THE EFFECT OF ECONOMIC INDICATORS ON MOVEMENT OF COMPOSITE STOCK PRICE INDEX IN INDONESIA STOCK EXCHANGE

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Abstract

The purpose of this study was to determine the effect of economic indicators such as the BI Rate, Inflation and Exchange Rate on the movement of the Composite Stock Price Index on the Indonesia Stock Exchange partially and simultaneously, and the variables that had the dominant influence on the Composite Stock Price Index on the Indonesia Stock Exchange. The data source used is secondary data taken from the Indonesia Stock Exchange, the Central Bureau of Statistics and Bank Indonesia from 2005 - 2018. The analysis technique used in this study is multiple linear regression analysis using e-views 10 program and testing classical assumptions. and using hypothesis testing simultaneously (F) and partial (t).

The results of this study show partially the BI Rate has a negative and significant effect on the movement of the Composite Stock Price Index, Inflation has a positive and not significant effect on the movement of the Composite Stock Price Index while the Exchange has a positive and significant effect on the movement of the Composite Stock Price Index. While simultaneously the BI Rate, Inflation and Exchange Rate have a significant effect on the movement of the Composite Stock Price Index on the Indonesia Stock Exchange.

Keywords: CSPI, BI Rate, Inflation and Exchange Rate

INTRODUCTION

Investment activities in the capital market are one of the economic activities that are enjoyed by the people who certainly have excess funds. Investing in the capital market is an activity where allocating sources of funds is capital in the hope of obtaining expectations of benefits in the future. There are many types of securities sold in the capital market, one of which is stocks. Stock is one type of investment commodity that is classified as high risk because it is sensitive to changes that occur either by influences originating from outside or within the country. These changes can have a positive or negative impact on stock prices in the capital market and the movement of these stocks also depends on several economic indicators that influence it. Analysis of stock movements can be done through two approaches, namely fundamental and technical approaches.

Capital markets are financial instruments that sell and buy valuable letters. Indonesia Stock Exchange (IDX) is a capital market owned by Indonesia. Historical data on the movement of shares is needed by investors when trading on the IDX. Information about stock performance is summarized in an index called the stock price index (Tandelilin, 2010: 86).

There are two factors that cause fluctuations in the CSPI (Alwi, 2008: 87). Both of these factors are macro factors and micro factors. The microeconomic environment is an environment that focuses more on individual decisions both in the corporate sector and in the household sector in allocating resources to meet needs. The good and bad performance of a company can be seen from the financial ratios of the company. The company's financial ratios are routinely issued by issuers. Financial ratios consist of several types but not all ratios needed by investors. Macroeconomic environment is an environment that is outside the company that is able to influence the company's daily operations. The macroeconomic environment studies the national economy as a whole such as consumers, the world of banking, government, and the

business world. Macroeconomic environments that can directly affect company performance and stock performance include interest rates, economic cycles, inflation, government policies related to certain companies, exchange rates, tax regulations, budget deficits, foreign loan interest rates, international economic conditions, economic ideology, money supply, private investment, trade balance and payments, GDP (Samsul, 2006: 200; Tandelilin, 2010: 343).

The June 2018 Composite Stock Price Index (IHSG) has slumped 2.64% to 5,749.23 points (www.katadata.co.id). This is because market participants are still watching the movements of the rupiah exchange rate against the US dollar which cannot be said to have strengthened after having touched at the position of Rp. 14,900 / US $. The weakening of the rupiah was caused by a number of external factors such as the weakening of the Argentine, Brazilian and lira currencies which eventually caused the CSPI to be corrected. Then the foreign funds that come out are getting bigger, causing a significant correction on the CSPI. Other external factors, namely trade war, became the main sentiment that caused the CSPI to be negatively affected, causing market players to move away from the market temporarily while looking at how the next market developments. With Bank Indonesia's plan to raise the benchmark 7 Days Repo Rate, the stock market weakened. With this condition the market is still digesting whether BI's future policies will impact good or bad for the banking industry. In addition, the Fed also plans to continue implementing the interest rate increase in the future twice in 2018. Of course this causes the position of the rupiah to depreciate against the US dollar. Then the correction of world commodity prices also contributed to the depressed CSPI position.

In theory, high inflation can cause a decrease in the purchasing power of money and reduce the level of real income obtained by an investor from his investment. High interest rates will also affect the present value of the company's cash flow, so that investment opportunities will not be attractive anymore. Depreciation of the domestic currency against foreign currencies will make investors reluctant to invest in the capital market because the depreciation of the domestic currency against foreign currencies or the depreciation of the rupiah against the USD indicates that the outlook for the Indonesian economy is bad and the cause of weakening of the exchange rate may be due to Indonesia's economic fundamentals not strong so that the value of the USD strengthens and will reduce the CSPI.

The CSPI movement determines whether an investor will buy or sell his shares. CSPI changes can be determined by several factors such as the fundamental factors of the company, as well as from the macroeconomic factors that occur in Indonesia. Economic indicators that often affect the economy such as inflation, gross domestic product, exchange rates and interest rates. Therefore many parties predict and project the CSPI in order to determine their investment choices.

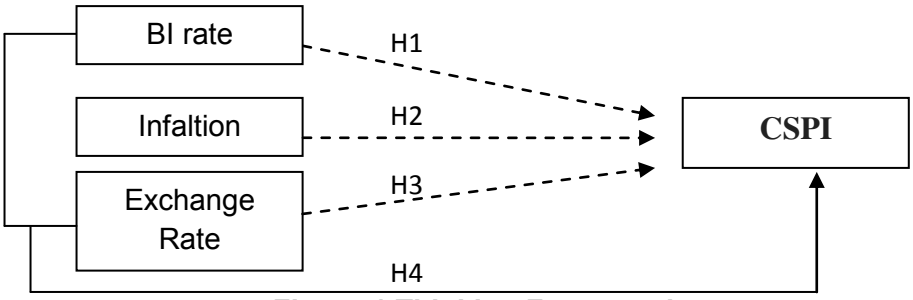

Figure 1 Thinking Framework

Hypotheses Based on the theory and framework and empirical studies, the hypotheses of this study are:

H1: It is suspected that the BI rate has an effect on the Composite Stock Price Index (CSPI) on the Indonesia Stock Exchange (IDX).

H2: Inflation is suspected to affect the Composite Stock Price Index (CSPI) on the Indonesia Stock Exchange (IDX).

H3: Suspected Exchange Rate has an effect on the Composite Stock Price Index (CSPI) on the Indonesia Stock Exchange (IDX).

H4: Allegedly the BI rate, inflation and exchange rate jointly influence the Composite Stock Price Index (CSPI) on the Indonesia Stock Exchange (IDX).

RESEARCH METHODS

Based on the approach, this study uses a quantitative approach. This study uses the Composite Stock Price Index (CSPI) as the dependent variable. The economic indicator variable is the BI rate, inflation and the exchange rate of Rp / USD as independent variables.

The data used in this study are secondary data using 14-year time series data, namely the period 2005-2018 which includes data on the annual Composite Stock Index, BI rate, inflation and the Rp / USD exchange rate obtained from the Bank Indonesia website, www.bi .go.id, www.bps.go.id, www.idx.co.id and www.kemendagri.co.id.

To test the effect of economic indicator variables such as BI rate, inflation and exchange rate on the movement of the Composite Stock Price Index, the data analysis method used in this study is a multiple linear regression model with the OLS (Ordinary Least Square) method

with the linear regression equation model as follows:

This research was tested by using a simultaneous test (F-test) and partial test (t-test) to determine the effect between variables. The functions and equations of multiple linear regression are as follows:

IHSG = f (r, Inf, Er)

Then the function above is specified into the estimation model using multiple linear regression models, namely:

The multiple linear regression equation can be formulated as follows:

LogCSPI = β0 + β1Logr + β2LogInf + β3LogEr + μ ..... (1)

Where:

LogCSPI	: Composite Stock Price Index in Points
β0	: Intercept
β1 ,, β2, β3	: Regression coefficient
Logr	: BI interest rate (BI Rate) in Percentage units
LogInf	: Inflation in units of percent
LogEr	: The exchange rate of the rupiah against the dollar in rupiah
μ	: term of error

For the accuracy of the calculation while reducing human error, a computer program specifically designed to assist in the processing of statistical data is used, namely the program Eviews 10.1 with a significance level of 95 percent of level of confidence or α = 0.05.

Classic assumption test is needed to be able to do multiple regression analysis. The test is conducted to avoid or reduce the bias of the results of the research obtained. Classical assumption testing used in this study includes normality test, multicollinearity test, autocorrelation test (Erlina, 2011: 102)

Test of Hypothesis 1. Test of t statistics basically shows how far one independent variable individually or partially can explain the variation of the dependent variable. 2. The F Statistic Test basically shows whether all the independent variables included in the model have a simultaneous influence on the dependent variable. 3. The Determination Coefficient (R^2) to determine whether the regression model is good enough to use, then it is determined through a coefficient of determination. The adjusted R^2 value can go up or down if one independent variable is added to the regression model (Ghozali, 2006: 87).

RESULTS

Multicollinearity Test

Table 1 Multicollinearity Test

Variance Inflation Factors
Date: 03/19/19 Time: 08:24
Sample: 2005 2018
Included observations: 14

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	31.89889	4705.186	NA
LOG(BI_RATE)	0.249370	142.5613	2.840582
LOG(Inflation)	0.068686	32.07292	2.903510
LOG(Exchange rate)	0.334754	4250.227	1.339026

Source: Processed Data, 2018

Multicollinearity test results, can be seen in the Centered VIF column table. VIF value for variable BI Rate 2.840582, Inflation 2.903510 and Exchange Rate 1.339026. From the table above, there are three economic indicator variables such as BI rate, inflation and exchange rate which are greater than 5, so that there can be no multicollinearity in the three independent variables. Based on the classical assumption test conditions, a good linear regression model is free from multicollinearity. Thus, the model has been free from multicollinearity.

Heterocedasticity test

Heteroscedasticity occurs when residuals and predictive values have a relationship with a pattern or relationship. This pattern of relationships is not only limited to linear relationships, but also in different patterns. Therefore there are several heteroscedasticity test methods, one of them is the researcher using the Glejser method.

Table 2 Heterocedasticity Test

Heteroskedasticity Test: Glejser

F-statistic	1.483342	Prob. F(3,10)	0.2779
Obs*R-squared	4.311435	Prob. Chi-Square(3)	0.2297
Scaled explained SS	1.887494	Prob. Chi-Square(3)	0.5961

Source: Data processed, 2018

If the value of the Prob. F count is greater than alpha level 0.05 (5%) then H0 is accepted which means there is no heteroscedasticity, whereas if the value of Prob. F count <0.05 (5%) then H0 is rejected which means there is heteroscedasticity. Prob Value F count is 0.2297> 0.05 (5%) so that, based on hypothesis testing, H0 is accepted which means there is no heteroscedasticity.

Autocorrelation Test

Table 3 Autocorrelation Test

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	2.092772	Prob. F(2,8)	0.1858
Obs*R-squared	4.808781	Prob. Chi-Square(2)	0.0903

Source: Data processed, 2018

Prob Value F (2.8) of 0.1858 can also be referred to as the probability value F count. Prob Value F count is greater than alpha level 0.05 (5%) so that, based on hypothesis testing, H0 is accepted which means there is no autocorrelation. Conversely, if the value of the Prob. F count is smaller than 0.05 so it can be concluded that autocorrelation occurs.

Hypothesis Test Results

The hypothesis test aims to determine the effect of Bi Rate, Inflation and Exchange Rate on the Movement of the Composite Stock Price Index on the Indonesia Stock Exchange.

Table 4 One Way Anova
(Regression Results)

Dependent Variable: LOG(IHSG)
Method: Least Squares
Date: 03/19/19 Time: 08:23
Sample: 2005 2018
Included observations: 14

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.973402	5.647910	0.172347	0.8666
LOG(BI_RATE)	-1.374499	0.499369	-2.752469	0.0204
LOG(Inflation)	0.069781	0.262080	0.266259	0.7954
LOG(Exchange Rate)	1.047192	0.578579	1.809937	0.1004

R-squared	0.755572	Mean dependent var	8.126988
Adjusted R-squared	0.682244	S.D. dependent var	0.546533
S.E. of regression	0.308080	Akaike info criterion	0.718041
Sum squared resid	0.949132	Schwarz criterion	0.900629
Log likelihood	-1.026288	Hannan-Quinn criter.	0.701139
F-statistic	10.30396	Durbin-Watson stat	1.228774
Prob(F-statistic)	0.002107		

Source: Data processed, 2018

T test

The results of the t test can be seen in the table above. If the value is prob. t count (indicated on the Prob) is smaller than the level of error (alpha) 0.05 (which has been determined), it can be said that the independent variable has a significant effect on the dependent variable, whereas if the value is prob. t count is greater than the error level of 0.05, it can be said that the independent variable has no significant effect on the dependent variable.

a. Bi Rate

From the regression results, the coefficient for the Bi rate variable is -1.374499 where the variable has a significant effect on the CSPI movement on the IDX. This is indicated by the value t-count = -2.752469 and the probability value is 0.0204 (below α = 5% or 0.05). This shows that the relationship between the Bi rate and the CSPI movement on the IDX is negative and significant. then the hypothesis Ho is rejected and (H1) is accepted.

b. Inflation

From the regression results, the coefficient for the inflation variable is 0.069781 where the variable has no significant effect on the CSPI movement on the IDX. This is indicated by the value t_count = 0.266259 and the probability value of 0.7954 (below α = 5% or 0.05). This shows that the relationship between inflation and the CSPI movement on the IDX has a positive and insignificant effect. then the hypothesis Ho is accepted and (H2) is rejected.

c. Exchange rate

From the regression results, the coefficient for the exchange rate variable is 1.702347 where the variable has a significant effect on Indonesia's economic growth rate. This is indicated by the value of t_count = 1.047192 and the probability value is 0.1004 (below α = 5% or 0.05). This shows that the relationship between the exchange rate and the CSPI on the IDX is positive and not significant. then the hypothesis Ho is accepted and (H3) is rejected.

Test F

The results of the F test can be seen in table 4 above. Prob value. F (Statistics) of 0.002107 smaller than the significance level of 0.05 so that it can be concluded that the regression model that is estimated to be feasible is used to explain the influence of the BI rate, inflation and exchange rate on the CSPI movement on the IDX. That means the hypothesis Ho is rejected and (H4) is accepted.

Determination Coefficient (R-Square)

The R-Square value in table 4 above the magnitude of 0.755572 shows that the proportion of the influence of the variable Bi rate, inflation and exchange rate affects the movement of the CSPI on the IDX by 75.55%. This means that economic indicators such as the BI rate, inflation and exchange rate have an influence on the CSPI movement on the IDX by 75.55% while the remaining 24.45% (100% - 24.45%) are influenced by other variables not in the regression model.

Regression Analysis

Interpretation of results

From the regression results, a regression equation is obtained and will be analyzed as follows:

$$\mathbf{CSPI = 0.973402 - 1.374499r + 0.069781Inf + 1.047192Er + \mu}$$

From the estimation results obtained can be seen an interpretation of the model or hypothesis taken through the results of this regression, namely:

a. Bi rate has a negative effect and is statistically significant at the 0.05 level (95% confidence level) against the CSPI movement. Each increase in the Bi rate by 1 percent will reduce the CSPI movement by 1.374499 points. This means that when the BI rate rises, the CSPI movement does not decline, and this also occurs in the same conditions when the BI rate falls, this can be caused if the BI rate decreases significantly consumers will tend to buy goods such as land, property or vehicles, because they can repay borrowed money at a lower interest rate, with consumer consumption increasing corporate profits also increasing, and investors see the company's earnings increase then they will buy the company's shares so that share prices also increase. When the BI rate rises, people will tend to allocate their wealth in the form of savings or deposits because of the high expected return. In other words, when the interest rate falls people will tend to add securities in their portfolio (Nopirin, 2000: 126). The potential increase in the BI rate will encourage investors to divert their funds to savings and time deposits so that investment in the trading floor will decrease and can further reduce the CSPI movement. This is in line with the research of Solikhin (2016) with the results of his research that the BI rate has a negative and significant effect on the LQ-45 return.
b. Inflation has a positive effect and is not statistically significant at the 0.05 level (95% confidence level) against the CSPI movement. Every 1 percent increase in inflation will increase the CSPI movement by 0.069781 points. The researcher assessed that inflation in Indonesia in the past 14 years was still in the category of mild inflation and did not significantly affect the movement of the CSPI. However, in theory, the increase in inflation is relatively a negative signal for investors in the capital market, inflation increases the company's income and costs, but investor expectations when inflation increases return are expected to be high because of financing for rising prices. The results of this test indicate that when inflation has increased, investors have no desire to move their capital to shares, the conditions are the same if inflation has decreased, investors also have no desire to move their capital. The increase in inflation caused by high demand in the goods market will increase the amount of money circulating in the community, this occurs because low bank interest rates cause investors to prefer to invest their funds in the capital market, namely by buying shares, consequently the CSPI rises. This is in line with the research of Solikhin (2016)

whose research results state that inflation has a positive and not significant effect on the LQ-45 return

c. Exchange rates have a positive effect and are not statistically significant at the 0.05 level (95% confidence level) against the CSPI movement. Each exchange rate increase of Rp. 100 will increase the CSPI movement by 1.047192 points. When the rupiah exchange rate against the dollar strengthens and appreciates, investors who invest in stocks will sell their shares and hunt for dollars. Thus resulting in an increase in the supply of shares, if it is not balanced with demand it can cause a decline in stock prices. Investors buy dollars when the rupiah appreciates with the hope that in the future the rupiah will depreciate against the USD. These results are also in line with the research. These results are consistent with the research conducted by Eryani and Mursalin (2015), stating that because the exchange rate is basically insignificant in the long run, changes cannot be predicted. Exchange rates can change because of several factors including internal factors and external factors. The emergence of external factors is influenced by the strength of the American economy, which raises the strength of the value of the dollar that has an impact on the world economy and the value of other countries' currencies.

CONCLUSIONS

Based on the results of testing simultaneously shows that the variable Bi rate, inflation and exchange rate have a significant effect on the Composite Stock Price Index (IHSG) on the IDX and partially the Bi rate has a negative and significant effect on the IDX on IDX, inflation and exchange rates have a positive and not significant effect on CSPI on IDX. In this study the macroeconomic indicators used only cover the BI rate, inflation and the exchange rate. It is suggested that further researchers use other macro variables both from internal and external factors such as oil prices, gold prices, stock prices in other countries because seen from the results of R square shows that 75.55% is influenced by the BI rate, inflation and exchange rates while the remaining 24.45 % is influenced by other variables. And my suggestion to the government is that the Government must be wise in controlling the Indonesian economy, especially in macroeconomic indicators so that it can increase investment interest in the country. For prospective investors to be more thorough and careful in taking actions to invest, especially can see from the macroeconomic side such as interest rates, inflation and exchange rates because it can affect stock prices so that investors do not experience losses when investing in the future. (Halim, 2017)

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