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THE INFLUENCE OF DOLLAR EXCHANGE RATE, THE DOW JONES INDEX AND THE INTEREST RATE OF BANK INDONESIA CERTIFICATES (SBI) ON THE COMPOSITE STOCK PRICE INDEX (DURING THE PERIOD OF JANUARY 2015 TO DECEMBER 2015)

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ABSTRACT

The capital market is one of the investment alternatives for investors. Investors who are willing to invest in the stock market can invest in the Indonesian Stock Exchange (BEI). One index that is often overlooked by investors when they invest in the Indonesia Stock Exchange is the Composite Stock Price Index (CSPI) because, through the movement of the Composite Stock Price Index, the investors can see whether market conditions are energized or lethargic. Some things that need to be considered by investors in investing is the exchange rate of the dollar, Dow Jones index and the interest rate of the certificate of Bank Indonesia. This study aims to test and prove empirically the effect of the dollar exchange rate, the Dow Jones Index, and the interest rate of the certificate of Bank Indonesia upon the Composite Stock Price Index during the period January 2015 to December 2015. The sampling technique used in this study is purposive sampling with the number of the data processed as many as 121. The data analyzed is conducted by means of multiple linear regression methods. The results show that the variables of Dollar exchange rate, Dow Jones, and the Interest Rate of Bank Indonesia Certificate simultaneously affect the Composite Stock Price Index (CSPI), whereas, in partial the Dollar exchange rate, Dow Jones Index, and the rate of interest Bank Indonesia Certificate do not affect the Composite Stock Price Index.

Keywords: Composite Stock Price Index (CSPI), Dollar Exchange Rate, Dow Jones Index, the Interest rate of Bank Indonesia Certificate

INTRODUCTION

Capital markets are markets for buying and selling equity and debt instruments. Capital markets channel savings and investment between suppliers of capital such as retail investors and institutional investors, and users of capital like businesses, government, and individuals. Capital markets are vital to the functioning of an economy since capital is a critical component for generating economic output. Capital markets include primary markets, where new stock and bond issues are sold to investors, and secondary markets, which trade existing securities. The capital market is one of the investment alternatives for the investors. Investment is the act of committing money or capital to an endeavor with the expectation of obtaining an additional income or profit. It is actually pretty simple, investing means putting your money to work for you. In this capital market, the investors can choose the object of investment with various rates of returns and the possible risk they meet, whereas, for the emittents, they can raise their long-term funds for supporting the survival of their business. One of the investment activities that the investors can choose is doing the investment in the capital market.

The investors who are interested in putting their money or capital in the capital market can invest in the Indonesia Stock Exchange. Indonesia Stock Exchange (Indonesian: Bursa Efek Indonesia) is a stock exchange based in Jakarta, Indonesia. It was previously known as Jakarta Stock Exchange (JSX) before, its name changed in 2007 after merging with Surabaya Stock Exchange (SSX). As the end of 2012, the Indonesia Stock Exchange had 462 listed companies with a combined market capitalization of $426.78 billion. This merger is conducted in order to be efficient and effective in doing its operations and transactions. To provide the investors with more comprehensive information about the development of Exchange, Indonesia Stock Exchange

spreads the data of the stock price through the electronic and the printing media. One indicator of the stock price movement is the stock price index. One of the indices that are often overlooked by the investors when investing in Indonesian Stock Market is the Composite Stock Price Index. It is due to this reason that index lists of all shares listed on the Indonesia Stock Exchange. Therefore, through the movement of the Composite Stock Price Index, the investors can see whether the market conditions are skittish or lethargic. The differences in these market conditions would require different strategies of investors in investing their capital.

For those companies that actively export and import, the stability of the exchange rate of the dollar against the rupiah become important because when the value of the rupiah depreciates to the US dollar, this will bring about the imported goods to be expensive. If most of the raw materials employed by the company are imported, it will automatically lead to the increased production costs. The increase in production costs will certainly reduce the level of corporate profits. The fall in the level of corporate profits will certainly affect the interest of the investors in buying the shares of the company concerned. In general, this will push down the stock price index in the country.

In addition, one of the economic variables that can be used to measure the economic performance of a country is the stock index in the country. This is possible because when the country has a bright economic outlook, investors will automatically be interested in investing their funds in the stock market of the country. This will encourage the bullish period that encourages the movement of the stock indices. Likewise, when the economic atmosphere is perceived gloomy, it will be reflected that stock index will go down. For the United States, the index that can be used as a proxy is the Dow Jones Index. The Dow Jones is the oldest stock market index in the US and is a representation of the performance of the most important industry in the United States. The company listed in the Dow Jones Index is generally a multinational company. Their operations spread across the globe. The companies such as Coca-Cola, Exxon, Citigroup, Procter & Gamble are the examples of companies listed in the Dow Jones. These companies generally operate directly in Indonesia.

The Dow Jones Index which rises indicates that the performance of the economy of the United States, in general, is in a good position. Under this good economic condition, it will drive the Indonesian economy, namely either through exports or capital markets (Sunariyah, 2006). The inflows of capital through the capital market will certainly have an influence on the change in the Composite Stock Price Index. Similarly, it also affects the interest rate of Bank Indonesia certificates. The policy of the interest rates in Indonesia is controlled directly by Bank Indonesia through the BI rate. BI rate is the response given by the central bank towards the inflationary pressure ahead in order to remain at the targets. The change in the BI rate will automatically trigger a reduction in interest rate of loans and deposits. For the investors, the decline in the interest rate of deposit will reduce the level of benefits when they have invested their funds in deposits. In addition, the reduction of the lending interest rates, the capital costs will be small and thus it can be easier for the companies to obtain additional funds at a low cost to increase productivity. The increased productivity will encourage the increase in profits, it can be an attraction for the investors to invest their funds in the capital market.

Problem Statement

A composite index is a grouping of equities, indexes or other factors combined in a standardized way, providing a useful statistical measure of overall market or sector performance over time, and it is also known simply as a "composite index." Usually, a composite index has a large number of factors that are averaged together to form a product representative of an overall market or sector.

The exchange rate is one of the indicators of affecting activity in capital market because investors tend to be careful to make an investment portfolio, depreciate of rupiah exchange rate against foreign currencies especially dollars have a negative influence on economic and capital market. Sitinjak and Kurniasari (2003); Samsul (2006:202) mentioned that change on one macroeconomic variables gave impact on stock prices, even a share can be affected positively while other stock affected negatively. Based on the description above, the problem in this research is formulated as follows:

1. Does the US Dollar Exchange Rate affect the composite stock price Index?

The Dow Jones Index also plays an important role in an economy. The Dow Jones Index is used because it is the

most quoted stock market index in the world. The changes in this index are often perceived to be representative of the entire stock market.

2. Does the Dow Jones Index affect the composite stock price Index?

BI Rates (X2), is the price of securities issued by the Bank with the monthly returns to attract or increase the money supply. The BI Rate is announced by the Board of Governors of Bank Indonesia in each monthly meeting of the Board of Governors. It is implemented in the Bank Indonesia monetary operations conducted by means of liquidity management on the money market to achieve the monetary policy for operational target. The monetary policy operational target is reflected in movement in the Interbank Overnight (O/N) Rate. It is then expected that bank deposit rates will track the movement in interbank rates, with bank lending rates following suit. While other factors in the economy are also taken into account, Bank Indonesia will normally raise the BI Rate if future inflation is forecasted ahead of the established inflation target. Conversely, Bank Indonesia will lower the BI Rate if future inflation is predicted below the inflation target.

The inflation rates are one of the important macroeconomic indicators. The price of the stock will be affected by a variety of macroeconomic policy on the stock market, in a market economy, inflation, be the first to bear the brunt of commodity prices. Commodity price changes can make all kinds of resources in the market have some degree of tilt or changes. The re-allocation of resources results will have a significant impact on each link in the market economy. The fictitious capital stock as an important component in the sure will be implicated. Based on the description above, the problem in this research is formulated as follows:

3. Does the Rate of BI certificate affect the composite stock price Index?

The Goal of this Research

The goal of this research is to get the empirical evidence whether the variables of the Dollar Exchange Rate, the Dow Jones indices, and the interest rate of Bank Indonesia have an influence on the Composite Stock Price Index.

The Usefulness of this research

The usefulness of this research for academicians is to know the results of the analysis of the influence of the dollar exchange rate, the indices of the Dow Jones and the interest rate of Bank Indonesia on the Composite stock price Index in Indonesia Stock Exchange, and for the investors as well as the monetary side. This research can be the information for them to make the investment decisions and set a policy.

LITERATURE REVIEW AND FORMULATION OF HYPOTHESIS

Exchange Rate

The exchange rate is the price of a nation's currency in terms of another currency (Slamat, 2004). The exchange rate is one of the indicators that affect the activities in the stock market and in the currency market because the investors tend to be careful to make an investment portfolio. Depreciation of the rupiah exchange rate against the foreign currencies, especially the US dollar have a negative influence on the economy and capital markets. The change in the macroeconomic variables has a different impact on the stock prices, i.e., a stock can be subjective to the positive impact, and another stock is negatively affected. For example, the depreciated exchange rate rupiah against the Dollar exchange rate which will have the sharp effect on the stock price of the import-oriented company. Meanwhile, the export-oriented company will receive the positive impact of the depreciation of the rupiah against the US dollar. This means that the stock prices which are negatively affected will experience a decrease in the Indonesia Stock Exchange (BEI), while the companies that positively affected its stock price will rise. Furthermore, the Composite Stock Price Index (CSPI) will also be affected negatively or positively, depending on the impact of the dominant group.

Currency exchange rate shows the price of the currency exchanged for another currency. Determining the value of a country's currency exchange rates with another country's currency, like the goods, by the demand and the supply of the currency in question. This law also applies to the rupiah exchange rate, if demand on Rupiah is greater than its supply, Rupiah exchange rate will be appreciated, and vice versa. Appreciation or depreciation will occur if a country adopts a policy of free floating exchange rate so that the value of exchange will be determined by market forces.

Today, most of the raw materials for the companies in Indonesia still rely on imports from abroad. When rupiah depreciates, this will lead to higher cost of raw

material. The increase in production costs will reduce the level of corporate profits. For investors, the projected decline in the rate of profit will be viewed negatively. This will encourage investors to sell their shares owned. If many investors sell their shares, it will encourage a decrease in the Composite Stock Price Index (CSPI). For investors alone, the depreciation of the rupiah against the dollar indicates that Indonesia's economic outlook is gloomy because depreciation can happen when the economic fundamentals of Indonesia are not so strong then the dollar will strengthen, and will lower the Composite Stock Price Index in BEI (Sunariyah, 2006). This will certainly avoid the risk, so investors are likely to sell and wait until the perceived economic situation improves. The sell-off conducted by the investors will push down the stock price index on the Stock Exchange and are turning to the US dollar (Jose, 2007).

Index of Dow Jones

The Index of Dow Jones is the oldest stock market index in the US. The Dow Jones is one of the three major indexes in the United States. The other indexes are the Nasdaq Composite and the Standard & Poor's 500. The index of Dow Jones presents the economic activity in the United States. This index can describe the US economic performance. The companies listed in the Dow Jones are the big company that has been operating globally.. The rise in the Dow Jones Index means that the performance of the US economy improves as well. As one of the countries exporting to Indonesia, Indonesian exports, the US economic growth can encourage the growth of the Indonesian economy through exports and capital investment either directly or through the capital market.

The Level of Interest Rate of Bank Indonesia Certificates (SBI)

The interest rate is one of the most important factors to consider in making the investment decisions. Dornbusch, *et al.,* (2008) the interest rate is the rate of annual interest payments of a loan obtained from the amount of interest earned each year divided by the number of loans. Interest rates are the payments made for the use of money, or the amount of interest to be paid per unit of time. In other words, people have to pay for the opportunity to borrow money, while the interest rate is determined by demand and supply of money (determined in the money market).

Change in the interest rates, will then influence the desire to hold investments, for example in securities, where the prices can go up or down depending on the level of interest (if the interest rate rises, the securities fall and vice versa), so that there is the possibility for holders of the securities, will suffer a capital loss or capital gains. Based on the circular letter issued by Bank Indonesia No. 8/13/ DPM on Bank Indonesia Certificate Issuance via auctions, Bank Indonesia Certificates, hereinafter referred to as SBIs, are securities in rupiah currency issued by Bank Indonesia in recognition of short-term debt. As the monetary authority, Bank Indonesia is obliged to maintain rupiah stability. In the paradigm adopted, the excess amount of primary money (currency and demand deposits) at Bank Indonesia can reduce the stability of the rupiah. Bank Indonesia Certificates are issued and sold by the Bank Indonesia to reduce the excess primary money.

Bank Indonesia is currently using the SBI interest rate as one of the instruments to control inflation. If the inflation is perceived to be quite high, Bank Indonesia will raise interest rates to curb the rising inflation of SBI. The changes in the interest rates of SBI will give an effect on the capital market and the financial markets. When the interest rate rises, it will directly increase the interest expense. Companies that have high leverage will get a very heavy impact on interest rate hikes.

The increase in interest rates could reduce the profitability of the company so as to give effect to the company's stock price. In addition to the increase in the interest expense, SBI interest rate that can cause the investors to be interested in transferring their funds to saving. This happens because the increase in the SBI interest rate will be followed by the commercial banks to raise the interest rates on saving. If the saving interest rate is higher than the rate of return expected by the investors, of course, the investors will shift their funds to saving. Moreover, the investment in saving itself is a kind of a risk-free investment. The transfer of funds by investors from the capital market to the deposit would result in massive stock sales that will lead to the decrease in the stock price index. For the people themselves, the high-interest rate brings about the high rate of inflation in the country. The high inflation will cause a reduction in the real consumption level of the community because the value of money held by the public is reduced. This will cause consumer spending on

goods produced by the company will be reduced. This will certainly reduce the level of corporate earnings, which in turn will affect the company's stock price.

Composite Stock Price Index

The index of stock price compares the change in the stock price changes over time, so it can be seen whether a stock price declines or rises compared to a certain time. Composite Stock Price Index (CSPI) is a value that is used to measure the combined performance of all shares listed on a stock exchange. The Composite Stock Price Index for the entire stock describes a series of historical information about the movement of the Composite Stock Price Index for all the shares, to the specific dates (Sunariyah, 2006) usually, the stock price movement is presented every day, based on the closing price of the stock on the day of the terse but Index served for a certain period.

Previous Research

This research is the development of the previous studies including the research conducted by MOK (1993) which resulted in the conclusion that there is no significant relationship between the interest rate and the exchange rate on stock prices. Gjerde and Saettem (1999) in his research on the causal relationship between stock returns with macroeconomic variables obtained results that changes in real interest rates negatively affect the stock price, on the other hand, changes in real interest rates also affect the rate of inflation. The results obtained are consistent with the results obtained in Japan and USA.

Wongbangpo and Sharma (2002) found that the exchange rate had a positive correlation with stock prices in the country of Indonesia, Malaysia and the Philippines, on the contrary, associated negative in Singapore and Thailand. Ruhendi and Arifin (2003) conducted a study on the impact of changes in the rupiah and index of Dow Jones on the New York Stock Exchange on the Composite Stock Price Index I the period from February 1, 2001 until January 31, 2002 and concluded that the change of the rupiah and Dow Jones Index has a significant influence on price index joint stock. Chiarella and Gao (2004) stated that the interest rate has the negative effect on the market return. Hooker (2004) in his research concluded that the interest rate has the negative effect on stock returns.

Handayani (2007) in her research proved that the SBI interest rate has the negative effect on the Composite Stock Price Index, whereas US dollar exchange rate and the inflation rate has a positive effect on the Composite Stock Price Index. Kandir (2008) proves that the interest rate affects negatively the return of all portfolios studied. Muharram (2008) on the analysis of the effect of the exchange rate and index of Dow Jones industrial average of the stock price index for the period of January 2005 to December 2006, concluded that the exchange rate has negative effect on the stock price index while the index of Dow Jones has effect on the Composite Stock Price Index.

Murwaningsari (2008) also conducted her research on the effects of the SBI interest rate on the Composite Stock Price Index influence the trading volume, while the exchange rate is not influenced at all by the Composite Stock Price Index. Initiative (2008) is based on research conducted from January 2003 to June 2007. It was concluded that the SBI interest rate, the middle rate of Bank Indonesia, the inflation rate and stock index Dow Jones on the New York Stock Exchange has a significant effect simultaneously on the Composite Stock Price Index, which means that the exchange rate of the BI, the inflation rate and the Dow Jones Index has a partial effect on the Composite Stock Price Index .

Mansur (2009) pointed out his research results that the SBI interest rate and the US Dollar exchange rate had a significant influence, partially the SBI interest rate in the period 2000-2002 did not have a significant influence on the Composite Stock Price Index. A significant effect was given by the US dollar exchange rate and the effect of the US dollar exchange rate against the Composite Stock Price Index was approximately 51.55% to the direction of the negative effects, meaning that if the rupiah depreciated against the US dollar, the Composite Stock Price Index would weaken and vice versa, if the rupiah depreciated against the US dollar the Composite Stock Price Index would be strengthened.

Kewal (2012) suggested that the rupiah exchange rate has a significant and negative effect, while the inflation rate, the interest rates and GDP growth of SBI have no influence on the Composite Stock Price Index. Krishna (2013) conducted a study for the period from January 2008 until August 2012 and the results showed that simultaneous inflation rate, exchange rate and interest rates of SBI had significant effect on the Composite

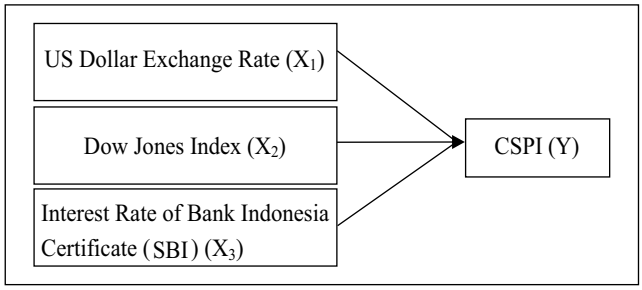
Stock Price Index while the rate of inflation and the exchange rate have significant effect but only partially on the Composite Stock Price Index at Indonesia stock exchange.

Based on the above study, the hypothesis can be formulated as follows:

The US Dollar exchange rate, the Dow Jones Index and the Interest Rate of SBI affect the Composite Stock Price Index (CSPI).

Based on the hypothesis proposed, the research model can be seen as follows:

Figure 1. Research Model



RESEARCH METHOD

The design of this study employs a quantitative approach and two types of variables, the independent variable, and the dependent variable. The independent variable includes the US Dollar exchange rate (X_1), Dow Jones Index (X_2), and the Interest Rate of SBI (X_3), while the dependent variable is the Composite Stock Price Index (Y).

The Operational Definition and The Variable Measurement

- **The Composite Stock Price Index (CSPI) (Y).** CSPI is the Composite Stock Price Index issued by the Indonesia Stock Exchange every day. The data of CSPI is obtained directly, and the data used are the data at the end of every month during the observation period of January 2005 to January 2015.
- **The US Dollar Exchange Rate (X_1).** The exchange rate used is the US dollar against the Middle rupiah exchange rate issued by Bank Indonesia.
- **The Dow Jones Index (X_2).** An index that can be used to measure the performance of companies engaged in the US industry sector. The Dow Jones Index consists of 30 major and leading companies in the United States. The Data used is monthly data from January 2005 to January 2015.
- **The Interest Rate of SBI (X_3).** The interest rate of SBI is issued by Bank Indonesia at the end of the month in accordance with the decision of the governor council meeting. Data used are the data at the end of every month during the observation period of January 2005 until January 2015.

Sample Selection and Data Collection

The population in this study is the entire data of Composite Stock Price Index (CSPI) since the Indonesian stock exchange was established. The data used in this research is the data of CSPI, the US dollar exchange rate, Dow Jones Index, the Interest Rate of SBI, which is limited to monthly data from January 2005 until January 2015. Sampling technique used in this research is purposive sampling method. Purposive sampling (also known as judgment, selective or subjective sampling) is a sampling technique in which researcher relies on his or her own judgment when choosing members of the population to participate in the study. Purposive sampling is a non-probability sampling method and it occurs when elements selected for the sample are chosen by the judgment of the researcher. Researchers often believe that they can obtain a representative sample by using a sound judgment, which will result in saving "time and money" so that there are 121 samples for the variables of US Dollar exchange rate, Dow Jones Index, and the Interest Rate of SBI. The method of data collection used in this study is by means of the secondary data obtained from the documentation, and the data that are attained are not obtained directly from the object under study. The necessary data are obtained from Bank Indonesia and the Dow Jones Industrial in New York Stock Exchange as well as the literature dealing with the problems examined.

Model of Analysis

In this study, Multiple linear regression analysis is used to test the hypothesis statistically. The equation of the Multiple linear regression analysis is as follows:

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

Note: Y = Composite Stock Price Index (CSPI),

a= intercept or constant,

b1, b2, b3 = regression Coefficient, i.e., the magnitude

of change in Y when X changes by one unit,

X_1 = US Dollar Exchange Rates,

X_2 = Index of Dow Jones,

X_3 = The Interest Rate of SBI,

ei= standard error.

Technique of Data Analysis

The research hypothesis tested in this study is by means of the multiple linear regression analysis with SPSS 22.0 for windows, while the analytical techniques used include:

(1) The classical assumption test, namely to test the feasibility of using the regression model (the classical assumption test consists of the Multicollinearity test, and autocorrelation test).

(2) The multiple regression analysis that includes *t*-test (partial) and *F*-test (simultaneous).

RESULTS

The influence of the US Dollar Exchange Rate, the Dow Jones Index and Interest Rate of SBI on CSPI can be seen in Table 1 below:

Table 1: The Output of Regression Analysis

Independent Variable	**Un-Standardized (B) Coefficient**			
Constant	-9722.631	***t*-Calculated**	**Significance**	**Information**
US Dollar Exchange Rate (X_1)	0.321	1.427	0.171	Significant
Index of Dow Jones(X_2)	-0.011	-0.047	0.000	Insignificant
Interest Rate of SBI (X_3)	0.834	3.594	0.000	Significant
Multiple R = 0.821	*F*-count = 4.829	*F*-table = 2.68		
Rsquare = 0.674	Significance *F* = 0.040			
Adjusted R Square = 0.535	Durbin-Watson = 1.446			
Standard Error of Estimation = 314.74752				
Variable dependent: IHSG (Y)				

Source: Processed by SPSS.

Based on the results of Table 1 above, it can be obtained that the multiple linear regression equations is as follows:

$$\mathbf{Y=-9722.631+0.321X_1-0.11X_2+0.834\,X_3+e}$$

In a multiple regression equation, it can be seen that the independent variable X_2 has a negative relationship with the dependent variable. The independent variables consist of the US Dollar Exchange Rate (X_1) which has a positive influence and Dow Jones Index (X_2), having a negative influence and the variable of the interest rate of SBI (X_3) having a positive impact on CSPI (Y). This means that any change in magnitude for one unit on independent variables, they will increase one unit for the magnitude of CSPI for the regression coefficient times the units of each independent variable, and the variable of SBI interest rate (X_3) has a negative impact on CSPI (Y). This means that any change in magnitude for one unit on the independent variable, it will reduce the CSPI magnitude for one unit for the regression coefficient times the units of each independent variable.

Based on Table 1 above, it can also be seen that the value of multiple regression coefficient (Multiple R), namely R = 0.821. The coefficient of determination R Square = 0.674 and Adjusted R Square = 0.535. The correlation coefficient R = 0.821 can be interpreted that the variables of US Dollar Exchange Rate (X_1), Dow Jones Index (X_2), SBI Interest Rate (X_3) jointly correlate with the variable of CSPI (Y) that is equal to

82.1% at the significance level α = 0.040 (far below α = 0.05).

The value of R Square = 0.674 means that the fluctuation in the up and down of CSPI of 67.4% can be explained or influenced by variations of the fluctuating Dollar Exchange Rate Variable (X_1), Dow Jones Index (X_2), and the SBI Interest Rate (X_3), synergize together, while the remaining 22.6% is caused by the other factors or other variables not included in this variable.

The value of Adjusted R Square indicates the actual effect of the US Dollar Exchange Rate Variable (X_1), Dow Jones Index (X_2), and SBI Interest Rate (X_3) jointly on the CSPI (Y). The Adjusted R Square value is always smaller than the R Square. In the above table the value of Adjusted R2 < R Square or 0.674 < 0.821. This means that the value of R Square has been adjusted for the total sample and specific independent variables, which can still be improved by adding a number of independent variables. It required further research. The Value Adjusted by R Square which is relatively low provides advanced research opportunities by increasing the number of independent variables that have not been included in this study.

Hypothesis Testing

To prove the truth of the hypothesis, it is necessary to test the hypothesis by means of *F*-Test (Fisher test) to test the effect of the variables of US Dollar Exchange Rate (X_1), Dow Jones Index (X_2), Interest Rate of SBI (X_3) on the interest rate of CSPI while to test the partial effect of each individual independent variable on CSPI uses *t*-Test (Student test).

1. Classic Assumption Testing

In the use of multiple linear regression analysis, it is necessary to note whether the use of multiple linear regression models has met the classical assumptions to test the feasibility of the model used. It is necessary to detect the deviation symptoms of the classical assumptions as follows:

a. Multicollinearity

Multicollinearity is detected to determine whether the independent variables in a multiple linear regression equations is not correlated in perfect or near perfect because if there is a perfect correlation between the independent variables, it will be difficult to know which independent variables partially have an influence on the dependent variable. To detect the symptoms of multicollinearity, one of the ways is by means of VIF (Variance Inflating Factor), if VIF is smaller than 10 means that the multicollinearity does not exist.

Table 2: The Output of Multicollinearity Test

Variable	VIF
US Dollar Exchange Rate (X_1)	1.087
Dow Jones Index (X_2)	1.165
The Interest Rate of SBI (X_3)	1.157

Source : Process SPSS

The above table shows the test results of multicollinearity of the VIF of US Dollar Exchange Rate = 1.087; the VIF of Dow Jones Index = 1.165. At the interest rate of SBI, the value of VIF = 1.157. All the magnitude of the VIF values is smaller than 10 (standard VIF), so there is no multicollinearity among the independent variables.

b. Heteroscedasticity

Heteroscedasticity symptoms occur as a result of inequality of the residual variants one of the ways to detect the possibility of these symptoms is by means of the standardized test chart and residual normality. If the standardized residuals are close to or equal to 0 (zero), then the residual variance is distributed normally (homoscedasticity) which means that heteroscedasticity does not happen.

Heteroscedasticity test is the diversity of variants and variant residues so it can show a variation of the data distribution. This test can also use Spearman's rho test that correlates the residual value (unstandardized residual) with each independent variable. If the significance of the correlation is less than 0.05, then the regression model heteroscedasticity problems occur. From the analysis, it can be concluded that the value estimator for multiple linear regression analysis is acceptable and there is no bias due to the unstandardized value of all the independent variables is greater than 0.05.

c. Autocorrelation

The testing of autocorrelation is intended to determine whether there has been a serial correlation among the nuisances. To detect the presence or absence of autocorrelation, the testing can be done by using the Durbin-Watson test (dW). If the value of Durbin Watson

(dW) is greater than the value of Upper critical value (dU) or smaller than the Lower critical value, dL, i.e., (4 - dU), it means that there is no autocorrelation between errors bully. On the table above, the value of Durbin-Watson is dW = 2,036. While the value of dU in the table of Durbin-Watson is dU = 1.820 and 4 - dU = 2.180, so dU < dW < 4 - dU or 1.820 < 2.036 < 2.180. It means that there is no serial correlation or autocorrelation between error intruder.

Based on these results, it can be concluded that the multiple linear regression equations above is worth using because it does not deviate from the classical assumptions.

2. Simultaneous Testing (F-Test)

The Multiple regression of F-test results in the table above, the value of *F*-count = 4.829 at the significance level α = 0,000 which is greater than the *F*-table = 2.68 at significance level α = 0,05 so that H_0 refused and H_1 accepted. This means that the US Dollar Exchange Rate (X_1), Dow Jones Index (X_2), SBI Interest Rate (X_3) simultaneously have a significant influence on CSPI. Thus, the hypothesis stating that the US Dollar Exchange Rate (X_1), the Dow Jones Index (X_2), and the Interest rate of SBI (X_3) simultaneously have the significant influence on the Composite Stock Price Index (CSPI) has been proved and its truth can be accepted.

3. Partial Testing (*t*-test)

Table 3: T-test Result Analysis

Variable	*t*-count	*t*-table	Sig.	Hypothesis
US Dollar Exchange Rate (X_1)	1.427	1.645	0.197	Accepted
Dow Jones Index (X_2)	-0.047	1.645	0.964	Rejected
Interest Rate of SBI (X_3)	3.594	1.645	0.009	Rejected

Source "Processed Data"

Based on the table above, it can be seen that of the three independent variables used in this research, namely the US Dollar Exchange Rate, the Dow Jones Index and the Interest Rate of SBI, there is one variable that partially does not significantly affect the variable Composite Stock Price Index where *p*=0.197 > 0.05. So, based on the hypothesis that is made, it can be described as follows:

a. The US Dollar Exchange Rate (X_1): the value of t-count < t-table or 1.427 < 1.645 at significance level α = 0.197 > α = 0.05. This means that the effect of the US Dollar Exchange Rate (X_1) is not significant on the CSPI (Y), so H_0 accepted and H_1 rejected, assuming that Dow Jones Index (X_2), and SBI Interest Rate (X_3) are constant.

b. The Dow Jones Index (X_2): the value of t-count > t-table or 0.964< 1.645 at significance level α = 0,964 > α = 0.05. This means that the effect of the Dow Jones Index (X2) is not significant to CSPI (Y), so that H_0 accepted and H_1 rejected hypothesis, assuming that the US Dollar Exchange Rate (X_1), SBI Interest Rate (X_3) are in a constant state.

c. Interest Rate of SBI (X_3): the value of t-count > t-table or 3.594> 1.645 at significance level α = 0.09 >α = 0.05. This means that the effect of the interest rate of SBI (X_3) is not significant to CSPI (Y), so that hypothesis H_0 accepted and H_1 rejected, assuming that the US Dollar Exchange Rate (X_1) and the Dow Jones Index (X_2) are constant.

Based on these data, the hypothesis which states that the US Dollar Exchange Rate (X_1), the Dow Jones (X_2) and Interest Rate of SBI (X_3) partially have an insignificant influence on the CSPI in comparison with the US Dollar Exchange Rate (X_1), have been proven and can be accepted as true.

The Effect of Exchange Rate Dollar on the CSPI

The dollar exchange rate which has an effect on CSPI can be seen from the regression coefficient. In a multiple regression equations above. It appears that the US Dollar Exchange Rate (X_1) has a positive relationship but not significant with CSPI (Y). Partially, if there is an increase in magnitude of value for one unit to US Dollar Exchange Rate (X_1), then the magnitude of one unit will increase the magnitude of the value of CSPI or the regression coefficients b1 = 0.321, assuming independent variable Dow Jones (X_2), and the Interest Rate of SBI (X_3) are in a constant state (other things being equal).

Based on the results of these calculations, the hypothesis proposed in this study did not prove that the US Dollar Exchange Rate has no effect on CSPI. The results of this study are different from the results of research conducted by Handayani (2007) which concludes that the Dollar Exchange Rate has a significant, positive effect on the stock price index. Mansur (2009) suggests that the Dollar Exchange Rate has significant influence but with a negative direction. If the rupiah depreciated against the US dollar, the stock price index would likely weaken and vice versa, if the rupiah appreciated against the dollar, the stock price index would be strengthened.

The Effect of Dow Jones Index on the Composite Stock Price Index (CSPI)

The effect of the Dow Jones Index on the CSPI can be seen from the regression coefficient. In a multiple regression equations above, it can be seen that the Dow Jones Index (X_2) has a negative relationship with CSPI. This means that every increase in the Dow Jones Index, the Composite Stock Price Index will not increase. Partially, if there is an increased value of Dow Jones (X_2) is one, then its average will decrease the value of CSPI for the regression coefficient b2 = -0.11, assuming the independent variables of US Dollar Exchange Rate (X_1), and the Interest Rate of SBI (X_3) are in steady state.

Based on the results of these calculations, the hypothesis proposed in this study proved, that the Dow Jones Index has the negative effect on CSPI. The results of this study are different from that conducted by the Muharram (2008) in which the Dow Jones Index has the positive influence on the Composite Stock Price Index. Prakarsa (2008) in his research concluded that Dow Jones Index has an influence on the Composite Stock Price Index. Ruhendi and Arifin (2003) also concludes that the Dow Jones Index has a significant influence on the stock price index.

The Effect of the Interest Rate of SBI on the Composite Stock Price Index (CSPI)

The Influence of the Interest Rate of SBI (X_3) on CSPI can be seen from the regression coefficient. In a multiple regression equations above, it appears that the Interest Rate of SBI (X_3) has the positive relationship with the CSPI. This means that every increase in Interest rate of SBI will make the CSPI increase. Partially, if there is an increased value of one unit of the SBI Interest Rate (X_3) then the CSPI will have the increased value of one unit and it is reflected in the regression coefficient b2 = 0.834, assuming the US Dollar Exchange Rate (X_1), and the Dow Jones Index (X_2) are in a fixed state, whereas if all the independent variables are in a steady state, then the average of CSPI has the value equal to the intercept coefficient constant, for example, bo = -9722.631 meaning that there an inverse relationship because it is in a minus state (-).

Based on these results, the hypothesis proposed in this study proves that the SBI Interest Rate does not affect the CSPI, although it has the negative direction. The changes in the Interest Rates of SBI will not give effect to the capital market and the financial markets. When the interest rate rises, it will directly decrease the interest expense. The companies that have high leverage will not get a very heavy impact on the hikes of the interest rate. The increase in the interest rates cannot reduce the profitability of the company so as not to give effect to the stock price of the company concerned, which can directly affect the stock price index.

The results of this study are equal to the research output conducted by Chiarella and Gao (2004), Handayani (2007), Kandir (2008) and Murwaningsari (2008), which proved that the SBI Interest Rate had the negative effect on CSPI. And the result of this study is also equal to the research conducted by Prakarsa (2008), Mansur (2009), Kewal (2012) and Krisna (2013) which concluded that the SBI Interest Rate had no effect on CSPI.

CONCLUSION AND RECOMMENDATIONS

This research aims to continue the previous studies dealing with the influence of the US Dollar Exchange Rate, the Dow Jones Index, the Interest Rate of Bank Indonesia Certificate (SBI) on the Composite Stock Price Index (CSPI). Based on the analysis and discussion that has been put forward, some conclusions can be drawn as follows:

The US Dollar Exchange Rate, the Dow Jones Index and the Interest Rate of SBI simultaneously affect the Composite Stock Price Index (CSPI). In partial, the US Dollar Exchange Rate, the Dow Jones Index, and the Interest rate of Bank Indonesia Certificates (SBI) do not affect the Composite Stock Price Index.

For investors who want to invest in the Indonesia Stock Exchange, they should pay attention to the movement of the four variables, because based on the calculation of adjusted R-square values obtained amounted to 0.535 means that the variation of the independent variables used in this study could explain 53.5% of the variation of dependent variables.

This means that the movement of the Composite Stock Price Index can be predicted from the movement of three independent variables.

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