the broadest sense of money in circulation is the currency in circulation plus additional deposits, currency, and quasi-money. Quasi-money consists of time deposits, savings accounts, and domestic and foreign exchange accounts. Money supply is the obligation of the monetary system of central banks, commercial banks and rural credit banks to the domestic private sector.

### **World Oil Price (WOP)**

World oil is one of the global factors that can affect the Indonesian economy. World oil prices are measured by spot prices of world oil markets. The price standard used is traded at West Texas Intermediate which is the light-weight type and has low sulfur content. This type of oil has very high quality so it is very good to be used as fuel. Therefore, the price of WTI oil is used as a reference for the oil trade in the world.

### **Influence of GDP on the CSPI**

GDP growth shows an improvement in the country's economic growth. This economic growth reflects an increase in people's welfare because of the increase in per capita income of each country. Increased income will increase the purchasing power of the people so it has a positive impact on the company because the profits will increase. It will attract investors because dividends to be paid will also increase. Thus, the demand for the stock will increase and CSPI rate will increase. It shows that GDP has a positive impact on the CSPI which is supported by the research of Pražák & Stavárek (2017); Kusuma & Badjra (2016); Hsing (2014) which states that GDP has a positive effect on the CSPI.

### **Hypothesis 1: GDP has a significant positive effect on the CSPI**

#### **Influence of SBI on the CSPI**

Changes in interest rates can affect the CSPI. Rising interest rates will increase the interest on corporate loans. This increase in interest will reduce the company's profits and people are less interested in investing in stocks because the dividends will be small. In addition, rising deposit rates will also reduce investor interest in investing in the capital market. They will deposit the money by getting a large interest. This shows that interest rates have a negative effect on the CSPI. This is supported by the research of Gumilang (2014); Halim (2015); Hsing (2014); Pražák & Stavárek (2017). Which states that interest rates negatively affect the CSPI.

### **Hypothesis 2: SBI has a significant negative effect on the CSPI**

#### **Influence RER on the CSPI**

RERs movement has a different impact on the capital market. The increase in the number of a currency against a foreign currency does not mean that the currency is improving, but it is depreciating. This is a negative signal for the country's economy. If the RER against the dollar is depreciating, for companies with high levels of imports and debts, they will pay a larger amount, it will be reduced returns on investment from companies to stock investors. The demand for the stock will decline and have an impact on stock prices. Meanwhile, export-oriented companies will have a positive impact. The company will receive more money. This is supported by the research of Kusuma & Badjra (2016); Gurloveleen & Bhatia (2015) which states that the RER has a positive effect on the CSPI, and the research of Mulidi & Nadia (2015); Gumilang (2014) which states that the RER has a negative effect on the CSPI.

### **Hypothesis 3: RER have a partially significant effect on the CSPI**

### **Influence MS on the CSPI**

Money supply movement can affect the capital market. The increase in money supply indicates that the country's economic growth is increasing. This increase in MS will make Bank Indonesia issue a policy to reduce interest rates. This condition encourages investors to make investments that will eventually increase the demand for company stock. In addition, MS also has a negative impact on the CSPI because of the factors that affect MS, one of which is inflation. Inflation causes the price of goods to rise. The increase in MS will decrease the value of an investment in stocks because individual investors will use more of their money to buy goods, especially basic goods rather than having to invest the money. Thus, the stock price will decline. This shows that MS can have a positive or negative effect on the CSPI. This is supported by Singh (2016) which states that the MS has a negative effect on the CSPI, and Pražák & Stavárek (2017) who stated that MS has a positive effect on the CSPI.

### **Hypothesis 4: MS has a significant effect partially on the CSPI**

### **Influence WOP on the CSPI**

World oil price can affect the capital market. The price of oil is one of the vital needs that can cause other goods to rise when world oil prices rise. This increase in the price of goods will cause the company to experience an increase in the cost of producing raw materials. As a result, the company's profit performance will decline and is considered unprofitable for investors. This certainly will affect the CSPI. When viewed from the other side, the increase in oil prices will increase the profits of the mining industry so it will increase stock demand. Investors are interested in investing in this industry because they will provide a large dividend. From the description above Oil prices can have a positive or negative effect on the CSPI. This is supported by Gurloveleen & Bhatia (2015); Maulidi & Nadia (2015) which states that oil prices have a positive effect on the CSPI, his research is Gumilang (2014) which states that oil prices have a negative effect on the CSPI, and Effiong (2014); Huiming, Yawei, & Wanhai (2015) which states that oil prices have a positive & negative effect on the CSPI.

### **Hypothesis 5: WOP partially have a significant effect on the CSPI**

The frame of mind underlying this research can be described as follows:

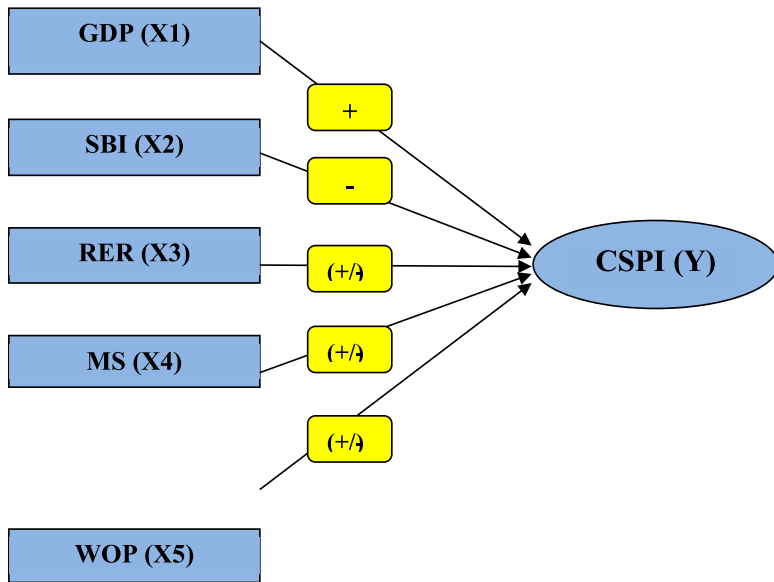


Figure 1. Framework

## RESEARCH METHOD

### Framework

This research uses several types of research perspectives. Based on the research target perspective, this research uses an explanatory design because it aims to explain the influence of macroeconomic and global factors on CSPI (Sugiyono, 1999).

Based on the perspective of data sources, this research uses secondary data because the data taken is in the form of documented historical reports and has been published on the Indonesia Stock Exchange (Arfan Ikhsan, 2008: 47). Based on the time dimension perspective, this research uses time series, because the data taken is CSPI data on the Indonesia Stock Exchange during the period 2013-2017.

### Variable Identification

This research has several variables that will be observed, namely:

- a. The dependent variable that affected is CSPI.
- b. Independent variables that affect are GDP, SBI interest rates, RER, money supply and world oil prices.

## Operational Definition and Variable Measurement

### a. Composite Stock Price Index (CSPI)

CSPI is a value in the form of an index used by the Indonesia Stock Exchange to show the performance of the capital market. The data used in CSPI measurements is the last price (Closing Price) with Quarterly frequencies at the end of March, June, September, and December during the research period. Data obtained from [www.idx.co.id](http://www.idx.co.id). The data is then processed using the formula:

$$\text{CSPI} = \frac{\text{CSPI}_t - \text{CSPI}(t-1)}{\text{CSPI}(t-1)}$$

### b. Gross Domestic Product (GDP)

Gross domestic product is the value of goods and services produced in a country within a certain time. The data used in measuring GDP is Quarterly frequency data at the end of March, June, September and December during the research period. data obtained from [www.bps.go.id](http://www.bps.go.id). The data is then processed using the formula:

$$\text{GDP} = \frac{\text{GDPT} - \text{GDP}(t-1)}{\text{GDP}(t-1)}$$

### c. SBI interest Rates (SBI)

The SBI interest rate is the interest rate set by Bank Indonesia to determine the rate of return on investment. The data used in the measurement of SBI interest rates in this research is Quarterly frequency data at the end of March, June, September, and December during the research period. Data is obtained from [www.bi.go.id](http://www.bi.go.id). The measurement of SBI interest rates in this research uses auction results from commercial banks and money market brokers registered with Bank Indonesia. The data is then processed using the formula:

$$\text{SBI} = \frac{\text{SBI}_t - \text{SBI}(t-1)}{\text{SBI}(t-1)}$$

### d. Rupiah Exchange Rate (RER)

The RER is the amount of rupiah needed to get foreign currency. The RER used in this research is the Rupiah against the Dollar. The data used in measuring the RER in this research are Quarterly frequency data at the end of March, June, September, and December during the research period. Data is obtained from [www.bi.go.id](http://www.bi.go.id). The data is then processed using the formula:

$$\text{RER} = \frac{\text{RER}_t - \text{RER}(t-1)}{\text{RER}(t-1)}$$

e. Money Supply (MS)

The amount of money in circulation is the amount of money in individuals and groups (M1 and M2). The data used in MS measurements in this research are Quarterly frequency data at the end of March, June, September and December during the research period. Data obtained from [www.bps.go.id](http://www.bps.go.id). The measurement of the money supply in this research uses the amount of M1 and M2. The data is then processed using the formula:

$$MS = \frac{MSt - MS(t-1)}{MS(t-1)}$$

f. World Oil Prices (WOP)

World oil prices are the world oil market prices formed by the number of requests and offers. The data used in the measurement of world oil prices in this research is the latest price data (Closing Price) with Quarterly frequencies at the end of March, June, September and December during the research period. In this research, data was taken from the West Texas Intermediate standard obtained from [www.finance.yahoo.com](http://www.finance.yahoo.com). The measurement of world oil prices in this research uses the accumulated supply and demand of the Light Sweet from market participants in Oklahoma, Texas. The data is then processed using the formula:

$$WOP = \frac{WOPt - WOP(t-1)}{WOP(t-1)}$$

### Population, Samples, and Sampling Techniques

The research took the population of all CSPI data on the Indonesia Stock Exchange. the population is taken from the official website of the Indonesia Stock Exchange, [www.idx.co.id](http://www.idx.co.id). While the data used as samples are quarterly CSPI data at the end of March, June, September, December during the period 2013-2017. The reason for choosing monthly data is to get more accurate results and avoid bias due to market panic in reacting information.

### Data and Data Collection Methods

This research used quantitative data because the data processed is in the form of numbers, and based on the source using secondary data obtained using the documentation data collection techniques collected through publications. Based on the scale of data measurement, this research uses a ratio scale because it uses GDP, SBI, RER, MS, and WOP. The data in this research were obtained from [www.idx.co.id](http://www.idx.co.id) to obtain CSPI data, [www.bps.go.id](http://www.bps.go.id) to obtain GDP and MS data, [www.bi.co.id](http://www.bi.co.id) to obtain data on SBI rates and the RER, [www.finance.yahoo.com](http://www.finance.yahoo.com) to get WOP data.

## DATA ANALYSIS TECHNIQUE

### Descriptive Analysis

Descriptive test analysis is an analytical technique used by describing or describing the data that has been obtained. This analysis technique presents information on the mean (average), standard deviation (standard deviation), maximum, minimum, sum (sum), average range (range), kurtosis, skewness, etc. (Syofian Siregar, 2013: 95). In this research, descriptive analysis is used to provide an overview of the variables (GDP, SBI, RER, MS, and WOP)

### Classic Assumption Test

#### A. Normality test

Normality test is used to test whether errors from the regression models formed are normally distributed. A good regression model is a model whose error is normally distributed. In this research using the Kolmogorov-Smirnov test to test Normality with criteria: Data is normally distributed if the significance of the calculation results (Sig) > 5%, whereas if Significance (Sig) < 5%, then the data is not normally distributed.

#### B. Autocorrelation test

Autocorrelation test is used to test whether the linear regression model has a correlation between confounding error in period  $t$  with a confounding error in the previous period ( $t-1$ ). If a correlation occurs, it means showing the symptoms of autocorrelation. A good regression model should not have symptoms of autocorrelation. The method used to detect the symptoms of autocorrelation is the Run Test. if the Significance (Sig) > 5% then there is no autocorrelation. Whereas if the significance value (Sig) < 5%, then autocorrelation occurs. Besides that, you can also use Durbin-Watson measuring instruments.

#### C. Multicollinearity test

This test is used to test whether there is a correlation between independent variables in the regression model. A good regression model should not have a correlation between independent variables. The method used to detect the symptoms of multicollinearity are:

- a. Observe the correlation between independent variables  
If the correlation value between independent variables is > 90%, multicollinearity occurs.
- b. Observe tolerance value or VIF (Variance Inflation Factor)  
If the VIF value is > 10 or the tolerance value is < 0.10 then it shows the symptoms of multicolourity.

#### D. Heteroscedasticity test

This test is used to test whether in the regression model variance and residual inequalities occur between one observation to another. A good regression model should not occur heteroscedasticity, but homoskedasticity. The test that can be used to detect the presence of this symptom is the glacier test, by regressing the independent variable with the absolute value of the residual to the independent variable.

#### Analisis Uji Hipotesis

Hypothesis analysis uses multiple linear regression or multiple regression analysis (MRA). Multiple Regression Analysis is a tool used to test the influence of GDP, SBI interest rates, rupiah exchange rate, MS, and world oil prices on CSPI with the following equation:

$$CSPI = \alpha + \beta_1 GDP + \beta_2 SBI + \beta_3 RER + \beta_4 MS + \beta_5 WOP + e$$

After entering all the variables in the equation above, the next step is to test:

- Simultaneous Test (F Test): Used to test the effect of GDP, SBI, RER, MS, and WOP together on CSPI.
- Partial Test (t test): used to test the effect of independent variables individually in explaining variations in the dependent variable.
- Determination Coefficient (R2): Used to find out how much the GDP, SBI, RER, MS, and WOP contribution simultaneously to CSPI. Value R2:  $0 < R2 < 1$   
The greater the value of R2 the greater the ability of GDP, SBI, RER, MS, and WOP in explaining CSPI.

## RESULTS AND DISCUSSION

### 1. Deskriptif Analysis

Descriptive analysis is used to provide an overview of the variables of GDP, SBI, RER, MS, and WOP.

Table 1. Descriptive Statistic Result

Descriptive Statistics	N	Minimum	Maximum	Mean	Std. Deviation
IHSG	20	-.1399	.1445	.022137	.0733903
PDB	20	-.0179	.0634	.024403	.0261965
SBI	20	-.2308	.2083	-.011785	.0808060
KURS	20	-.0546	.1482	.019906	.0446026
JUB	20	-.0223	.0659	.025385	.0254763
HM	20	-.4156	.2606	-.006704	.1625512
Valid N (listwise)	20				

## **CSPI**

Based on table 1, it can be seen that the CSPI average is 0.0221 which shows a tendency for an increase in stock prices in the sample. The lowest CSPI value is -0.1399 and the highest is 0.1445. This shows that the size of the CSPI in the research sample ranged from -0.1399 to 0.1445 with a standard deviation of 0.0733.

## **GDP**

Based on table 1, it can be seen that the average GDP is 0.2440, which means that every increase in GDP of one unit will increase CSPI by 0.2440. The lowest value of GDP is -0.0179, which means that every increase in GDP of one unit will reduce CSPI by 0.0179. The highest value of GDP is 0.0634, which means that every increase in GDP by one unit will increase CSPI by 0.0634.

## **SBI**

Based on table 1, it can be seen that the average SBI is -0.1179, which means that every increase in one unit SBI will reduce CSPI by 0.1179. The lowest SBI value is -0.2308, which means that every increase in one-unit SBI will reduce CSPI by 0.2308. The highest SBI value is 0.2083, which means that every increase in GDP by one unit will increase the CSPI by 0.2083.

## **RER**

Based on table 1, it can be seen that the average RER is 0.0199, which means that each increase in one unit rate will increase CSPI by 0.0199. The lowest value of the RER is -0.0546, which means that each increase in one unit RER will reduce CSPI by 0.0546. The highest value of the RER is 0.1482, which means that every increase in the rate of one unit will increase the CSPI by 0.1482.

## **MS**

Based on table 1, it can be seen that the average MS is 0.0254, which means that every increase in MS in one unit will increase the CSPI by 0.0253. The lowest MS value is -0.0223, which means that every increase in MS in one unit will decrease CSPI by 0.0223. The highest MS value is 0.0659, which means that every MS increase of one unit will increase CSPI by 0.0659.

## **WOP**

Based on table 1, it can be seen that the average WOP is -0.0067, which means that every increase in one-unit WOP will reduce CSPI by 0.0067. The lowest value of WOP is -0.4156, which means that every increase in one-unit WOP will reduce CSPI by 0.4156. The highest value of WOP is 0.2606, which means that every increase in WOPD of one unit will increase CSPI by 0.2606.

## 2. Classic Assumption Test

### Normality Test

A normality test is a test used to determine whether a residual value is normally distributed or not. The normality test was carried out by the Kolmogorov Smirnov test. The hypothesis used is H0 (residual data is not normally distributed) and H1 (residual data are normally distributed). The research data can be said to spread normally or meet the normality test if Asymp. Sig. (2-tailed) above 0.05.

Table 2. Normality Test Result

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		20
Normal Parameters <sup>a</sup>	Mean	.0000000
	Std. Deviation	.04855895
Most Extreme Differences	Absolute	.141
	Positive	.079
	Negative	-.141
Kolmogorov-Smirnov Z		.629
Asymp. Sig. (2-tailed)		.824
a. Test distribution is Normal.		

Based on table 2, the test results obtained a significance value of 0.824 (Sign.  $0.824 > 0.05$ ) which means that the variables GDP, SBI, RER, MS, and WOP have been normally distributed.

### Multicollinearity Test

Multicollinearity test is used to find out whether there is a relationship (correlation) between the independent variables GDP, SBI, RER, MS, and WOP which are included in the regression model. A good regression model should not have a correlation. Multicollinearity can be seen from the tolerance value and Variance Inflation Factor (VIF). If the tolerance value is  $<0.10$  or  $VIF > 10$ , then there are symptoms of multicollinearity.

Table 3. Multicollinearity Test Results

Model B	Coefficients <sup>a</sup>		t	Sig. Tolerance	Collinearity Statistics VIF
	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta			

1	(Constant)	.071	.023		3.055	.009		
	PDB	-.631	.560	-.225	-1.126	.279	.783	1.277
	SBI	.076	.206	.084	.372	.716	.610	1.639
	KURS	-.987	.418	-.600	-2.359	.033	.484	2.066
	JUB	-.494	.613	-.172	-.806	.434	.690	1.448
	HM	.017	.089	.037	.188	.854	.798	1.254

Based on table 3, the calculation of tolerance or VIF values shows that none of the independent variables have a tolerance value of  $<0.10$  and no VIF that is  $> 10$ , so it can be concluded that the regression model in this research did not show symptoms of multicollinearity or there is no correlation between variables GDP, SBI, RER, MS, and WOP.

**Autocorrelation Test**

The autocorrelation test is used to test whether in the linear regression model there is a correlation between interfering error errors in period  $t$  with interfering error errors in period  $t-1$ . If there is a correlation, it shows the symptoms of autocorrelation. A good regression model must not occur autocorrelation. One method used for this test is to use the Run Test test tool.

Table 4. Autocorrelation Test Results

	Runs Test
	Unstandardized Residual
Test Value <sup>a</sup>	-.00122
Cases < Test Value	10
Cases $\geq$ Test Value	10
Total Cases	20
Number of Runs	11
Z	.000
Asymp. Sig. (2-tailed)	1.000
a. Median	

Based on table 4, the results of Asymp are obtained. Sig. (2-tailed) of 1,000 (sig  $1000 > 0.05$ ) which means that there is no auto correlation between independent variables so that the regression model is feasible to use.

**Heteroscedasticity Test**

Heteroscedasticity test is used to find out whether in the regression model variance and residual inequalities occur between one observation to another. Test equipment

that can be used to detect the presence of heteroscedasticity symptoms is one of them by using the Glacier test.

The criteria used to state whether heteroscedasticity symptoms occur in observational data can be explained using the coefficient of significance. If the coefficient of significance ( $\text{sig}$ ) > 0.05 then heteroscedasticity symptoms do not occur.

Table 5. Heteroscedasticity Test Results

Model B	Coefficients <sup>a</sup>			T	Sig.
	Unstandardized Coefficients		Standardized Coefficients		
	Std. Error	Beta			
1 (Constant)	-8.253	.832		-9.923	.000
PDB	38.396	20.114	.444	1.909	.077
SBI	-2.438	7.387	-.087	-.330	.746
KURS	-7.871	15.026	-.155	-.524	.609
JUB	3.145	22.029	.035	.143	.889
HM	4.255	3.212	.305	1.325	.207

a. Dependent Variable: U2i

Based on the Glacier test that has been carried out on each variable used in this research, Table 5 shows that none of the independent variables statistically significant influence the dependent variable absolute residual value ( $\text{abs\_res}$ ). This can be seen from the probability of a significance above the 5% confidence level. Therefore, it can be concluded that the regression model does not contain heteroscedasticity.

Table 6. Result of Multiple Regression Analysis

Model	B	tstatistic	ttable	Sign. T	r2
(Constant)	0.071	3.055			
GDP (X1)	-0.631	-1.126	-1.761	0.279	0.083
SBI (X2)	0.076	0.372	1.761	0.716	0.010
RER (X3)	-0.987	-2.359	±2.145	0.033	0.284
MS(X4)	-0.494	-0.806	±2.145	0.434	0.045
WOP (X5)	0.017	0.188	±2.145	0.854	0.003
	F = 3.596			Ftable = 2.960	
	R2 = 0.406			Sign. = 0.027	

### Simultaneous Test (F test)

Based on table 6, GDP, SBI, RER, MS, and WOP variables simultaneously have a significant effect on CSPI because the results of multiple linear regression analysis

show that  $F_{count}$  is greater than  $F_{table}$  which is  $3.596 > 2.960$  and its significance is 0.027. The coefficient of determination  $R^2$  which shows a number of 40.6% shows that the ability of the variables GDP, SBI, RER, MS, and WOP in explaining variations towards CSPI is 40.6% while the remaining 59.4% is influenced by other variables outside of the model are inflation, tax regulations, government policies, world economic conditions, economic cycles, economic ideology, corporate fundamental factors, and other variables.

### **Partial Test (t Test)**

#### **a. Influence of GDP on CSPI**

Based on the results of t test analysis using multiple linear regression in table 6, changes in GDP have a negative effect but not significant to CSPI, because it is seen from the GDP coefficient that is negative 0.631 and  $r^2$  value of 8.3% which means that the contribution of GDP in influencing CSPI is very small and not significant.

In theory, an increase in GDP in a country indicates improved conditions for economic growth. This growth is characterized by an increase in people's welfare. This increase in welfare will encourage people to consume goods and services so they can expand the development of an investment in the real sector. However, the development of investment in the real sector is not necessarily followed by an increase in investment in the capital market.

The results of this research indicate that an increase in real GDP cannot be used as a reference to see CSPI movements. The increase in GDP figures is not necessarily able to increase per capita income for each individual due to welfare inequality so that the pattern of investment in the capital market is not affected by an increase in GDP. The increase in GDP does reflect the country's good economic condition, but this does not necessarily reflect the good condition of the capital market. The increase in GDP indicates an increase in productivity that can increase a country's income, but this is not a major consideration. Both domestic investors and foreign investors invest their capital in the form of stock investments. They tend to prefer investment in the real sector.

The results obtained from this research do not support the research conducted by Pražák & Stavárek (2017); Kusuma & Badjra (2016); Hsing (2014) which states that gross domestic product has a significant positive effect on CSPI.

#### **b. Influence of SBI on CSPI**

Based on the results of t test analysis using multiple linear regression in table 6, changes in SBI have a positive but not significant effect on CSPI, because it is seen from the GDP coefficient which is positive 0.076 and  $r^2$  value of 1% which means that the contribution of GDP in influencing CSPI is very small and insignificant.

In theory, an increase in SBI interest rates will have a negative impact on the capital market. The increase in SBI interest rates will make financial institutions such as banks driven to buy Bank Indonesia Certificates (SBIs) because they can provide higher interest

rates for their products. The aim is to attract the public to save their funds, which will later be used by the financial institutions to buy SBIs again.

High interest rate will have a negative impact on the stock market because investors funds will be allocated to bank products such as deposits because they have high interest rates and less risk than investing in the stock market. For investors who have already invested in stocks, they will sell their stock simultaneously, which will reduce the overall stock price. In addition, the impact of an increase in interest rates also has an impact on declining corporate profits. Banks will not only provide high interest rates for those who save their funds, but the bank will also provide a high interest policy for loan debtors. Almost all large companies enjoy loans at banks. So that they will be affected by the increase in interest on the loan. Corporate expenses will increase to pay the principal and interest on the debt. If the debt post increases, then there will be a reduction in the net profit post which ultimately has an impact on dividend distribution. This condition causes investors not to be interested anymore in investing in the stock market.

However, in this research it actually produced different results from the theory. The increase in SBI interest rates actually had a positive impact on CSPI but was not significant, because the rising SBI interest rate is considered to overcome the inflation crisis. Bank Indonesia will make policy in increasing interest rates, so prices of goods and services in general will decline, it will be increasing the proportion of investors income to invest their funds in stock. Thus, the demand for the stock will increase so it will make the stock price higher overall. The insignificant results are due to the character of Indonesian investors happy to transact stocks in the short term, so they tend to make a profit taking in hopes of obtaining high returns on the capital market compared to investing in SBI.

The results obtained in this research do not support the research conducted by Pražák & Stavárek (2017); Singh (2016); Hsing (2014); Gumilang (2014); Halim (2015) who all stated that interest rates negatively affected CSPI.

### c. Effect of RER on CSPI

Based on the results of t test analysis using multiple linear regression in table 6, RER movement have a significant negative effect on CSPI, because it is seen from the coefficient of the RER which is negative 0.987 and  $r^2$  value of 28.4% which means the contribution of the RER in influencing CSPI is quite large and significant.

In theory, Rupiah appreciation will have a positive and negative impact on CSPI. The appreciation of the rupiah will have a negative impact on export-based industries whose raw materials are domestic because the company will be uncompetitive in terms of price competition which will result in a decline in foreign exchange exports. It causes the company's ability to obtain profits to decline. As a result, the company's stock will be less attractive in the world of investment which has an effect on decreasing the company's stock price. RER fluctuations greatly affect the condition of foreign exchange reserves

and the balance of payments, which are indicators of the level of risk in investing in a country, so the trade balance deficit and the amount of domestic foreign exchange reserves will not motivate domestic and foreign investors to invest in the domestic stock market .

In addition, the appreciation of the rupiah can also have a positive impact on domestic market-based industries whose raw materials use imported raw materials because this company will reduce production input costs. It will increase the company's ability to earn profits. As a result, the company's stock will be attractive in the investment world.

The results of this research support the research of Gurloveleen & Bhatia (2015); Hsing (2014); Gumilang (2014) which states that interest rates have a significant negative effect on CSPI. But, it does not support the research of Jamaludin, Ismail, & Ab Manaf (2017) which states that the RER has a significant positive effect on CSPI.

#### c. Influence of MS on CSPI

Based on the results of t test analysis using multiple linear regression in table 6, MS movement have a negative effect but not significant to CSPI, because it is seen from the MS coefficient which is negative 0.494 and  $r^2$  value of 4.5% which means that the contribution of MS in influencing CSPI is very small and not significant.

In theory, the money supply (MS) can have a positive and negative effect on CSPI. MS can have a positive effect because the MS is related to business cycle expansion. An increase in the MS can add to the company's funding sources so that they can expand their business more broadly, the purpose of which is to expand marketing. It can improve company performance. If the company's performance increases, investors will glance at the company's stock.

But, in this research states that MS has a negative insignificant effect. One of the factors that can increase MS is inflation. Inflation causes the price of goods in crease. The increase in MS will cause a decrease in the value of investment in stocks because individual investors will use more money to buy goods, especially basic goods rather than having to invest the money. Thus, the stock price will decline. However, for some people the existence of inflation is not their main problem to invest, because the Regional Minimum Wage always increases every year. So the proportion of funds commonly used for investment will be constant. This is what causes MS to not significantly affect CSPI movements.

The results of this research support Gurloveleen & Bhatia (2015) which states that MS has a negative effect on CSPI, but does not support the research of Pražák & Stavárek (2017) which states that MS has a positive effect on CSPI.

#### d. Effect of WOP on CSPI

Based on the results of t test analysis using multiple linear regression in table 6, changes in WOP have a positive but not significant effect on CSPI, because it is seen

from the WOP coefficient which is positive 0.017 and  $r^2$  value of 0.3% which means that the contribution of WOP to influence CSPI is very small and not significant.

In theory, world oil prices (WOP) can have a positive or negative effect on CSPI. Fluctuating WOP can affect a country's capital markets. For companies engaged in the mining sector, rising world oil prices can provide benefits because the company's profit will increase. It will attract investors to invest their funds in the company's stock because they are considered to be able to provide high dividends. However, the increase in world oil prices will make companies engaged in sectors outside mining suffer losses, such as infrastructure and consumption companies that use oil as a raw material in their production processes because production costs will increase. The increase in production costs will reduce the net profit post so that the company's stocks are less attractive to investors. The results of this research indicate that the effect of the increase in world oil prices is not significant because the positive influence is only on the mining industry, while in the Indonesia Stock Exchange there are many industrial sectors that are not related to oil in the production process, such as finance, trade, services and investment, property. So that the increase in world oil prices did not significantly affect the CSPI movement.

The results of this research support Gurloveleen & Bhatia (2015) who stated that world oil prices had a positive effect on CSPI. However, the results of this research do not support the research of Effiong (2014) and Gumilang (2014) which states that world oil prices have a negative effect on CSPI.

## CONCLUSIONS

Based on the results of research and discussion, it can be concluded as follows:

1. Based on the results of testing simultaneously, it shows that the variables of GDP, SBI, RER, MS, and WOP together have a significant effect on the Composite Stock Price Index (CSPI).
2. Based on the results of the partial test, indicating that the GDP variable has a negative insignificant effect on CSPI, SBI has a positive insignificant effect on CSPI, RER has a negative significant effect on CSPI, MS has negative insignificant effect on CSPI, and WOP has a positive insignificant effect on CSPI .
3. The variable that most influences CSPI among all the independent variables is the RER against the dollar. That is 28.4%, because the RER movements greatly affect foreign exchange reserves and balance of payments where both of these are indicators of the level of risk in investing in a country.

This research has limitations (1) The model is only able to explain 40.6%, the rest is explained by other variables outside the model. (2) This study does not pay attention to the company's fundamental factors, but only looks at macroeconomic and global

factors. (3) This study only examines the condition of the Composite Stock Price Index on the Indonesia Stock Exchange only.

## RECOMMENDATIONS

Based on the results of research and limitations, the suggestions that can be given to all parties to be used as references are (1) For further research, it must add other fundamental and macroeconomic variables that might influence CSPI. (2) Investors should pay more attention to changes in the RER against the dollar because it has a significant impact on the CSPI. (3) Further research should use a longer period, so the condition of the capital market in Indonesia can be obtained. (4) Further research should also examine macroeconomic and global influences on stock exchanges in other countries as a comparison with the Indonesia Stock Exchange (IDX).

## LITERATURE CITED

- Effiong, E. L. (2014). Oil price shocks and Nigeria's stock market: what have we learned from crude oil market shocks?. *OPEC Energy Review*, 38(1), 36-58. Retrieved on February 19, 2019 from <https://goo.gl/9H7X2z>
- Gumilang, R. C. (2014). Pengaruh variabel makro ekonomi, harga emas dan harga minyak dunia terhadap indeks harga saham gabungan (Studi pada Bursa Efek Indonesia Periode 2009-2013). *Jurnal Administrasi Bisnis*, 14(2). Retrieved on February 19, 2019 from <https://goo.gl/JZEC2R>
- Gurloveleen, K., & Bhatia, B. S. (2015). An impact of macroeconomic variables on the functioning of Indian stock market: A study of manufacturing firms of BSE 500. *Journal of Stock & Forex Trading*, 5(1), 160-167. Retrieved on February 19, 2019 from <https://goo.gl/4AvKLM>
- Halim, A. (2015). Analisis Investasi di Aset Keuangan. *Jakarta: Mitra Wacana Media*. Retrieved on February 19, 2019 from <https://goo.gl/rqmhmj>
- Hsing, Y. (2014). Impacts of macroeconomic factors on the stock market in Estonia. *Journal of Economics and Development Studies*, 2(2), 23-31. Retrieved on February 19, 2019 from <https://goo.gl/XH2Gcj>
- Jamaludin, N., Ismail, S., & Ab Manaf, S. (2017). Macroeconomic variables and stock market returns: panel analysis from selected ASEAN countries. *International Journal of Economics and Financial Issues*, 7(1). Retrieved on February 19, 2019 from

<https://goo.gl/5jjdnK>

- Kusuma, I. P. M. E., & Badjra, I. B. (2016). Pengaruh Inflasi, Jub, Nilai Kurs Dollar Dan Pertumbuhan GDP Terhadap IHSG Di Bursa Efek Indonesia. *E-Jurnal Manajemen Universitas Udayana*, 5(3). Retrieved on February 19, 2019 from <https://goo.gl/ynUoNK>
- Pražák, T., & Stavárek, D. (2017). The relationship between stock market development and macroeconomic fundamentals in the Visegrad group. *Comparative Economic Research*, 20(3), 5-23. Retrieved on February 19, 2019 from <https://goo.gl/qkY8mp>
- Salsabila, A. (2018). VALUE AT RISK AND EXPECTED RETURNS OF PORTFOLIO COMPANIES LISTED ON LQ45 INDEX PERIOD 2013-2016. Retrieved on February 19, 2019 from <https://goo.gl/FfXsH9>
- Samsul, M. (2015). Pasar Modal dan Manajemen Portofolio (Edisi 2). *Jakarta: Erlangga*. Retrieved on February 19, 2019 from <https://goo.gl/mMjj8z>
- Singh, G. (2016). The Impact of Macroeconomic Fundamentals on Stock Prices Revised: A Study of Indian Stock Market. Retrieved on February 19, 2019 from <https://goo.gl/xKfj6E>
- Sukirno, S. (2003). Pengantar Teori Mikroekonomi Edisi Ketiga. *Grafindo. Jakarta*. Retrieved on February 19, 2019 from <https://goo.gl/2dXzVV>
- Tandelilin, E. (2010). *Portofolio dan Investasi: Teori dan aplikasi*. Kanisius. Retrieved on February 19, 2019 from <https://goo.gl/vVeMrR>