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碩士論文

Master's Thesis

通膨、利率、匯率及標準普爾**500**指數對印尼雅加達

綜合指數之影響

The Influences of Inflation, Interest Rate, Exchange Rate, and S&P 500 on Indonesia Composite Stock Price Index

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Advisor: Prof. Jason Cheng-Hsien Tsai

中華民國一〇八年六月

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Hanifa Nur Fadhilla

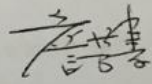通膨、利率、匯率及標準普爾500指數對印尼雅加達綜
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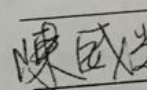Is Approved by the Oral Examination Committee
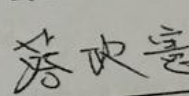
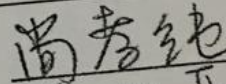/經本委員會審議通過

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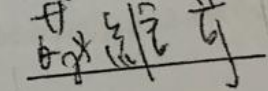
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國立政治大學商學院國際經營管理英語碩士學位學程

Abstract

The Influences of Inflation, Interest Rate, Exchange Rate, and S&P 500 on

Indonesia Composite Stock Price Index

By

Hanifa Nur Fadhilla

This research is aimed to investigate the influence of inflation, interest rate, exchange rate, and S&P 500 on Indonesia Composite Stock Price (I-CSPI). This study examines the factors influencing I-CSPI in Indonesia Stock Exchange (IDX). The period of this study is from 2014 to 2018. The object of this research is I-CSPI. This study used secondary data. The hypotheses are examined using four models to support the factors influencing I-CSPI.

The result of this research expressed that from independent variables do not influence I-CSPI. Thus, the hypotheses are rejected. This research result derives from t-test statistics. Based on F-test, independent variables are not simultaneously influence I-CSPI.

Keyword: inflation, interest rate, exchange rate, S&P 500, Indonesia Composite Stock Price Index

Introduction

Background

The stock market index is an indicator that illustrates the comprehensive market circumstances. It helps the investors in analyzing the comprehensive market model. The investors capture stock market as a reference to make a determination for investing. There are several importance of stock market index: Firstly, Helps in stock-picking. In a stock market, we see a lot of companies listed in the exchange. Extensively, choosing the right stock for investment may seem not easy. Beyond a reference point, we may not competent to make distinction among the stocks. At the same time, classifying the stocks becomes demanding. In this circumstance, a stock market serves like prompt differentiator. It distinguish the companies and their stocks depend on essential aspects such as company size, field, and others.

Secondly, Undertakes in the role of a representative. Investing in equities associates uncertainty and we need to take an informed selection. Indices assist to meet the learning differences that occur among the investors. They depicts the movement of the entire market and particular sector. Thirdly, Guideline for associate comparison. Earlier including a stock in our portfolio, we have to appraise whether it is value the money. By considering the underlying index, we are able effortlessly assess the stock performance. We may also analyze the index with a set of stocks. In the role of an investor, we are able to recognize market movements smoothly.

Fourthly, Reveals investor tendency. When we are engaging in equity markets, among other things, recognizing investor tendency becomes a substantial aspect. It is due to the tendency influences the demand for a stock which in turn impacts the overall price. In order to invest in the right stock, we should notice the motive of rise or fall in prices. We may notice investor tendency for a specific sector and across market capitalizations.[1]

Indonesia Composite Stock Price Index (I-CSPI) is a reflection of capital market activities in Indonesia. An increase of I-CSPI shows bullish circumstance of the capital market.

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[1] https://cleartax.in/s/stock-market-index

Contrary, a decrease of I-CSPI shows bearish circumstance of the capital market. Therefore, an investor must understands the pattern of stock price in capital market. An index that often considered by investors when they investing in Indonesia Stock Exchange (IDX) is I-CSPI. It is due to this index as composite index of all stocks listed in Indonesia Stock Exchange (IDX). Through movement I-CSPI, an investor can know market circumstance whether in passionate circumstance or not. The difference of this market circumstance need the different strategy by investors. I-CSPI firstly introduced on April 1, 1983 as an indicator of all stock prices movement listed in Indonesia Stock Exchange (IDX) both common stock and preferred stock.[2] An index is a statistical measure usually used in order to express the changes of group variable values. Hartono (2000) confirmed that I-CSPI actually is a good stock price index that can reflect the market's trend.

In stock ownership, there is a stock block holder that holds at least five percent of the entire equity of a company (Abor & Beikpe, 2006). The important element of stock block ownership by external party is the stronger monitoring over the manager or insider so as to reduce the agency problem between management and stockholders (La Porta et al., 1999). The opposite occurs when the stock block ownership is dominated by the company's management. This can make the management feels free to make decisions even it could hurt the company. The stock block ownership which is dominated by management can lower the company value due to the growing problem of agency and the exploitation on minority stockholders (Lins 2003).

The type of stockholders may affect the type of information they demand from the company. For example, the demand for information is getting higher if the company has larger percentage of foreign ownership (Schipper, 1981; Siregar et al, 2010). Multinational companies or companies with larger foreign ownership tend to reflect on the practices undertaken by foreign entities, on terms that are not specifically regulated in the rules of domestic legislation in an effort to attract more investment, to meet the expectations of foreign investors, and to ensure their long-term survival prospects (Dimaggio & Powell 1983)

A foreign ownership remains dominate with portion 66% of stock ownership in Indonesia Stock Exchange (IDX). It caused stock market is vulnerable toward global financial

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[2] https://www.sahamonline.id/2017/05/pengertian-indeks-harga-saham-gabungan.html

circumstance due to financial ability of the owners. According to Tempo (2017), The Indonesia Stock Exchange (IDX) revealed that stock ownership of foreign investors throughout 2017 keeps increasing to IDR 1.878 trillion compared to the end of 2016 with IDR 1.691 trillion. An increasing foreign ownership in domestic stock market indicates that Indonesia's economic fundamental is still strong. Therefore, foreign investment funds are actually not released, they only realize some of the profit, and we need to be optimistic about the future development.

There are many factors that influence I-CSPI, for instance, economic indicators, global oil price, global economic circumstance, and country political stability. In this research, we are willing to identify whether inflation, interest rate, exchange rate, and foreign stock index influence I-CSPI movement. First variable is inflation. Inflation defined as a tendency of ascending price generally and continuously (Boediono, 2001). A value of money has never been stable in the world economy, while the price of goods or services tended to increase. This will cause the purchasing power of currency has been down, so it will result inflation.[3] The increasing of inflation number will cause deteriorating economy. Thus, it will cause in declining of company's profit that resulted stock price movement (equity effect) become less competitive. As higher as inflation occurred, then I-CSPI will be decline as well.

Second variable is interest rate. The interest rate is one of macroeconomic factor that influence the stock price (Mohammad, 2006). A rising interest rate of Bank Indonesia has an impact in increasing the interest of deposit. Then, it will increase the interest rate of debt, so economy investment will also decline. When the interest rate increases, the stock price will decrease and vice versa. An increasing of interest rate makes people tend to invest in savings or deposits. So that, the stock price will fall. The interest rate of Bank Indonesia (BI rate) in last 4 years fluctuated. In 2011, the interest rate amounted 6.58%. In a year, it declined to 5.77%. And then in 2013 and 2014, it increased became 6.48% and 7.54% respectively.[4] A higher interest rate can decrease company's profit and it will lead the investors sell their stocks and move their funds to bond market. The investors who are no longer in stock market will make stock price decline and it has huge effect on I-CSPI.

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[3]https://www.investopedia.com/terms/i/inflation.asp
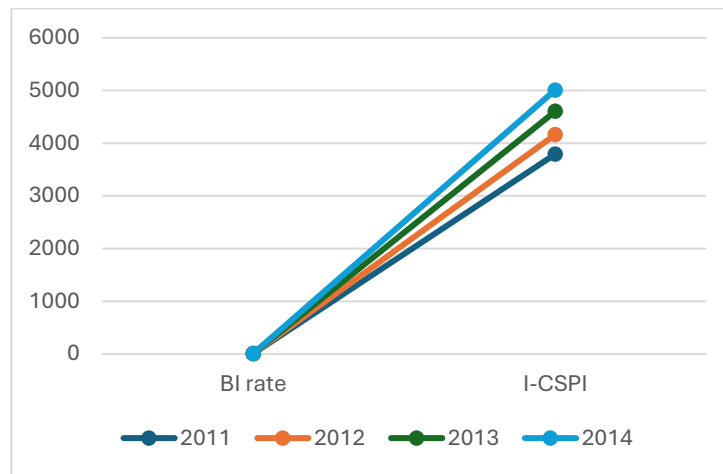[4]https://www.bps.go.id/linkTableDinamis/view/id/1061

Figure 1. BI rate and I-CSPI over period 2011 – 2014

Third variable is exchange rate. Thobarry (2009) stated the exchange rate of foreign currency is a price of a country's currency against other country currency. A declining of interest rate triggered by increasing the foreign exchange trading activities in term of U.S. Dollar and vice versa. Thus, many investors tend to invest their money in foreign exchange trade and vice versa. The value of foreign exchange trading in term of Rupiah (IDR) to U.S. Dollar weakened. In the beginning of January 2011, the exchange rate of Rupiah (IDR) to U.S. Dollar amounted IDR 9,021 and closed in the end of December 2011 amounted IDR 9,113. The exchange rate of Rupiah (IDR) to U.S. Dollar in the beginning of January 2012 amounted IDR 9,171 and closed in the end of December 2012 amounted IDR 9,718. In the beginning of January 2013, the exchange rate of Rupiah (IDR) to U.S. Dollar amounted IDR 9,733 and closed in the end of December amounted IDR 12,250. The exchange rate of Rupiah (IDR) to U.S. Dollar in the beginning of January 2014 amounted IDR 12,303 and closed in the end of December amounted IDR 12,502.[5] The reason is Rupiah (IDR) depreciates occurred if the fundamental factor of Indonesia economy is not strong (Sunariyah, 2006). This clearly increase risk to the investors that are willing to invest in Indonesia Stock Exchange (Ang & Robert, 1997). The investors will avoid risk, so the investors will tend to sell it and wait until better economic situation felt. Selling stock conducted by the investors will encourage decline of I-CSPI. It implies negative signal to the investors.
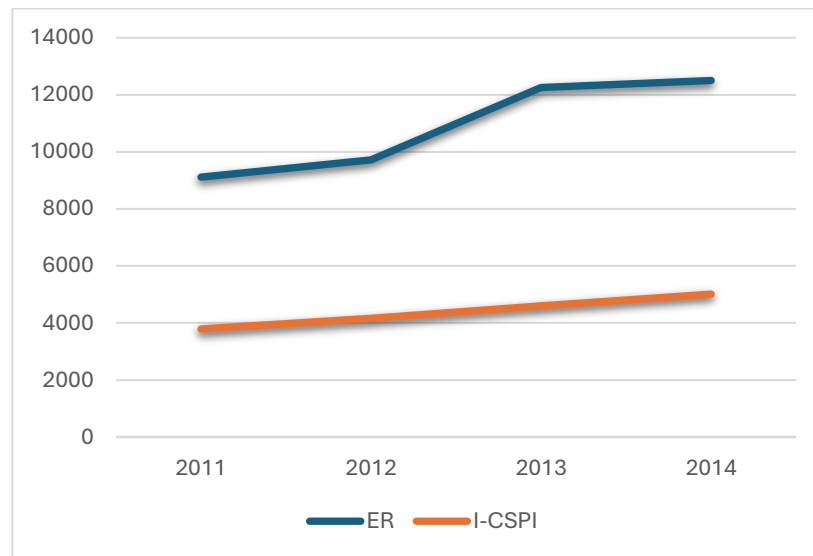
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[5] https://finance.yahoo.com/quote/IDR%3DX/chart

Figure 2. Exchange rate and I-CSPI over period 2011 – 2014

According to Tandelilin (2001), the appreciation of Rupiah (IDR) against foreign currency is a positive signal to the investor. The strengthening of Rupiah (IDR) exchange rate against foreign currency caused many investors are willing to invest in stock. It is due to the appreciation of Rupiah (IDR) exchange rate indicated the good economy of a country. While, when the Rupiah (IDR) is depreciating, it means foreign currency is appreciating and Indonesia economic condition is less good. Thus, it will make the investor to rethink in investing on stock due to it related to profit that they will obtain. A declining of stock demand will cause the stock price is also decreasing.

Fourth variable is foreign stock index. Many investors in developed country diversified their portfolio in capital market of emerging market country. It makes capital market over the world integrated one another. An increase and decrease in capital market over the world become a sentiment for other capital markets. The market of developing country usually used as an indicator by country that categorized in emerging market. One of global index can be a reference in decision-making process in Indonesia Stock Exchange (IDX) is S&P 500. It is an index consisting of 500 companies with massive capital that mostly derived from United States. This index is well known index owned and managed by Standard & Poor's that a division of McGraw-Hill. It can represent the influence of huge United States Stock Exchange toward worldwide stock exchange includes Indonesia. All of stocks placed in S&P 500 are huge public

companies and traded in main United States Stock Exchange such as New York Stock Exchange and Nasdaq. Following Dow Jones Industrial Average, S&P 500 is an index that most considered.[6] Therefore, it can influence most of stock indices over the world including I-CSPI. The effect of S&P 500 on I-CSPI is estimated to positive. It implies an increase of S&P 500 resulted an increase of I-CSPI in Indonesia Stock Exchange (IDX). It is caused by any positive sentiment of the investors to world economic situation.

The interrelation between Indonesia Stock Exchange (IDX) and Foreign Stock Exchange can be seen when a global financial crisis occurred in 2008. A crisis initiated by the subprime mortgage crisis in United States. It caused substantial impact in global financial sector and developed became global financial crisis over the world including Indonesia. During 2008, almost worldwide exchange recorded a huge decreasing as the worst record. In the beginning 2008, as the further impact of subprime mortgage, United States Treasury Department is taking over the largest housing company named Fannie Mae and Freddie Mac. Furthermore, the collapse of Lehman Brothers and Merril Lynch then acquired by Bank of America. The Fed had provided fund to the market amounted USD 70 billion. However, Dow Jones Index remains fall by 4.4% (the greatest since September, 2001). It also caused European Exchange fell.[7]

According to Tempo, New York Stock Exchange more fell after S&P 500 lowering United States debt rank from AAA to AA+. It also affects Dow Jones Index decreased by 5.5%. Indonesia Stock Exchange (IDX) is also affected by those decreasing. The following financial crisis effect in United States make several huge financial companies and other companies over the world went bankrupt. United States is world economic center, so the slowdown of United States economy is very influencing the performance of worldwide money market. It can be concluded that United States economic crisis is very determine the circumstance and stability of global economy including Indonesia that remained depend on United States economy circumstance. In general, there are two opinions about the relationship among stock exchange in various countries. Firstly, any joint movement or co-movement among worldwide stock exchange. Secondly, no joint movement or co-movement among worldwide stock exchange. According to Hirt and Block (1993), the direction of the indices are all closely related, but they do not necessarily move together.

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[6] https://www.investopedia.com/insights/introduction-to-stock-market-indices/
[7] https://www.thebalance.com/2008-financial-crisis-3305679

This research revisits the issue of which factors affecting I-CSPI. This study is same from the previous one on the subject of the research. However, the time series is different. In this research, we use factors of inflation, interest rate, exchange rate, and S&P 500 on I-CSPI. For the interest rate, we use BI rate and S&P 500 as one of foreign stock index. We analyze data from 2014 – 2018 that take data for 5 years. By limiting the duration, hopefully the result will more represent I-CSPI in economic condition at that time. Indonesia economic condition tends to change over time and unstable, so that it will affect the result.

Research Result and Analysis

Descriptive Statistic Analysis

Descriptive statistic is a set of brief descriptive coefficients that summarizes a given data set, which can either be a representation of the entire population or a sample. It shown in table 1

Table 1:Results of Descriptive Statistics A

	Minimum	Maximum	Mean	Std. Deviation
ICSPI	4223.908	6605.631	5380.84808	579.336390
INF	.0279	.0836	.046678	.0169115
BIR	.0425	.0775	.061417	.0135090
ER	11305	15273	13336.02	961.328
SP	1782.5900	2913.9800	2260.107678	311.6761894
Valid N (listwise)				

The lowest inflation during the research period is 2.79% and the highest inflation is 8.36%. It shows the number of inflation as research sampling is from 2.79% to 8.36% with the average of inflation is 4.67% and standard deviation of inflation during the research period is 1.69%. From the table above, interest rate has minimum 4.25% and the maximum rate is 7.75%. It represents the number of interest rate as research sampling is from 4.25% to 7.75%. The value of mean is 6.14% and value of standard deviation is 1.35% during the research period.

Based on the descriptive statistic toward exchange rate in table above, the minimum value is 11,305 and the maximum value is 15,273. The mean of exchange rate is 13,336. While, the standard deviation value is 961. During the research period, return on S&P 500 has

minimum value of 1,783. The maximum value of S&P 500 is 2,914. S&P 500 has the average of 2,260. Besides that, the standard deviation of S&P 500 is 312 during the research period. Regarding I-CSPI, it has minimum value of 4,224 and maximum value of 6,606. While, the average is 5,381 and standard deviation is 579.

Table 2 Results of Descriptive Statistics B

	Minimum	Maximum	Mean	Std. Deviation
Return ICSPI	-.0783	.0678	.006111	.0305559
ΔINF	-.0217	.0213	-.000728	.0063995
ΔBIR	.0000	.0000	.000000	.0000000
ΔER	-1132	1584	38.93	420.721
Return SP	.0003	.0006	.000456	.0000635
Valid N (listwise)				

Based on table 2, the minimum value of return on I-CSPI is -0.0783 which means the lowest difference I-CSPI in given period and previous period is -7.83% from I-CSPI in previous period. The maximum value is 0.0678 which means the highest difference I-CSPI in given period and previous period is 6.78% from I-CSPI in previous period. While, the average of return on I-CSPI is 0.006111 which means the average of return on I-CSPI has 0.61% from I-CSPI in previous period. In contrast, standard deviation of return on I-CSPI is 0.0305559 which means the size of spread from return on I-CSPI is 3.06%

The lowest inflation changes during the research period is -2.17% and the highest value is 2.13%. It shows the number of inflation changes as research sampling is from -2.17% to 2.13% with the average of inflation is -0.07% and standard deviation of inflation during the research period is 0.64% From the table above, interest rate changes has minimum, maximum, average, and standard deviation are 0.

Based on the descriptive statistic toward exchange rate changes in table above, the minimum value is -1,132 and the maximum value is 1,584. The mean of exchange rate is 39. While, the standard deviation value is 421. During the research period, return on S&P 500 has minimum value of 0.0003 which means the lowest difference S&P 500 in given period and previous period is 0.03% from S&P in previous period. The maximum value of S&P 500 is 0.0006 which means the highest difference S&P 500 in given period and previous period is 0.06% from S&P in previous period. Return on S&P 500 has the average of 0.000456 which means the average of return on S&P 500 has 0.05% from S&P 500 in previous period. Besides,

the standard deviation of S&P 500 is 0.0000635 during the research period.

Correlation Matrix

Table 3: Correlation Matrix of Variables

Correlations

		Return ICSPI	ΔINF	ΔBIR	ΔER	Return SP
Return ICSPI	Pearson Correlation	1	-.038	.ª	-.140	.150
	Sig. (2-tailed)		.776	.	.285	.254
ΔINF	Pearson Correlation	-.038	1	.ª	.102	-.094
	Sig. (2-tailed)	.776		.	.437	.475
ΔBIR	Pearson Correlation	.ª	.ª	.ª	.ª	.ª
	Sig. (2-tailed)	.	.		.	.
ΔER	Pearson Correlation	-.140	.102	.ª	1	-.135
	Sig. (2-tailed)	.285	.437	.		.304
Return SP	Pearson Correlation	.150	-.094	.ª	-.135	1
	Sig. (2-tailed)	.254	.475	.	.304	

a. Cannot be computed because at least one of the variables is constant.

According to table 4.3, each variable does not correlate with anything. For return on I-CSPI, it has strongest correlation is 0.15 with return on S&P 500. However, probability is 0.254. Thus, it is not statistically significant different from zero. It means there is 0.254 chance of finding it if the population correlation is zero. For inflation changes, it has correlation amounted 0.102 with exchange rate changes. Nonetheless, probability is 0.437. Then, it is not statistically significant different from zero. It represents there is 0.437 chance of finding it if the population correlation is zero.

The Classical Assumption Test

Before testing the hypothesis with t-test, we conducted classical assumption test in particularly *multicollinearity* test, auto-correlation test, and *heteroscedasticity* test.

Multicollinearity Test

Multicollinearity test is needed to examine whether there is an independent variable has a resemblance between the independent variables in a model. Similarities between the independent variable will generate very strong correlation. In addition, this test is also to avoid the habit in the decision-making process regarding any effect on the partial test in each independent variable over the dependent variable.

Table 4: Multicollinearity Test

Coefficients[a]

Model	Collinearity Statistics	
	Tolerance	VIF
1 (Constant)		
ΔINF	.983	1.017
ΔER	.974	1.027
Return SP	.975	1.025

a. Dependent Variable: Return ICSPI

According to the table above, VIF value for independent variables have tolerance more than 0.1 and VIF value is under 10. Thus, the regression model proposed in this research does not contain *multicollinearity*.

Auto-correlation Test

Auto-correlation test aims to investigate whether there is a correlation among variables on the time series. This test detects autocorrelation using the value of Durbin-Watson compared to table of Durbin-Watson.

Table 5 Auto-correlation Test

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.193[a]	.037	-.014	.0307733	1.847

a. Predictors: (Constant), Return SP, Δ INF, Δ ER

b. Dependent Variable: Return ICSPI

In this research, we obtained that the result of Durbin-Watson value is 1.847. Then, the value of d_L from *the* Durbin-Watson table = 1.4443 and the value of d_u from the Durbin-Watson table = 1.7274. It means that the Durbin-Watson value is between d_L = 1.4443 and d_u = 1.7274. Thus, there is no autocorrelation.

Heteroscedasticity test

Heteroscedasticity examines the residual variance difference from one observation period to other observation periods. This test is how to investigate whether there is *heteroscedasticity* that can be seen in Scatterplot graphic. The result of *heteroscedasticity* test in this research can be seen in the graphic picture below:
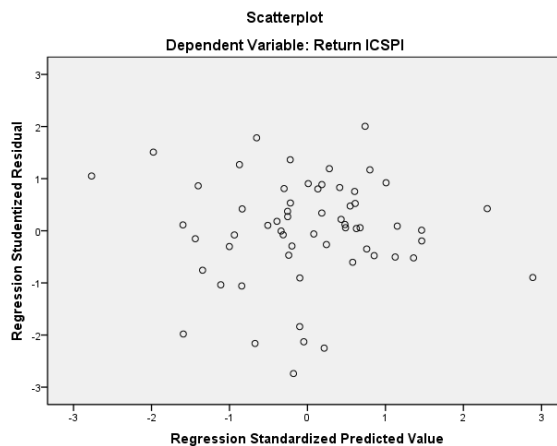

Figure 3. Scatterplot Graphic

According to the graphic above, the dots spread randomly above and under 0 in Y axis. There is no pattern. Hence, the model proposed in this research is free from *heteroscedasticity*.

Multiple Linear Regression

In this research, we calculated the regression from the data using software computer namely SPSS 18. The result of the testing in multiple linear regressions toward the factors influencing I-CSPI is presented in the following table:

Table 6 Results of Multiple Linear Regression

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
1 (Constant)	-.023	.029		-.768	.446
ΔINF	-.061	.631	-.013	-.096	.924
ΔER	-8.809E-6	.000	-.121	-.913	.365
Return SP	63.630	63.923	.132	.995	.324

a. Dependent Variable: Return ICSPI

This research uses the model of multiple linear regression equation as follows:

$$\text{Return on I-CSPI} = \alpha + \beta_1\,\Delta\text{INF} + \beta_2\,\Delta\text{BIR} + \beta_3\,\Delta\text{ER} + \beta_4\,\text{Return SP} + \varepsilon$$

Thus, the illustration of the result of multiple linear regressions related to the factors influencing I-CSPI as follows:

$$\text{I-CSPI} = -0.023 - 0.061\,\Delta\text{INF} - 8.809\text{E-}6\,\Delta\text{ER} + 63.63\,\text{Return SP} + \varepsilon$$

Hypotheses Test Result and Analysis

T-test

T-test is used to prove second hypothesis. This hypothesis testing is used to test the influence of each independent variable (inflation, interest rate, exchange rate, and S&P 500) toward dependent variable (I-CSPI). In this testing, we used confidence level of 95 % or $\alpha = 5\%$. Basically, t-test shows how far the influence of an independent variable individually in explaining variation of dependent variable. The regression coefficient used to know the

influence of inflation, interest rate, exchange rate, and S&P 500 on I-CSPI. The decision of hypothesis test partially done as follows:

1) If the significance level ≤ 5%, so H_o rejected and H_a accepted

2) If the significance level > 5%, so H_o accepted and H_a rejected

4.5.1.1 The Influence of Inflation on I-CSPI

From table 4.6, the inflation has t-value of -0.096 and the significance value is 0.924. Hence, the significance value is greater than 0.05. It means that the relationship of inflation changes and return on I-CSPI is insignificant. Thus, H_a1 is rejected that there is negative influence of inflation on I-CSPI. The result of statistical analysis for inflation variable shows that regression coefficient amounted -0.061. The insignificant influence between inflation and I-CSPI can be caused by the average of inflation in small portion of -0.07% and the standard deviation of inflation is higher amounted 0.64%. For inflation, it has correlation is -0.038 with return on I-CSPI. However, probability is 0.776. Thus, it is not statistically significant different from zero. It means there is 0.776 chance of finding it if the population correlation is zero. In this research, whether inflation rate increases or not, it does not influence return on I-CSPI. Thus, inflation does not affect I-CSPI.

4.5.1.2 The Influence of Interest Rate on I-CSPI

H_a2 is rejected that there is negative influence of BI rate towards I-CSPI. BI rate variable is constant. The research results of Kewal (2012) stated that BI rate do not influence BI rate on I-CSPI. These result is insignificant caused by investor types in Indonesia that investors like to do stock transaction in short-term (trader). So that, investors tend to do profit taking action with the expectation that they will obtain quite high capital gain in capital market rather than BI certificate. On the other hand, public companies will distribute quite high dividend to the shareholders as a stimulus to the investors in order to invest in stock compared to securities in money market.

4.5.1.3 The Influence of Exchange Rate on I-CSPI

According to table 4.6, exchange rate has t-value of -0.913 and the significance value is 0.365. Hence, the significance value is greater than 0.05. It represent H_a3 that any negative significantly influence of exchange rate on I-CSPI is rejected. The insignificant influence between exchange rate changes and return on I-CSPI can be caused by the average in small amount of 39 and the standard deviation is 421. For exchange rate, it has correlation is -0.14 with return on I-CSPI. However, probability is 0.285. Thus, it is not statistically significant different from zero. It means there is 0.285 chance of finding it if the population correlation is zero. The difference of currency exchange rate in a country will not affect I-CSPI. Regardless Rupiah (IDR) appreciates or depreciates, the investors possibly willing to invest their stocks in any circumstance. Thus, exchange rate does not influence I-CSPI.

4.5.1.4 The Influence of S&P 500 on I-CSPI

The t-value of S&P 500 in table 4.6 is 0.995 and the significance value is 0.324. Hence, the significance value is greater than 0.05. It means that the influence between S&P 500 and I-CSPI is insignificant. Therefore, H_a4 is rejected that there is positive influence of S&P 500 on I-CSPI. It was contradict with research explained by Riantani & Tambunan (2013) that there is positive influence between S&P 500 and I-CSPI. By increasing S&P 500, economic performance in U.S. was also getting better. As one of Indonesia export destination countries, U.S. economic growth can encourage Indonesia economic growth by exports also capital inflow in term of direct investor even by capital market (Sunariyah, 2006). Indonesia capital market has integrated with global capital market. The insignificant can be caused by it has strongest correlation is 0.15 with return on I-CSPI. However, probability is 0.254. Thus, it is not statistically significant different from zero. It means there is 0.254 chance of finding it if the population correlation is zero. Thus, S&P 500 does not influence I-CSPI.

F-test

F-test intended to test regression model of all independent variables (inflation, interest rate, exchange rate, and S&P 500) simultaneously toward dependent variable (I-CSPI).

Table 4.7 F-test

ANOVAᵇ

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.002	3	.001	.723	.542ᵃ
	Residual	.053	56	.001		
	Total	.055	59			

a. Predictors: (Constant), Return SP, ΔINF, ΔER

b. Dependent Variable: Return ICSPI

From the table above, we found F-value amounted 0.723 and significance level amounted 0.542. It shows the significance level is greater than 0.05. Thus, independent variables are not simultaneously influence I-CSPI.

Conclusions

Based on the analysis of research result, we found independent variables do not influence I-CSPI in IDX. Thus, the hypotheses are rejected. Regarding, inflation, it has t-value of -0.096 and the significance value is 0.924. The insignificant influence between inflation and I-CSPI can be caused by the average is -0.07% and the standard deviation is higher amounted 0.64%. For inflation, it has correlation is -0.038 with return on I-CSPI. However, probability is 0.776. Thus, it is not statistically significant different from zero. Meanwhile, interest rate variable is constant.

For exchange rate, it has t-value of -0.913 and the significance value is 0.365. The insignificant influence between exchange rate changes and return on I-CSPI possibly caused by the average in small amount of 39 and the standard deviation is 421. In addition, it has correlation is -0.14 with return on I-CSPI. However, probability is 0.285. Thus, it is not statistically significant different from zero. For S&P 500, t-value is 0.995 and the significance value is 0.324. The insignificant can be caused by it has strongest correlation is 0.15 with return on I-CSPI. However, probability is 0.254. Thus, it is not statistically significant different from zero