

Research Article

Influence of Inflation, Interest Rate And Rupiah Exchange Rate on Food And Drink Company Stock Prices in Indonesia Stock Exchange (BEI) Period of 2013 – 2017

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Abstract: This research aims to know the influence of inflation, interest rates, and exchange rates either simultaneous or partial to the stock price. The object for this research is the company food and beverage listed in Indonesia Stock Exchange from 2013 to 2017. The research design used associative causal. Sampling in this research is done by using purposive sampling technique. From the method obtained 11 companies that meet the criteria of a total 16 companies. The method of research are multiplier linear regression are applied as the analysis technique by carrying out F test dan t test. The result are based on the F test it is found that simultaneously the Inflation, interest rates, and rupiah exchange rates have influence to the stock price, while based on the t test is found that partially inflation and interest rates do not influence to the stock price, but the rupiah exchange rate do influence to the stock prices.

Keywords: inflation, interest rates, exchange rates, and stock price.

INTRODUCTION

The capital market is a means for people who have the capital to invest in financial instruments such as stocks, bonds, mutual funds, and others. Wealth is expected to develop continuously. Thus, the community can place its funds according to the characteristics of the advantages and risks of each instrument.

Investors have the main goal in instilling funds into the company, namely to look for income or rate of change investment (return) in the form of dividend yield and income from the difference in selling price of shares to the purchase price (capital gains) (1). Information obtained by investors and prospective investors regarding price variability shares during the trading period on the exchange are useful for investment decisions is running or going to run (2).

Observations of changes in some macroeconomic variables are believed to help investors predict what will happen in the capital market. According to Tandililin (3) Fluctuations that occur in the capital market will be related to changes that occur in various macroeconomic variables. Changes that occur in

macroeconomic factors such as inflation, interest rates and the rupiah exchange rate will be reacted by the capital market so that these factors have the potential to influence the formation of stock prices.

Macroeconomic variables such as volatile rupiah exchange rates can reduce the level of investor confidence, because foreign exchange rates will influence the costs and benefits of "playing" in the trade of goods, services and securities. The exchange rate that continues to fluctuate so widely causes investors to be more interested in playing on the currency market than on the capital market because the level of profits obtained is relatively higher than that obtained in the capital market. The low exchange rate of the rupiah against foreign currencies, especially the US Dollar (USD) also causes stock prices to be cheap for foreign investors and a good time to invest in stock purchases.

Inflation which rises drastically in a short period of time will have an impact on the company. The.

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High interest rates will influence the cost of capital that must be borne by the company and increase expectations of return for investors (3) Declining interest rates can make investors think that they can get more money by investing in stocks, so that stocks are increasingly hunted.

Research purposes are 1) To find out the influence of inflation on the stock prices of Food and Beverage Companies listed on the Indonesia Stock Exchange in 2013-2017. 2) To determine the influence of interest rates on the stock prices of Food and Beverage Companies listed on the Indonesia Stock Exchange in 2013-2017. 3) To determine the influence of the rupiah exchange rate on the stock prices of Food and Beverage Companies listed on the Indonesia Stock Exchange in 2013-2017. 4) To determine the influence of inflation, interest rates and the rupiah exchange rate simultaneously on the stock prices of Food and Beverage Companies listed on the Indonesia Stock Exchange in 2013-2017.

Previous research by Halin (4) that exchange rates, inflation, and interest rates have a simultaneous effect on changes in stock prices. Exchange rates, inflation and interest rates do not have a partial effect on changes in stock prices. According to Hidayat, Setiyadi and Azis (5) that inflation has a significant negative effect on stock returns, interest rates have a positive and significant effect on stock returns, and the rupiah exchange rate has no significant effect on stock returns. According to Sunardi and Nurmilah (6) that the BI Rate and Inflation have a negative effect on the Composite Stock Price Index. Exchange rates have a positive effect on the Composite Stock Price Index. According to Dewi and Artini (7) that SBI interest rates and inflation have no significant effect on stock prices. EPS and ROE have a positive and significant effect on stock prices. DER has no significant effect on Stock Prices. According to Munib (8) that The rupiah exchange rate and BI rate partially have a significant effect, while inflation has no significant effect. Simultaneously there is no significant effect on the joint stock price index. According to Edison, Sugiartiningsih, and Apriliana (9) that the interest rate has no effect on stock return, but the rupiah exchange rate and inflation has effect on the stock return. According to Safitri and Kumar (10). Interest rate, inflation rate, and GDP partial give no significant influence to stock price index for plantation sector. According to Purnama (11) that the Bank Indonesia Interest rate has a significant effect on Automotive company stock price. Inflation rate has a significant effect on Automotive company stock price.

MATERIALS AND METHOD

Inflation is a continuous process of increasing general prices. The incidence of inflation will result in a decline in people's purchasing power.

This happens because in inflation there will be a

decrease in income level by Widjajanta, and Widyaningsih (12) The influence of inflation in more detail includes: a. For people who have a fixed income, inflation is very detrimental. b. Causes people to be reluctant to save because the value of the currency decreases. c. For people who borrow money from banks (debtors), inflation is profitable, because when paying debt to creditors, the value of money is lower than when borrowing. Conversely, creditors or parties who lend money will suffer losses because the value of return money is lower than when borrowing. d. For producers, inflation can be profitable if the income earned is higher than the increase in production costs. The interest rate is the cost of the loan or the price paid for the loan fund is usually expressed in percentage by Mishkin, F.S (13). While according to Sunariyah (14) that states the interest is the price of the loan. Interest rates are expressed as a percentage of principal per unit of time. Interest is a measure of the price of a resource. Interest rates basically have two meanings in accordance with the review, namely the bank and for entrepreneurs. For banks, interest is an income or an advantage over borrowing money by entrepreneurs or customers. And for entrepreneurs, interest is considered as the cost of production or capital costs. High interest rates will encourage investors to invest their funds in banks rather than investing in production or industrial sectors that have a greater risk level. So that, the inflation rate can be controlled through interest rate policy by Khalwaty. (15). Exchange Rate Rupiah is the price in exchange and in exchange between 2 different currencies, there will be a comparison of values called the exchange rate by Nopirin (16). The real exchange rate is the nominal exchange rate that has been corrected at the relative price of domestic prices compared to prices abroad. The factors that can influence the exchange rate according to Sukirno, (17) are as follow:

a) Changes in the taste of the community will change the style of consumption of goods produced at home and abroad. This change caused a demand for foreign exchange offers.

b) Changes in prices of exported and imported goods

The price of an item is one of the important factors that determine whether an item will be imported or exported. c) General price increase (Inflation), Inflation has a huge influence on foreign exchange rates. Inflation generally tends to reduce the value of foreign exchange. d) Changes in interest rates and return on investment. Low interest rates and return on investment tend to cause domestic capital to flow abroad, while high interest rates and return on investment will cause foreign capital to enter the country. e) Economic growth, if economic progress is caused by the development of exports, then the demand for the currency will increase faster than the supply so that the value of the currency rises.

Stock prices according to Brigham and Houston (18) that stock prices determine shareholders' wealth.

Maximizing shareholder wealth is translated into maximizing the company's shareholders. According to Sartono (19) stock prices are formed through the mechanism of capital market demand and supply. In efficient capital markets, all securities are traded at their market prices. Factors influencing Stock Prices according to Weston and Brigham (2009: 26): a) Earnings per share. b) Interest rates. c) Amount of cash

dividends given. d) Amount of profits earned by the company. e) Level of risk and return.

The thinking framework explains theoretically the linkages between the variables to be studied. In this study can be seen in the picture as follows

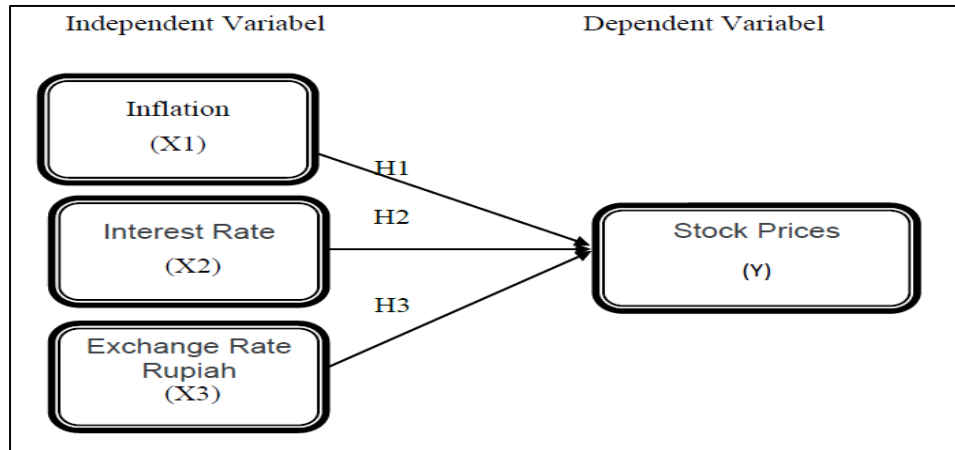


Figure1. Thinking Framework

Research Hypothesis

- **H1:** Inflation has an influence on the Stock Price of the Food and Beverage Industry on the IDX in 2013-2017.
- **H2:** Interest rates influence the Stock Price of the Food and Beverage Industry on the IDX in 2013-2017.
- **H3:** Rupiah Exchange Rate influences the Stock Price of Food and Beverage Industry on the IDX in 2013-2017.

Research Design

According to Sugiyono (20) that This type of research is associative research (influence) because it wants to know the relationship between the variables of inflation (X1), interest rates (X2) and the rupiah exchange rate (X3) influence the stock price (Y). the results of associative research function to explain, predict, and control a symptom problem.

Perational Definition

Variables that do not depend and do not influence by other factors, where in this study the independent variables used are inflation (x1), interest rates (x2) and the exchange rate of rupiah (x3). Measurement of independent variables with monthly inflation, monthly interest rates and monthly rupiah exchange rates.

Sampling Method

The sampling method used is purposive sampling method or based on predetermined criteria. Where the criteria specified in sampling are as follows:

- 1). The food and beverage company that has been Go Public is listed on the IDX and publishes the share price report during the period 2013-2017.
- 2) The company did not experience delisting from the Indonesia Stock Exchange during the study period-3).
- Companies whose shares are actively traded during the research year-4).
- Companies whose share prices per share fluctuate thousands to millions.

Data Collection Techniques

The data of this study are secondary data, which means that existing data is not obtained by conducting observations or research directly on objects. The data sources used are obtained through the official website of the Indonesia Stock Exchange (IDX), namely www.idx.co.id and Bank Indonesia, namely www.bi.go.id. The research uses monthly data sequentially for all variables used in the research model.

Technical Data Analysis

Activities in data analysis are grouping data based on variables and types of respondents, tabulating data based on variables from all respondents, presenting data for each variable under study, doing to answer the problem formulation, and calculating to test the proposed hypothesis (20).

Data Panel Regression Analysis

In this study the analytical method used is a panel data regression analysis model with the help of Eviews version 9 software, and to determine the significance level of each regression coefficient between the independent variables on the dependent

variable, it is done with 3 alternative approaches to processing methods are 1) Common Influence Model. 2) Fixed Influence Model. 3) Random Influence Model.

Hypothesis Test Results

Hypothesis Testing: to test the proposed hypotheses, it is necessary to use panel data regression analysis.

Statistical F test

The F test is usually used to find out how much influence Inflation, Interest Rates and Rupiah Exchange Rates have. There is a hypothesis that is used as follows:

- Ho: There is no influence of inflation, interest rates and exchange rates of Rupiah simultaneously on stock prices.
- H₁: Inflation, interest rates and simultaneous exchange rates of Rupiah have an influence on stock prices.

Probability value (F-statistic) is searched using Eviews9 program with decision-making criteria, 95% confidence level ($\alpha = 0.05$) as follows:

- If the probability is > 0.05 then Ho is accepted and rejected H₁
- If the probability is < 0.05 , then Ho is rejected and accepted H₁.

Statistical t test

The t test is carried out for the influence of independent variables individually (partial) on the dependent variable. The hypothesis is as follows:

- Ho: There is no influence of Inflation, Interest Rates and Rupiah Exchange Rates partially on the Stock Price.

- H₁: There is a partial Inflation, Interest Rate and Rupiah Exchange Rate influence on the Stock Price.

Prob value (F-statistic) is searched using Eviews9 program with decision-making criteria, 95% confidence level ($\alpha = 0.05$) as follows:

If the probability is > 0.05 then Ho is accepted and rejected H₁

If the probability is < 0.05 , then Ho is rejected and accepts H₁.

RESULTS AND DISCUSSIONS

Testing the Panel Data Regression Model

After selecting the Chow-test, Hausman-test and Lagrange Multiplier test models, the results of the most appropriate equation model for this study are the random influence model equation with the following equation:

$$\text{Stock Price} = 398197,7 + 5877,681 * X1_INF + 12274,60 * X2_SB - 35,73840 * X3_KURS$$

1. Testing of the Determination Coefficient Analysis (R²)

Determination essentially measures how far the ability of a model to explain the variation of the dependent variable. The coefficient of determination is between zero and one. The small value of R² means that the variation of the dependent variable is very limited, and the value close to 1 (one) means that the independent variables can provide the information needed to predict the dependent variable. The following is a table of results of the coefficient of determination from the Random Influence model.

Table 1. Coefficient of Determination (R²)

Influences Specification		S.D.	Rho
Cross-section random		131279.5	0.3826
Idiosyncratic random		166749.9	0.6174
Weighted Statistics			
R-squared	0.102054	Mean dependent var	9807.002
Adjusted R-squared	0.097948	S.D. dependent var	175569.8
S.E. of regression	166749.9	Sum squared resid	1.82E+13
F-statistic	24.85211	Durbin-Watson stat	0.129484
Prob(F-statistic)	0.000000		

Source: Bursa Efek Indonesia (2018) (Sugiyono. 2012) to Output of Eviews9

The Eviews calculation results are shown in Table 1 above, it is known that the coefficient of determination (R²) is 0.097948 or 9.7948%, which means that from stock price fluctuations can be explained by variations in the independent variables namely inflation, interest rates and rupiah exchange rates. While the remaining 90% (90, 2052) is influenced by other variables outside the independent variable. In this study, the coefficient of determination (R²) used is

adjusted R-square, because this study uses more than two independent variables

2. Testing the Panel Data Regression Model (Test - F)

F simultaneous test is inflation, interest rates and the exchange rate of the rupiah together on the dependent variable is the stock price.

Decision making using a comparison of significant values with real level values:

- a) If the value is significant > real level (0.05), then H₀ is accepted and H₁ is rejected.
- b) If the significant value is < real level (0.05), then H₀ is rejected and H₁ is accepted.

If it is accepted, then this indicates that the independent variable does not have a significant relationship with the dependent variable. If H₀ is rejected, then this indicates that the independent variable has a significant relationship with the dependent variable.

Table 2. Testing of the Data Panel Regression Model (F-Test)

Influences Specification		S.D.	Rho
Cross-section random		131279.5	0.3826
Idiosyncratic random		166749.9	0.6174
Weighted Statistics			
F-statistic	24.85211	Durbin-Watson stat	0.129484
Prob(F-statistic)	0.000000		

Source: Output of Eviews9

Based on Table 2 above shows the significance of the Prob (F-statistic) of 0.000000 smaller than α (0.05) so that H₀ is rejected and H₁ is accepted. It has a significant influence on the dependent variable i stock price.

3. Analysis of Panel Data Regression Coefficient (t Test)

Partial test (Test - t) is a statistical test that aims to determine the influence of independent variables individually (partial) on the dependent variable.

Decision making using a comparison of significant values with real level values:

- a) If the probability value is > α (0.05), then H₀ is accepted and H₁ is rejected.
- b) If the probability value is < α (0.05), then H₀ is rejected and H₁ is accepted.

If H₀ is accepted, then this indicates that the independent variable does not have a significant relationship with the dependent variable and vice versa. If H is rejected, then this indicates that the independent variable has a significant relationship with the dependent variable.

Table 3. Inflation Panel Data Regression Coefficient Test

Dependent Variable: STOCK PRICE				
Method: Panel EGLS (Cross-section random influences)				
Date: 08/06/18 Time: 23:33				
Sample: 2013M01 2017M12				
Periods included: 60				
Cross-sections included: 11				
Total panel (balanced) observations: 660				
Swamy and Arora estimator of component variances				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	398197.7	93888.53	4.241175	0.0000
X1_INF	5877.681	5005.563	1.174230	0.2407

Source: Output of Eviews9

Based on Table 3 above, the significance value of inflation is greater than the real level of 0.2407 > 0.05 indicating that partially inflation does not significantly influence stock prices. The result of a positive inflation coefficient value is 5877,681, which

means that the independent variable rises, the dependent variable decreases. This study does not support the research of Halin, H. (4) and Munib, M.F. (8) which states that interest rates partially have no influence on stockprices.

Table 4. Interest Rate Panel Data Regression Coefficient Test

Dependent Variable: STOCK PRICE				
Method: Panel EGLS (Cross-section random influences)				
Date: 08/06/18 Time: 23:33				
Sample: 2013M01 2017M12				
Periods included: 60				
Cross-sections included: 11				
Total panel (balanced) observations: 660				
Swamy and Arora estimator of component variances				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	398197.7	93888.53	4.241175	0.0000
X2_SB	12274.60	6744.098	1.820051	0.0692

Source: Output of Eviews9

Based on Table 4 above, the probability of interest rates greater than the real level of $0.0692 > 0.05$ indicates that partially the interest rate does not significantly influence the Stock Price. The result of a positive coefficient of interest rates 12274.60 means

that the interest rate variable rises, the stock price does not experience a significant decline. This study supports research from Halin, H. (2016) and Munib, M.F. (2016) which states that interest rates partially have no influence on stock prices.

Table 5. Test Panel Exchange Data Regression Coefficient Test

Dependent Variable: Y_Stock Price				
Method: Panel EGLS (Cross-section random influences)				
Date: 08/06/18 Time: 23:33				
Sample: 2013M01 2017M12				
Periods included: 60				
Cross-sections included: 11				
Total panel (balanced) observations: 660				
Swamy and Arora estimator of component variances				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	398197.7	93888.53	4.241175	0.0000
X3_NTR	-35.73840	5.906930	-6.050250	0.0000

Source: Output of Eviews9

Based on Table 5 above, the probability value of the rupiah exchange rate is smaller than the significance value of $0.0000 < 0.05$ indicating that partially the rupiah exchange rate has a significant influence on the Stock Price. The result of the negative value of the rupiah exchange rate coefficient is -35,73840, which means that the rupiah exchange rate has dropped, so the share price variable has increased. This study supports Munib [8], which explains that the rupiah exchange rate has a negative and significant influence on stock prices. However, this study contrasts with Halin (2016), which explains that Rupiah Exchange Rate does not effect changes in stock prices.

Simultaneous Test (F Test)

From the results of the F test the statistical result is a prob value (F-statistic) of 0.0000 smaller than 0.05 so that H_0 is rejected and H_1 is accepted. It was concluded together that the independent variables had a significant influence on the dependent variable, namely the stock price.

Partial Test (t Test)

From the results of the t statistic variable, inflation results in a significance value greater than the real level of $0.2407 > 0.05$, indicating that partially

inflation does not significantly influence stock prices. Then from the results of the t test the variable tribal statistic yields the significance value of interest greater than the real level of $0.0692 > 0.05$, this indicates that partially the interest rate does not significantly influence the Stock Price. Whereas the results of the t test statistic of the rupiah exchange rate variable produced a significance value smaller than the real level of $0.0000 < 0.05$. This indicates that partially the exchange rate has a significant influence on the Stock Price.

CONCLUSION AND SUGGESTION

Conclusion

This study aims to examine the influence of inflation, interest rates and the rupiah exchange rate on the stock prices of the food and beverage industry on the Indonesia stock exchange in 2013-2017, with multiple linear regression research methods using Eviews 9. The conclusions are as follows: Based on the partial test (t-test) it is known that inflation and interest rates do not influence the stock price. While based on the partial test (t-test) it is known that the rupiah exchange rate has a significant influence on stock prices.

Suggestion

1. For Issuers, always pay attention to the development of Indonesia's macroeconomic fundamentals and observe any government policies in the economic and political fields. 2. For potential investors and investors if they want to invest their funds in stocks to pay attention to inflation factors, interest rates and the rupiah exchange rate which in this study can prove to influence stock prices, which will directly or indirectly reduce the risks and uncertainties that will be experienced by investors in stock trading activities.

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