

The Impact of Inflation on Stock Price: An Empirical Study of Food and Beverage Sub-Sector Manufacturing Companies Listed on the Indonesia Stock Exchange for the 2019-2021 Period

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Abstract

This study investigates the impact of inflation on stock prices. The research used an explanatory method. The population in this study are 26 manufacturing companies in the food and beverage sub-sector which are listed on the Indonesia Stock Exchange for the 2019-2021 period. The sample in this research was carried out using a nonprobability sampling technique and also purposive sampling method. The number of samples in this research was 19 companies. The analysis technique used the classical assumption test, simple regression analysis with panel data method at a significance level of 5%, and also hypothesis testing. Eviews 10 was applied for statistical calculation. The results of this study indicate that the inflation affects stock prices.

Keywords: *Inflation, Stock Price.*

INTRODUCTION

Nowadays, the development in business is rapid. One of the companies that can affect the economy of Indonesia is a manufacturing company. The company's goal is to maximize the profits for the shareholders (Christine & Apriwandi, 2022). A manufacturing company is a company whose main task is buying raw materials and then turning them into finished goods that would be sold to customers (Indrawati, 2016).

The capital market is a place for trading various long-term financial instruments (Darmadji and Fakhruddin, 2012). The capital market is also a mean of funding for investment activities, thus the capital market facilitates various kinds of facilities and infrastructure for buying and selling activities and other activities related to this matter (Permatasi & Kusumah, 2017). The financial instruments that are traded in the capital market are long-term instruments (with a term of more than 1 year), such as stocks, bonds, mutual funds and others. A stock is one of the instruments traded in the capital market. Then, shares means securities that show the ownership of the company, so that the shareholders have the right to receive dividends.

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Basically, stock prices always fluctuate every day. Therefore, the inventors must consider the factors that are able to affect the stock prices. The more people buy a stock, the more stock price tends to move up. On the other hand, the more people sell stock in a company, the stock price tends to fall. There are two factors that are able to influence the stock price fluctuations, they are internal factors and also external factors (Yongki & Siti, 2009).

Food and beverage companies are companies that produce food and beverage products. In Indonesia, this sub-sector has an important role, because their products are the basic needs of the Indonesian people. According to the Central Bureau of Statistics, the inflation rate for the health and food, beverage and tobacco sectors from 2019 to July 2021 has been fluctuated. However, after several months, the grocery sector experienced deflation and reached its highest in August 2020, namely 0.86%. Meanwhile, in July 2021, the healthcare and the grocery sectors improved by 0.24% and 0.15% compared to the previous month.

One of the factors that affect stock prices is inflation. High inflation causes the company's operating costs to increase, resulting in decreased company profits and affects investors who are less interested in investing in the company. Thus, this condition causes the stock price is increasing (Sukirno, 2008).

The phenomena related to inflation on stock prices are cited from the website jatengdaily.com by Laeli Sugiyono as Middle Statistics at the BPS Central Java Province (2021), the inflation increases, and earning share prices usually decrease. It means that when you own shares with dividends. The stock price decreases when the inflation increases. Under these conditions, investors are able to take advantage of the situation to buy shares at low price. In addition, many studies have investigated on stock prices but they showed the different results, including by Kurniawan and Tri (2019), their research showed that inflation has a significant positive impact on stock prices.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Inflation

According to Murni (2016:218), inflation is an event that refers to a generally increasing price level and occurs continuously. According to Natsir (2014:266), the formula used to calculate inflation is as follows:

$$INF_n = \frac{IHK_n - IHK_{n-1}}{IHK_{n-1}} \times 100\%$$

Where:

- INF_n = Inflation or deflation at time (month or year) (n)
- IHK_n = Consumer Price Index at time (month or year) (n)
- IHK_{n-1} = Consumer Price Index at time (month or year) (n-1)

Inflation gives positive and negative influence depending on the severity of inflation. The positive impact will be given if the inflation is not worst, such as improving the national income, encouraging people to work, saving and also investing. On the other hand, the economy will chaos and low when the inflation is getting worst or out of control (hyperinflation).

According to Nano Prawoto (2019:81), there are several policies to prevent inflation, as follows:

1. Monetary Policy: This policy focuses on the money supply. The central bank uses monetary policy by changing the bank's minimum reserves, changing the discount rate, opening market operations, and moral appeals to commercial banks.
2. Fiscal Policy: This policy consists of government spending and taxation. They directly affect prices. This policy is also related to the government's policy on spending and taxation, which can directly affect process. Reduction of total demand and inflation is one of the fiscal policies.
3. Policies related to Output: The output that continues to increase is able to reach by policies. This policy can reduce the import duties so that the import prices is increasing or decreasing in prices. The increase in output can hold up the movement of inflation.
4. Pricing and Indexing Policy: This policy is caused by setting a ceiling price (the highest price), especially for the cost of certain goods, and the index of wages or salaries.

Stock Prices

The share price is the price for Securities traded on the Stock Exchange where the share price is affected by the large number of requests and offers where the share price is unpredictable (Christine & Winarti, 2022).

According to Sunariyah (2011:127), there are three types of stock prices, they are:

1. Nominal Share Price
The initial price defined as a value set by the issuer to examine each share issued. For example, the nominal share price depends on the issuer wish.
2. Prime Price or Common Stock Price
A Prime price or common stock price means the price before the listed price published on the Exchange. The price depends on the agreement between the issuer and the underwriter.
3. Share Market Price
This price is the selling price of shares between one investor and another after being listed on the Exchange. It depends on the forces of demand and the secondary market offers.

Share

Shares are proof of the company's ownership, where the owner is also known as a shareholder (stockholder). The form of shares is a piece of paper, which explains that the owner of paper or document is the company's owner that issues the securities (Adnyana, 2020:33).

The Impact of Inflation on Stock Prices

Mohamad Samsul (2015:211) explains the effect of inflation on stock prices. High inflation drives down stock prices in the market. Beside that, moderate inflation also slows down stock prices.

A high inflation increases company's costs. If the increased cost is more than the increased selling price set by the company, then the company's profitability will decrease. Investors will not invest in the company, so the stock price drops. On the other hand, moderate inflation will encourage company growth. If the increased costs are smaller than the increased selling price set by the company, the company's profitability will increase. Investors are glad to invest their money in a company, therefore, the share price will be rising (Kurniawan & Tri, 2019).

The results of the research is similar to the research conducted by Rachmawati (2018), Kurniawan and Tri (2019), Nurasila, Diah, & Supramono (2019), Jefry and Abid (2020), Ratnasari, Abdul, and Cholid (2019). The result showed that inflation has a significant effect on stock prices.

Based on the description above, the following is an overview of the research framework:

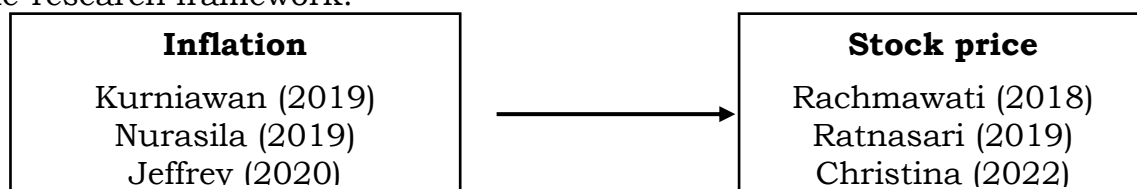


Figure 1. Thinking Framework

Based on the framework described above, the research hypothesis is as follows:

H₀: Inflation does not affect stock prices

H₁: Inflation affects stock prices

METHOD

Type of Research

This research is quantitative research. It uses a secondary data from the Indonesian Stock Exchange (IDX) website, namely www.idx.co.id. The secondary data used in this study is the closing price of the sample companies in 2019-2021 period, while the inflation data in this study comes from the Bank Indonesia (BI) website, namely www.bi.go.id. The secondary data used in this study is the actual inflation that occurred in Indonesia in 2019-2021.

The research object in this study is inflation and stock prices. Inflation is the independent variable, while stock prices used as dependent variable.

Population and Sample

The population in this research is a food and beverage sub-sector manufacturing listed on the Indonesia Stock Exchange (IDX) for the 2019-2021 period. After applying purposive sampling method to obtain the data, there were 19 companies used as samples of this research. After applying the normality test, the extreme values require the researcher to remove the data by conducting an outlier test. Therefore, there were 54 samples used as the data by the researchers.

Table 1. Research Sample Selection Process

No	Sample Criteria	Amount
1	Food and beverage sub-sector manufacturing companies listed on the Indonesia Stock Exchange (IDX) in 2019- 2021.	26
2	Manufacturing companies in the food and beverage sub-sector that have not published their financial reports consecutively in 2019- 2021.	(5)
3	Manufacturing companies in the food and beverage sub-sector that do not have consistently audited financial reports in 2019- 2021.	(0)
4	Manufacturing company in the food and beverage sub-sector that is conducting an IPO in 2020	(2)
5	The selected company chosen as the samples	19
6	Number of sample companies in 2019-2021 (19 companies x 3 years)	57
7	The Outlier Data	(3)
The number of samples used in the study		54

Data Collection Method

In this study, the researcher uses several methods to obtain the data as follows:

1. Literature Review (Literature Study)
Literature study is carried out by studying or reviewing theories, understanding required books (literature), the result of experts' research, textbooks, journal, and other references related to the observed problems.
2. Internet Studies (Internet Research)
The secondary data is obtained through internet studies. The researchers used several websites such as www.idx.co.id and www.bi.go.id. Other official websites also used by the researchers as the additional references.

Data Testing Methods

The data testing method used the classical assumption test. It obtains to fulfill the requirements of linear regression analysis and to ensure that the regression coefficient is unbiased, consistent, and accurate.

Data Analysis

The data analysis method used in this study is simple linear regression analysis. Regression analysis is used to test the relationship of one dependent variable and one independent variable (Sugiyono, 2018:4).

The partial test or t-statistical test is basically to show how far the influence of one independent variable has on the dependent variable by assuming the other independent variables are constant (Ghozali, 2018:98)

The coefficient of determination basically measures how far the model can explain the variation in the dependent variable is. A small R^2 value means that the ability of the independent variables to explain the variation in independent variable is limited. The score that closed to one means that the independent variables provide almost all the information needed to predict variations is the dependent variable (Ghozali, 2018:97).

RESULTS AND DISCUSSION

Normality Test

The normality applied to test whether the residual or confounding variables in the regression model have a normal distribution or not. The model used in this study *Jarque-Bera* test. Decision-making is taken by looking at the resulting probability value. If the resulting probability value is more than 0.05, then the data is not distributed normally. On the other hand, if the resulting probability value is less than 0.05 then the data is not distributed normally. The following are the results of the normality test:

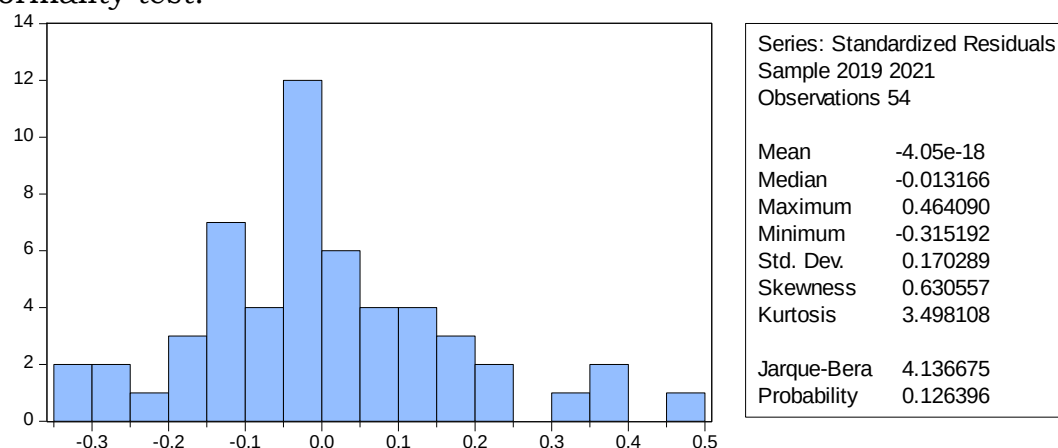


Figure 2. Normality Test

Source: Eviews Output Results 10

Based on the data above, the probability value is 0.126396, because the probability value on the Jarque-Bera test is greater than the margin of error of 5% (0.05), it concludes that the regression model is distributed normally. Therefore, it can be assumed that the assumption of normality of the data is fulfilled.

Heteroscedasticity Test

The purpose of the heteroscedasticity test is to test whether there is an inequality of variance from one residual observation to another in the regression model. If the variance from one observer's residual to another observer is constant, then it is called homoscedasticity. But if it is different, it is called as heteroscedasticity. A good regression model is a model that has homoscedasticity or no

heteroscedasticity at all. To test heteroscedasticity using *Breusch-Pagan-Godfrey* test with the following condition:

1. If the obs*R-square probability value is < 0.05 then there are the symptoms of heteroscedasticity
2. If the obs*R-square probability value is > 0.05 , then there are no symptoms of the heteroscedasticity.

Following are the results of the heteroscedasticity test:

Table 2. Heteroscedasticity Test Results

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistics	0.02387	Prob. F(1,52)	0.8779
Obs* R-squared	0.02472	Prob. Chi- Square(1)	0.8751
Scaled explained SS	0.03914	Prob. Chi- Square(1)	0.8431

Source: Eviews Output Results 10

Based on the table above, the test results through *Breusch-Pagan-Godfrey* shows an Obs*R-squared probability value of 0.024722 with a Chi-Square value is 0.8751, because the probability value is more than 0.05 ($0.8751 > 0.05$), it can be concluded that there is no heteroscedasticity in this study.

Autocorrelation Test

The autocorrelation test applied to test whether there is a correlation between the confounding errors in t-period and the residual error in t-1 period (previous). In this study, the autocorrelation test used *Breusch-Godfrey test*. If the resulting probability is more than 0.05 then the regression model is free from autocorrelation problems. The following are the results of the autocorrelation test:

Table 3. Autocorrelation Test Results

Breusch-Godfrey Serial Correlation LM Test:

F-statistics	1.45523	Prob. F (1,51)	0.2333
Obs*R- squared	1.498078	Prob. Chi-Square (1)	0.2210

Source: Eviews Output Results 10

Based on the results of *Breusch-Godfrey test*, you can see the Prob value. Chi-Square (Obs*R-squared) of 0.221 is still greater than 0.05 ($0.221 > 0.05$), because the probability value is more than 0.05. It can be concluded that there are no signs of autocorrelation in the regression model.

Simple Linear Regression Analysis

In linear regression, the coefficients are taken which is able to be added to the regression equation. The variables will be tested include stock prices and inflation. The results of linear regression testing carried out by *Eviews* as follows:

Table 4. Simple Linear Regression

Variables	coefficient	std. Error	t-Statistics	Prob.
C	-0.479087	0.145107	- 3.301619	0.0017
INFLATION	21.64763	6.723878	3.219516	0.0022

Source: EvIEWS Output Results 10

The results of regression test above are used to be entered into the equation to see the relationship between the independent variable and the dependent variable. So, the regression equation obtained is as follows: Stock Price = -0.479087 + 21.64763 Inflation

Based on these equations, it can be concluded as follows:

1. The constant value of -0.479087 indicates the decreased average in stock prices when inflation is zero. It means that when inflation is increasing, so the stock prices of food and beverage sector listed on the Indonesia Stock Exchange will decrease. So, the constant value of the stock price is negative
2. The positive inflation coefficient is 21,64763, it indicates a number of stock prices when inflation increases by 1%. If inflation increases by 1%, then the stock price of the food and beverage sector listed on the Indonesia Stock Exchange is predicted to increase by 21.648%.

T-test

The partial test or t-statistical test is used to show how far the independent variable affects the dependent variable by assuming that the other independent variables have a constant value (Ghozali, 2018:98). A partial test or t-test is used to determine whether or not the independent variable has a significant effect on the dependent variable. If the significance value is less than 0.05, it can be concluded that the independent variable influences the dependent variable. The following are the results of the t-test:

Table 5. Partial Hypothesis Testing (t test)

Variables	coefficient	std. Error	t-Statistics	Prob.
C	-0.479087	0.145107	- 3.301619	0.0017
INFLATION	21.64763	6.723878	3.219516	0.0022

Source: EvIEWS Output Results 10

Determination Coefficient (R²)

The determination coefficient test is used to measure how far the model is able to explain the variation of the independent variable to the dependent variable. The results of the coefficient of determination test is as follows:

R-squared	0.166203	Mean dependent var	- 0.022482
Adjusted R-squared	0.150168	SD dependent var	0.244641
SE of regression	0.225525	Akaike info criterion	- 0.104434
Sum squared residue	2.644810	Schwarz criterion	- 0.030768
Likelihood logs	4.819714	Hannan-Quinn criter.	- 0.076024
F-statistics	10.36528	Durbin-Watson stat	1.666954
Prob (F- statistic)	0.002214		

Based on the table above, the R-Square value of 0.166203 indicates that inflation is able to explain changes in stock prices of food and beverage sector listed on the Indonesia Stock Exchange by 16.6%. In other words, inflation has an influence/contribution of 16.6% on the stock price of food and beverage sector listed on the Indonesia Stock Exchange, while the remaining 83.4% is the influence of other factors not examined.

CONCLUSION

Based on the results of data analysis and discussion that has been carried out regarding the impact of inflation on stock prices, the researchers conclude that inflation affects stock prices in food and beverage sub-sector manufacturing companies listed on the Indonesia Stock Exchange for the 2019-2021 period. For further research, he researchers suggest to expand the range of research by adding the independent variables, and adding a longer time spand in order to obtain better analysis results.

REFERENCES

- Alvina, S. N. (2019). *Pengaruh Inflasi, Tingkat Suku Bunga (BI Rate) Terhadap Harga Saham (Studi Empiris pada Perusahaan Sektor Perbankan yang Terdaftar di BEI pada Periode 2016-2018)*. Universitas Widyatama Bandung.
- Aribowo, H., Wirapraja, A., & Wijoyo, I. (2019). *Mudah Memahami dan Mengimplementasikan Ekonomi Makro-Disertai Teori, Soal Diskusi, dan Studi Kasus*. Andi.
- Bunga, M. C. (2020). *Pengaruh Inflasi Terhadap Return Saham (Studi Empiris pada Perusahaan Sektor Real Estate dan Property yang Terdaftar di BEI Periode 2016-2018)*. Universitas Widyatama Bandung.
- Christine, D., & Apriwandi, A. (2022). Audit Internal dan Pencegahan Kecurangan-Bukti Empiris Pada Perusahaan Umum Badan Urusan Logistik (BULOG). *Owner*, 6(3), 3270–3280. <https://doi.org/10.33395/owner.v6i3.1046>
- Christine, D., & Winarti, W. (2022). Pengaruh Return on Assets, Return on Assets, Return on Equity, Earning per Share, Dividend Payout Ratio Terhadap Harga Saham. *Accountthink : Journal of Accounting and Finance*, 7(01), 4113–4124. <https://doi.org/10.35706/acc.v7i01.6338>
- Fahlevi, M. (2019). *The Influence of Exchange Rate, Interest Rate and Inflation on Stock Price of LQ45 Index in Indonesia*. 343(Icas), 157–

163. <https://doi.org/10.2991/icas-19.2019.34>
- Inflasi. (n.d.). Bi.Go.Id. Retrieved September 28, 2022, from <https://www.bi.go.id/id/fungsi-utama/moneter/inflasi/default.aspx>
- Jefry, J., & Djazuli, A. (2020). The Effect of Inflation, Interest Rates and Exchange Rates on Stock Prices of Manufacturing Companies in Basic and Chemical Industrial Sectors on the Indonesia Stock Exchange (IDX). *International Journal of Business, Management & Economics Research*, 1(1), 34–49. <https://doi.org/10.47747/ijbmer.v1i1.49>
- Kurniawan, A., & Yuniati, T. (2019). Pengaruh Inflasi, Suku Bunga dan NilaiTukar terhadap Harga Saham Perusahaan Perbankan. *Jurnal Ilmu Dan Riset Manajemen*, 8(1), 1–16.
- Laeli, S. (2021). *Pengaruh Inflasi Terhadap Saham*. Jatengdaily.Com. <https://jatengdaily.com/2021/pengaruh-inflasi-terhadap-saham/?amp=1>
- Nurasila, E., Yudhawati, D., & Supramono, S. (2020). Pengaruh Inflasi Dan Suku Bunga Terhadap Harga Saham Pada Sektor Industri Barang Dan Konsumsi. *Manager: Jurnal Ilmu Manajemen*, 2(3), 389. <https://doi.org/10.32832/manager.v2i3.3714>
- Permata, I. L. (2019). *Pengaruh Nilai Tukar dan Inflasi Terhadap Harga Saham (Studi Empiris pada Perusahaan Sektor Pertambangan yang Terdaftar di BEI Tahun 2016-2018)*. Universitas Widyatama Bandung.
- Permatasi, R., & Kusumah, R. W. R. (2017). Pengaruh Return On Asset, Price Earning Ratio, Ukuran Perusahaan, Prsentase Penawaran, Saham, dan Reputasi Underwriter Terhadap Tingkat Underpricing (Studi Pada Perusahaan yang Melakukan Initial Public Offering di Bursa Efek Indonesia Periode 2008-2015).
- Rachmawati, Y. (2019). Pengaruh Inflasi dan Suku Bunga Terhadap Harga Saham Pada Perusahaan Perbankan Yang Terdaftar di LQ45 Bursa Efek Indonesia. *Jurnal Media Akuntansi (Mediasi)*, 1(1), 66. <https://doi.org/10.31851/jmediasi.v1i1.2368>
- Ratnasari, D., Wahid Mahsuni, A., & Mawardi, M. C. (2019). Pengaruh Kurs, Inflasi, Dan Suku Bunga Terhadap Harga Saham Pada Perusahaan Yang Go Public Di Bursa Efek Indonesia. *E-JRA Universitas Islam Malang*, 08(09), 1–13.
- Saham. (n.d.). Idx.Co.Id. Retrieved September 28, 2022, from <https://www.idx.co.id/produk/saham/>
- Sugiyono. (2012). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D*. Bandung: Alfabeta.
- Tingkat inflasi sektor kesehatan dan sembako, 2019-Juli 2021*. (2021). Retrieved from: <https://lokadata.beritagar.id/chart/preview/tingkat-inflasi-sektor-kesehatan-dan-semako-2019-juli-2021-1628047271>