

THE INFLUENCE OF INTEREST RATES AND INFLATION ON STOCK RETURNS IN FOOD AND BEVERAGE INDUSTRY SUB-SECTOR COMPANIES

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ABSTRACT

This research aims to analyze the influence of Interest Rates and Inflation on Stock Returns in Manufacturing Companies listed on the Indonesia Stock Exchange (IDX) for the period 2018 - 2022. In this study, secondary data and panel data regression analysis methods were used to obtain a comprehensive understanding of the relationship between one variable and another. The sample consisted of 17 companies that published complete financial reports for 5 years (2018-2022) and were selected through purposive sampling, resulting in the analysis of 85 data points. Out of these 85 data points, a Panel Data Regression using Pooled Least Square was conducted. The research results show that, individually, the variables Interest Rates and Inflation do not significantly affect Stock Returns. This indicates that changes in Interest Rates and Inflation do not significantly impact the performance of a company's Stock Returns. However, when both variables were analyzed together, the results indicate that Interest Rates and Inflation, when considered together, also do not significantly affect Stock Returns. This is supported by an R² value of 2.2%, which indicates that interest rates and inflation explain only a small portion of the variation in a company's stock returns.

Keywords: Interest Rates, Inflation, Stock Returns

INTRODUCTION

The capital market is an alternative to raising funds besides the banking system. The development of the capital market can be shown by changes in the prices of traded shares. The capital market is a market for various long-term financial instruments that can be traded, whether debt securities (bonds), equities (stocks), mutual funds, derivative instruments or other instruments (Ai Rohayani Sriwanti et al., 2023). Indonesia as a country carrying out economic development, Indonesia needs capital or funds in large amounts in proportion to the targeted growth (Ai Rohayani Sriwanti et al., 2023).

Raising funds through the capital market can take the form of share ownership by the public. stock prices are formed through demand and supply mechanisms in the capital market (Mursalini, 2020). The price of a share that occurs on the stock exchange market at a certain time is determined by market players and is determined by the demand and supply of the shares concerned in the capital market (Mursalini, 2020). Stock Return is the value obtained as a result of investment activities. The expected return is in the form of dividends for stock investments and interest income for investments in debt securities. Return is the main goal of investors to get results from investments made by investors. Having a fairly high stock return will make it more attractive for investors to buy these shares.

In general, the information needed by investors consists of fundamental information and technical information. Broadly speaking, the information needed by investors consists of fundamental information and technical information. Through these two information approaches, it is hoped that investors who

invest will gain significant profits or can avoid losses that must be borne (Arista & Astohar, 2012). Fundamental information is obtained from within the company including dividends and the company's sales growth rate, while technical information is obtained from outside the company such as economics, politics and finance. Stock indexes that are always fluctuating can be influenced by many things such as macroeconomic factors that can indirectly affect stock performance such as interest rate, inflation rate, taxation rate, government policy, foreign exchange rate, interest rate on foreign loans, international economy, economic cycle, economic understanding and money circulation (Ai Rohayani Sriwanti et al., 2023). Stock return is the difference between the current share price and the previous share price, where the difference in share price can provide profits or losses for shareholders who buy shares belonging to companies (Mayuni & Suarjaya, 2018).

There are two types of returns, namely: "Realized returns are returns that have occurred. This return is calculated using historical data. Realized returns are important because they are used as a measure of company performance. Realized returns are also useful in determining expected returns and future risks." "Expected return is the return that investors hope to obtain in the future" (Indah Mursalini et al., 2018). There are several factors that can influence the stock return itself, several factors that influence the price or stock return, both macro and micro. Macro factors are factors that are outside the company, such as inflation, interest rates, foreign exchange rates, economic growth rate, price of fuel oil on the international market, and regional stock price index. Micro factors are factors that come from within the company. Information obtained from the company's internal conditions in the form of financial information and non-financial information. Several factors that influence stock returns, quoted from (Indah, 2023), state that there are 2 (two) types of analysis to determine stock returns in general, namely fundamental information and technical information. Fundamental information is obtained from within the company including dividends and company sales growth rates, financial characteristics, company size, while technical information is obtained outside the company such as economics, politics and finance.

The interest rate is the price of the loan. Interest rates are expressed as a percentage of the principal per unit of time (Rachmawati, 2019). Interest rates can affect company profits because interest is a cost and interest rates also affect the level of economic activity. An unreasonable increase in interest rates will make it difficult for the business world to pay interest expenses and obligations, because high interest rates will increase the burden on the company so that it will directly reduce the company's profits. Many factors influence interest rates, for example determining interest rates is very dependent on how open the domestic money market is in a country's fund system, in the sense that determining the size of a country's financial decisions tends to be different. Interest rates that are too high will affect the present value of the company's cash flow, so that existing investment opportunities will no longer be attractive (Mursalini et al., 2018). In addition, high interest rates will also cause investors' expected returns from an investment to increase.

In general, it can be said that the lower interest rates will increase economic growth because the intensity of fund flows will increase. Thus, interest rates and implied profits are important variables that greatly influence investors' decisions, which have an impact on investors' desire to make portfolio investments in the capital market with low interest rates.

Inflation has been a subject of both academic and policy study, with significant insights gained on the nature of inflationary behaviour from established economic theory (Hoong et al., 2023). Inflation has regained its attention because a sudden shift in inflation or changes in inflation expectations will not only affect economic policies but also impact stock markets. Inflation is an economic measure that provides

an illustration of the increase in the average price of goods and services produced in an economic system (Wicaksana & Rachman, 2018). An increase in the price of one or two goods cannot be called inflation, unless the increase spreads or results in an increase in other goods. Inflation is the presentation of an increase in prices in a particular year compared to the previous year (Rianti, 2015). Inflation is the tendency of the increase in the prices of goods and services in general and continuously influenced by various factors. In this way, inflation is the process of increasing general prices continuously, this does not mean that the prices of various kinds of goods increase by the same percentage, it may happen that the increase is not the same, the important thing is that there is an increase in the general price of goods continuously during the issue of a certain period (Yadewani et al., 2023). Meanwhile, deflation is a situation where the aggregate prices of goods and services in a region fall over a certain period of time (Riau, 2021).

Changes in monetary policy will affect the capital market through changes in consumption and investment spending. A decrease in interest rates will encourage consumption and investment spending which will then increase stock prices. Based on this explanation, it can be concluded that interest rates have a negative effect on stock returns. This unanticipated increase in the inflation rate will increase the prices of goods and services, so that consumption will decrease. Apart from that, an increase in the price of production factors will also increase the company's capital costs. So the effect of an unanticipated increase in the inflation rate will reduce stock prices. From this explanation it can be concluded that there is a negative influence from changes in the inflation rate that were not previously anticipated on stock returns. Stock returns are a reflection of the company's condition. Stock returns can be influenced by various factors. These factors include inflation and interest rates. Partially, inflation and interest rates are thought to be interconnected and influence stock returns. Apart from that, simultaneously inflation and interest rates are thought to be interconnected and influence stock prices..

METHOD, DATA, AND ANALYSIS

Location and Research Object

In this research, the objects studied are food and beverage industry sub-sector companies listed on the Indonesia Stock Exchange. And research was carried out on the official website of the Indonesian Stock Exchange www.idx.co.id and www.finance.yahoo.com website.

Population

Population is the totality of all possible values, results of calculations or measurements, quantitative or qualitative regarding certain characteristics of all members of a complete and clear collection whose properties you want to study. The population of this study include companies listed on Indonesia Stock Exchange in the food and beverage industry sub sector. On the Indonesia Stock Exchange until the end of 2022 there were 24 food and beverage companies.

Sample

The sample is part/representative of the population studied. In this study, the population taken was food and beverage industry sub-sector companies listed on the Indonesian Stock Exchange. In determining the sample and population in this study, the food and beverage industry sub-sector companies listed on the Indonesian Stock Exchange met certain criteria. The sampling method used was the (purposive) Judgment Sampling method. The criteria for sampling are as follows :

1. Food and Beverage Industry Sub-Sector Companies that are listed on the Indonesia Stock Exchange and publish financial reports with a financial period ending December 31 each year.
2. The company published annual reports and notes to the 2018-2022 financial reports respectively.
3. The company did not experience delisting from the Indonesian Stock Exchange during the research period.
4. Have the data needed for research

Data Collection Technique

The type of data used in this research is secondary data, which means that the existing data was not obtained by conducting direct observation or research on the object of research. The data sources used for this research were obtained from the official website of the Indonesia Stock Exchange (BEI), namely www.idx.co.id, the Central Bureau of Statistics (BPS) www.bps.go.id, the official website of Bank Indonesia, namely www.bi.go.id, and Capital Market Reference Center (PRPM), and Indonesian Capital Market Directory (ICMD).

Classic Assumption Test

Normality Test

The normality test is carried out to test whether in a regression model, the independent and dependent variables or both have a normal distribution or not. The best model is a normal or near normal data distribution. Data normality can be detected by looking at the shape of the histogram curve with a balanced slope to the left and right and shaped like a bell or by looking at the data points that are spread around the diagonal line and in the same direction as the diagonal line of the Normal P-Plot image (Muh Faisal, 2020).

Multicollinearity Test

The Multicollinearity Test is used to determine whether there is or whether there is a deviation from classical assumptions. The opportunity for multicollinearity to occur will become greater as the number of independent variables increases. A good regression model should not have correlation between independent variables, if the independent variables are correlated with each other, then these variables are not orthogonal. Orthogonal variables are independent variables whose values correlation between independent variables is equal to zero. Multicollinearity can be seen by using or looking at a test called Variance Inflation Factor (VIP). A VIP value of less than 10 indicates that there are no symptoms of multicollinearity, meaning there is no relationship between independent variables (Muh Faisal, 2020).

Autocorrelation Test

The autocorrelation assumption test aims to test whether in a linear regression model there is a correlation between confounding error in period t and confounding error in period $t-1$.

Heteroscedasticity Test

Heteroscedasticity is a confounding variable which has a different variance from one observation to another or the variance between independent variables is not the same, this violates the homoscedasticity assumption, namely that each explanatory variable has the same (constant) variance. The heteroscedasticity test can be carried out using the Glejser test, namely by looking at the significance value above the $\alpha=5\%$ level, so it can be concluded that the regression model does not contain heteroscedasticity (Muh Faisal, 2020)

Multiple Linear Regression

Multiple Linear Regression is used to test the fourth hypothesis, namely to find the influence between Inflation and Interest Rates on Stock Returns. This analysis is used to find the functional relationship of all predictors with the criteria. Apart from that, it is also to determine the magnitude of the contribution of predictor variables to the criteria, both relative contribution and effective contribution.

Hypothesis Test

The accuracy of the regression function in interpreting the actual value can be measured by the statistical value of t count for the sample in interpreting the actual value. If the critical area (area with H0 rejected) is different from the statistical test value, then the statistical calculation is called statistically significant. Vice versa, the statistics calculation is called insignificant.

Partial Effect Test (T Test)

The reliability of multiple regression as an estimation tool is largely determined by the significance of the parameters, which in this case are the regression coefficients. The t test is used to test the partial regression coefficient of the independent variable.

Simultaneous Influence Test (F Test)

Test the significance of multiple regression with the F test. The F-statistical test is used to test the magnitude of the influence of all independent variables together (simultaneously) on the dependent variable.

RESULT AND DISCUSSION

Descriptive Statistical Analytical

Based on the data obtained, descriptive analysis was then carried out to provide a clear and detailed picture of the existing data.

Tabel 4.1 Descriptive Analysis Results

| Variable | | Mean | Std. dev. | Min | Max | Observations |
|----------|---------|----------|-----------|-----------|----------|--------------|
| Y | overall | .0089601 | .0780067 | -.115251 | .6457391 | N = 85 |
| | between | | .0243648 | -.027401 | .0901047 | n = 17 |
| | within | | .0742944 | -.1938556 | .5645945 | T = 5 |
| X1 | overall | 4.5 | .7663493 | 3.520833 | 5.625 | N = 85 |
| | between | | 0 | 4.5 | 4.5 | n = 17 |
| | within | | .7663493 | 3.520833 | 5.625 | T = 5 |
| X2 | overall | 2.805667 | .9337634 | 1.56 | 4.205833 | N = 85 |
| | between | | 0 | 2.805667 | 2.805667 | n = 17 |
| | within | | .9337634 | 1.56 | 4.205833 | T = 5 |

Source : Stata Output

Based on table 4.1, the results of the descriptive analysis above explain the general description of the data of the variables used in this research. Stock returns have an average of 0.009 with a maximum

value of 0.646 and a minimum value of -0.1153. Overall, the standard deviation for interest rates is 0.7663, which has an average value of 4.5, a maximum value of 5.625 and a minimum value of 3.521. Meanwhile, inflation has an average value of 2,806, a maximum value of 4,206, and a minimum value of 1.56.

Panel Data Regression Model

Panel data regression is a regression analysis using a combination of two data, namely time series and cross section (individual) (Mursalini, 2020). Panel data analysis requires additional steps to select an appropriate estimation model, such as selecting an estimation method. There are 3 estimation model options that can be used, namely Pooled Least Square, Fixed Effect, and Random Effect.

The first step to take is to choose a model from the three available. The panel data that has been collected is regressed using the Pooled Least Square method, the results of which can be seen in table 4.2, while the regression results using the fixed effect model can be seen in table 4.3.

Tabel 4.2 Pooled Least Square (PLS) Test Results

| | | | | | | |
|----------|-------------|-----------|------------|---------------|----------------------|----------|
| Source | SS | df | MS | Number of obs | = | 85 |
| Model | .01117147 | 2 | .005585735 | F(2, 82) | = | 0.92 |
| Residual | .499971757 | 82 | .006097217 | Prob > F | = | 0.4041 |
| | | | | R-squared | = | 0.0219 |
| | | | | Adj R-squared | = | -0.0020 |
| Total | .511143227 | 84 | .006085038 | Root MSE | = | .07808 |
| Y | Coefficient | Std. err. | t | P> t | [95% conf. interval] | |
| X1 | .015941 | .0118191 | 1.35 | 0.181 | -.0075709 | .039453 |
| X2 | -.0054849 | .0097001 | -0.57 | 0.573 | -.0247813 | .0138116 |
| _cons | -.047386 | .0515601 | -0.92 | 0.361 | -.1499554 | .0551835 |

Source: Stata Output

Tabel 4.3 Fixed Effect (FE) Test Results

| | | | | | | |
|---|-------------|-----------------------------------|-------|-------------------|----------------------|----------|
| Fixed-effects (within) regression | | | | Number of obs | = | 85 |
| Group variable: Perusahaan | | | | Number of groups | = | 17 |
| R-squared: | | | | Obs per group: | | |
| Within = 0.0241 | | | | min | = | 5 |
| Between = . | | | | avg | = | 5.0 |
| Overall = 0.0219 | | | | max | = | 5 |
| corr(u_i, Xb) = -0.0000 | | | | F(2,66) | = | 0.81 |
| | | | | Prob > F | = | 0.4472 |
| Y | Coefficient | Std. err. | t | P> t | [95% conf. interval] | |
| X1 | .015941 | .0125327 | 1.27 | 0.208 | -.0090814 | .0409635 |
| X2 | -.0054849 | .0102858 | -0.53 | 0.596 | -.026021 | .0150513 |
| _cons | -.047386 | .0546733 | -0.87 | 0.389 | -.1565448 | .0617729 |
| sigma_u | .02436478 | | | | | |
| sigma_e | .08279954 | | | | | |
| rho | .07968989 | (fraction of variance due to u_i) | | | | |
| F test that all u_i=0: F(16, 66) = 0.43 | | | | Prob > F = 0.9678 | | |

Source : Output Stata

After the results of the pooled least squares and fixed effects are obtained, the chow test is then carried out. This test is needed to select the most appropriate model between the pooled least square and fixed effect models. The results of the chow test can be seen in table 4.6 fixed effect results. The results of the Chow test show that the cross section probability value is 0.9678 or > 0.05 , so H_0 is accepted. Therefore, the model chosen is Pooled Least Square.

Next, carry out regression with random effects, to determine which model is appropriate. Regression results using random effects can be seen in table 4.4:

Tabel 4.4 Random Effect Test Results

| | | | | |
|-------------------------------|----------|------------------|---|--------|
| Random-effects GLS regression | | Number of obs | = | 85 |
| Group variable: Perusahaan | | Number of groups | = | 17 |
| R-squared: | | Obs per group: | | |
| Within | = 0.0000 | min | = | 5 |
| Between | = 0.0000 | avg | = | 5.0 |
| Overall | = 0.0219 | max | = | 5 |
| corr(u_i, X) = 0 (assumed) | | Wald chi2(2) | = | 1.83 |
| | | Prob > chi2 | = | 0.4001 |

| Y | Coefficient | Std. err. | z | P> z | [95% conf. interval] | |
|---------|-------------|-----------------------------------|-------|-------|----------------------|----------|
| X1 | .015941 | .0118191 | 1.35 | 0.177 | -.0072239 | .039106 |
| X2 | -.0054849 | .0097001 | -0.57 | 0.572 | -.0244966 | .0135269 |
| _cons | -.047386 | .0515601 | -0.92 | 0.358 | -.1484418 | .0536699 |
| sigma_u | 0 | | | | | |
| sigma_e | .08279954 | | | | | |
| rho | 0 | (fraction of variance due to u_i) | | | | |

Sumber : Stata Output

In the previous table which uses Pooled least squares and table 4.4 which uses the random effect model, all show the results of the independent variable having a significant effect on the dependent variable, namely Stock Returns. However, we cannot yet determine which model will be used. Therefore, an LM test is needed to find out.

In table 4.5, the results of the LM test which have been processed using Stata version 17 are presented:

Tabel 4.5 Results

| | | |
|---|------------------|----------------|
| Breusch and Pagan Lagrangian multiplier test for random effects | | |
| $Y[\text{Perusahaan},t] = Xb + u[\text{Perusahaan}] + e[\text{Perusahaan},t]$ | | |
| Estimated results: | | |
| | Var | SD = sqrt(Var) |
| Y | .006085 | .0780067 |
| e | .0068558 | .0827995 |
| u | 0 | 0 |
| Test: Var(u) = 0 | | |
| | chibar2(01) = | 0.00 |
| | Prob > chibar2 = | 1.0000 |

Source : Stata Output

Based on the results of the LM test, it can be seen from the probability value > Chibar-square, namely 1.00, this value is greater than 0.05, this means that H_0 is accepted so the model chosen is Pooled Least Square (PLS). The model accepted from both tests is pooled least square, so the estimation model used is Pooled Least Square (PLS).

Classic Assumption Test

Multicollinearity Test

One way to find out multicollinearity in a model is to look at the correlation coefficient of the computer output. If there is a VIF value > 10 then there are symptoms of multicollinearity.

The following are the output results of the multicorrelation test which can be seen in table 4.6:

Tabel 4.6 Multicollinearity Test Results

| Variable | VIF | 1/VIF |
|----------|------|----------|
| X1 | 1.13 | 0.884771 |
| X2 | 1.13 | 0.884771 |
| Mean VIF | 1.13 | |

Source : Stata Output

Based on testing table 4.6, the VIF value < 10, it can be concluded that the model does not experience multicollinearity problems.

Heteroscedasticity Test

The heteroscedasticity test in this study used the White Heteroskedasticity Test with the following hypothesis:

H_0 : There is no heteroscedasticity

H_1 : There is heteroscedasticity

Tabel 4.7 Heteroscedasticity Test Results

White's test

H0: Homoskedasticity

Ha: Unrestricted heteroskedasticity

$$\chi^2(4) = 4.04$$

$$\text{Prob} > \chi^2 = 0.4007$$

Cameron & Trivedi's decomposition of IM-test

| Source | chi2 | df | p |
|--------------------|------|----|--------|
| Heteroskedasticity | 4.04 | 4 | 0.4007 |
| Skewness | 1.74 | 2 | 0.4184 |
| Kurtosis | 1.08 | 1 | 0.2977 |
| Total | 6.87 | 7 | 0.4429 |

Sumber : Stata Output

Based on the heteroscedasticity test, it shows that the chi-square value (χ^2) is 4.04 and the probability ($\text{prob} > \chi^2$) is 0.4007. A probability value greater than 0.05 indicates that the null hypothesis of the presence of heteroscedasticity in the data is not rejected. This means that there is not enough evidence to state that the variance of the data is not constant. Conversely, if the probability value is smaller than 0.05, then the null hypothesis is rejected, which means there is sufficient evidence to state that the data variance is not constant.

In other words, the results of this test indicate that there is insufficient evidence to state the existence of heteroscedasticity in the data

Correlation Matrix

A correlation matrix is a table that shows the correlation coefficient between two or more variables in a study. This correlation coefficient can range from -1 to 1, and indicates the direction and strength of the relationship between the variables. If the correlation coefficient is positive, then the relationship between these variables is also positive, whereas if the correlation coefficient is negative, then the relationship between these variables is also negative.

Tabel 4.8 Correlation Matrix

| (obs=85) | | | | |
|----------|---------|--------|--------|--|
| | Y | X1 | X2 | |
| Y | 1.0000 | | | |
| X1 | 0.1343 | 1.0000 | | |
| X2 | -0.0125 | 0.3395 | 1.0000 | |

Source : Stata Output

The value of the matrix indicates that the relationship between variable Y (stock returns) and variables X1 (interest rates) and X2 (inflation) is not very close. This can be interpreted as a low correlation value, namely below 0.6.

Panel Data Regression Estimation

The estimated linear regression value is the result of regression analysis which is used to estimate the value of the dependent variable (Y) based on the value of the independent variable (X).

Tabel 4.9 Linear Regression Estimation

| Source | SS | df | MS | Number of obs | = | 85 |
|----------|-------------|-----------|------------|---------------|----------------------|----------|
| Model | .01117147 | 2 | .005585735 | F(2, 82) | = | 0.92 |
| Residual | .499971757 | 82 | .006097217 | Prob > F | = | 0.4041 |
| Total | .511143227 | 84 | .006085038 | R-squared | = | 0.0219 |
| | | | | Adj R-squared | = | -0.0020 |
| | | | | Root MSE | = | .07808 |
| Y | Coefficient | Std. err. | t | P> t | [95% conf. interval] | |
| X1 | .015941 | .0118191 | 1.35 | 0.181 | -.0075709 | .039453 |
| X2 | -.0054849 | .0097001 | -0.57 | 0.573 | -.0247813 | .0138116 |
| _cons | -.047386 | .0515601 | -0.92 | 0.361 | -.1499554 | .0551835 |

Source : Stata Output

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \varepsilon$$

$$Y = -0.0474 + 0.1594 X_1 - 0.0055 X_2 + \varepsilon \dots\dots\dots \text{Equation (1)}$$

From equation (1) we get:

- If X1 and X2 are constant or equal to zero then the stock return value is -0.0474 (-4.7%).
- The coefficient value β_1 is 0.1594, meaning that if X1 (Interest Rate) increases by 1% then Y (share returns) will increase by 0.1594 (11.9%).
- The coefficient value β_2 is -0.0055, meaning that if X2 (inflation) increases by 1% then Y (stock returns) will increase by -0.0055 (-0.5%).

Coefficient of Determination

The coefficient of determination (R-Square) essentially measures the extent of the model's ability to explain variations in the dependent variable. An R-square value close to one means the ability of the independent variables to provide almost all the information needed to predict the dependent variation. The coefficient of determination can be seen in table 4.10:

Tabel 4.10 Coefficient of Determination (R^2)

| Source | SS | df | MS | Number of obs | = | 85 |
|----------|------------|----|------------|---------------|---|---------|
| | | | | F(2, 82) | = | 0.92 |
| Model | .01117147 | 2 | .005585735 | Prob > F | = | 0.4041 |
| Residual | .499971757 | 82 | .006097217 | R-squared | = | 0.0219 |
| | | | | Adj R-squared | = | -0.0020 |
| Total | .511143227 | 84 | .006085038 | Root MSE | = | .07808 |

| Y | Coefficient | Std. err. | t | P> t | [95% conf. interval] | |
|-------|-------------|-----------|-------|-------|----------------------|----------|
| X1 | .015941 | .0118191 | 1.35 | 0.181 | -.0075709 | .039453 |
| X2 | -.0054849 | .0097001 | -0.57 | 0.573 | -.0247813 | .0138116 |
| _cons | -.047386 | .0515601 | -0.92 | 0.361 | -.1499554 | .0551835 |

Source : Stata Output

Based on table 4.10, the large R-Square (R^2) number is 0.0219. This shows that the percentage contribution of the influence of the independent variable to the dependent variable is 2.2%. Or it can be interpreted that the independent variable used in the model is able to explain 2.2% of the dependent variable. The remaining 97.8% is influenced by other factors outside the regression model, including foreign exchange, economic growth rates, fuel prices on the international market, etc.

Hypothesis Test

Partial Test (T Test)

The partial test is a test carried out to determine that the independent variables, namely interest rates and inflation, have a partial effect on the dependent variable, namely Stock Returns.

Table 4.11 Parsial Test (T test)

| Source | SS | df | MS | Number of obs | = | 85 |
|----------|------------|----|------------|---------------|---|---------|
| | | | | F(2, 82) | = | 0.92 |
| Model | .01117147 | 2 | .005585735 | Prob > F | = | 0.4041 |
| Residual | .499971757 | 82 | .006097217 | R-squared | = | 0.0219 |
| | | | | Adj R-squared | = | -0.0020 |
| Total | .511143227 | 84 | .006085038 | Root MSE | = | .07808 |

| Y | Coefficient | Std. err. | t | P> t | [95% conf. interval] | |
|-------|-------------|-----------|-------|-------|----------------------|----------|
| X1 | .015941 | .0118191 | 1.35 | 0.181 | -.0075709 | .039453 |
| X2 | -.0054849 | .0097001 | -0.57 | 0.573 | -.0247813 | .0138116 |
| _cons | -.047386 | .0515601 | -0.92 | 0.361 | -.1499554 | .0551835 |

Source : Stata Output

Effect of Interest Rates on Stock Returns

The results of the panel data regression analysis test show that the tcount result for the independent variable Interest Rate is 1.35, while the ttable value with $\alpha = 0.05$ and $df = (n-k)$, $df = 82$ where the ttable value is 1.98932, which means that the tcount value is smaller than the value ttable ($1.35 < 1.98932$),

then if you look at the probability value, which is 0.18, which is greater than 0.05, then H_0 is accepted. This means that interest rates have an insignificant influence on stock returns.

Effect of Inflation on Stock Returns

It can be seen from the results of the panel data regression analysis test that the t-count result for the independent variable Inflation is -0.57, while the t-table value is $\alpha = 0.05$ and $df = (n-k)$, $df = 82$ where the t-table value is 1.98932, which means that the value tcount is greater than the ttable value ($-0.57 < 1.98932$), then if you look at the probability value, which is 0.57 which is greater than 0.05, then H_1 is rejected. This means that inflation has an insignificant influence on stock returns.

Simultaneous Test (F Test)

The F test is used to find out whether the independent variables together have an effect on the dependent variable or to find out whether the regression model can be used to predict the dependent variable or not. If the value of $F_{count} > F_{table}$ then H_0 is rejected and it can be concluded that the independent variable simultaneously influences the dependent variable. If the value of $F_{count} < F_{table}$, then H_0 is accepted and it can be concluded that there are no independent variables that influence the dependent variable.

Tabel 4.12 Simultaneous Test (F Test)

| Source | SS | df | MS | Number of obs | = | 85 |
|----------|------------|----|------------|---------------|---|---------|
| Model | .01117147 | 2 | .005585735 | F(2, 82) | = | 0.92 |
| Residual | .499971757 | 82 | .006097217 | Prob > F | = | 0.4041 |
| | | | | R-squared | = | 0.0219 |
| | | | | Adj R-squared | = | -0.0020 |
| Total | .511143227 | 84 | .006085038 | Root MSE | = | .07808 |

| Y | Coefficient | Std. err. | t | P> t | [95% conf. interval] | |
|-------|-------------|-----------|-------|-------|----------------------|----------|
| X1 | .015941 | .0118191 | 1.35 | 0.181 | -.0075709 | .039453 |
| X2 | -.0054849 | .0097001 | -0.57 | 0.573 | -.0247813 | .0138116 |
| _cons | -.047386 | .0515601 | -0.92 | 0.361 | -.1499554 | .0551835 |

Source : Stata Output

Based on the results of table 4.12, the F_{count} value is 0.92 while the F_{table} with a level of $\alpha = 0.05$ is 3.11. Thus, $F_{count} < F_{table}$ ($0.92 < 3.11$), then it can also be seen from the probability value that it is 0.4041 which is greater than the significance level of 0.05 so that H_0 is accepted. This shows that the Interest Rate and Inflation variables together (simultaneously) have an insignificant influence on Stock Returns.

CONCLUSION

Based on the results of research on the influence of interest rates and inflation on stock returns in beverage & food industry sub-sector companies on the Indonesia Stock Exchange, it can be concluded that:

1. Interest rates have no significant effect on stock returns. This is reinforced by the tcount value (1.35) being smaller than the ttable value (1.98932), which shows that interest rates and stock returns are not statistically significant.
2. Inflation has no significant effect on stock returns. This is proven by the tcount value (-0.57) which is smaller than the ttable value (1.98932), which shows that inflation and stock returns are not statistically significant.

3. Interest Rates and Inflation together (simultaneously) have an insignificant effect on Stock Returns, where Fcount (0.92) is smaller than the Ftable value (3.11)

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