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The Effect of Inflation and Interest Rates on Stock Prices with Profitability as a Moderation Variable (Study on Food and Beverage *Sub-Sector Manufacturing Companies* Listed on the IDX in 2020-2024)

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ABSTRACT

This study aims to test the influence of inflation and interest rates on stock prices with profitability as a moderation variable. This study uses the population of manufacturing companies in the food and beverage sub-sector listed on the Indonesia Stock Exchange (IDX) in 2020-2024 with a sample of 85. This study uses WarPLS software version 8.0. The results of this study show that inflation and interest rates have no effect on stock prices, profitability moderates the effect of inflation on stock prices and profitability moderates the effect of interest rates on stock prices.
Keywords: *Inflation, Interest Rate, Profitability, Stock Price*
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INTRODUCTION

Globalization has driven rapid progress in the economic field, which has had a significant impact on various investment and financing activities both in the short and long term. One of the tangible evidence of this impact is the increasing role of the capital market as a source of funding as well as a strategic investment instrument (Miar et al., 2024). Mafaza et al (2023) emphasize that in making investment decisions, one of the important factors that must be considered is the stock price, because the stock price reflects the company's ability to generate profits. Among various sectors, manufacturing company shares, especially in the *food and beverage* sub-sector , are the most in demand by investors, because they are considered more resilient to crises than other industrial sectors, and play a role as the main support for economic growth in Indonesia (Cipta, 2021). The following is data on the development of stock prices of several companies in the *food and beverage* sector listed on the IDX in 2020-2024

Table 1 Food and beverage stock price

No	Code	Year				
		2020	2021	2022	2023	2024
1	ALTO	308	280	50	50	16
2	INDF	6.850	6.325	6.725	6..450	7.700
3	MLBI	9.700	7.800	8.950	7.750	6.100
4	MYOR	2.710	2.040	2.500	2.490	2.780
5	ROTI	1.360	1.360	1.320	1.150	970

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6	ULTJ	1.600	1.570	1.475	1.600	1.805
7	CAMP	302	290	306	402	256
8	CLEO	500	470	555	710	1.575

(Source: idx.co.id)

Table 1 above illustrates the stock price movements of several manufacturing companies during the period 2020 to 2024. It can be seen that several companies such as ALTO, MLBI, CAMP and ROTI have experienced a decline in share value, while INDF, CLEO, MYOR and ULTJ have recorded an increase in the last year. These stock price movements reflect the dynamics of the stock market in the manufacturing sector which is very important for analyzing investment performance. The fluctuations in stock prices are influenced by various factors, both internal and external (Laraswati et al., 2023). External factors include macroeconomic conditions such as inflation and interest rates, while internal factors are related to the company's profitability. The following is data on changes in inflation and interest rates which are one of the determining factors for stock price movements.

Table 2 Inflation and Interest Rate Performance Data

Year	Inflation	Interest rates
2020	1.68 %	3,75%
2021	1.87 %	3.50 %
2022	5.51 %	5.50 %
2023	2.61 %	6.00 %
2024	1.57 %	6.00 %

Source: data processed (2025)

This table shows inflation rates and interest rates from 2020 to 2024, with inflation rising sharply in 2022 before falling again, while interest rates have risen since 2021 and stabilized at high levels in 2023 and 2024. The inflation and interest rate tables show external factors that affect stock price movements and investment performance. The results of previous research on inflation and interest rates show inconsistent results, Pramana et al., (2025), Hasanudin, (2025) stated that inflation has a positive effect on stock prices while research by Asmara & Suarjaya, (2018), Erlangga et al., (2023) states that inflation has no effect on stock prices. Zhang, (2023), Siska Tri Amanda et al., (2023) revealed that interest rates have a positive effect on stock prices while research by Lesmana et al., (2022) states that interest rates have no effect on stock prices.

The company's internal factors, namely profitability, have a very important role because profitability reflects the company's ability to generate profits from its operational activities (Arlita et al., 2023). A company can be said to be running well if its financial performance is positively reflected in its financial statements (Agustina et al., 2024). Khair et al., (2024) stated that there are various methods that can be used to measure the level of profitability of a company, depending on the type of ratio applied. Some of them are ROA, ROE, and ROS In this study, profitability measurement is focused on Return on Sales (ROS), because this ratio directly reflects the company's efficiency in generating profits from its sales revenue. In addition, company profitability serves as a moderation variable that can strengthen or

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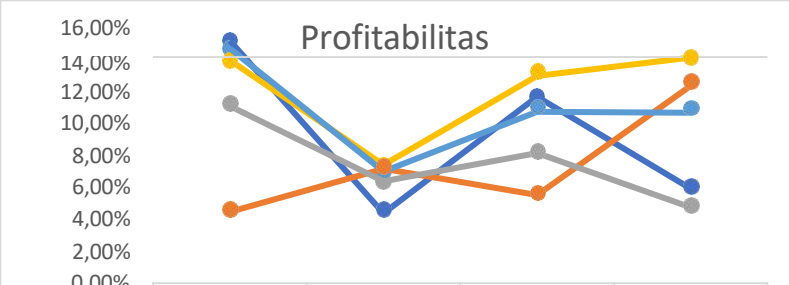
weaken the influence of external factors on stock prices. The following will explain profitability

Chart 1 Company Profitability Performance



	INDF	GOOD	MYOR	CAMP
2020	15,20%	4,40%	11,70%	5,94%
2021	4,49%	7,19%	5,55%	12,38%
2022	11,11%	6,41%	8,17%	4,77%
2023	13,98%	7,43%	13,00%	14,15%
2024	14,72%	7,02%	10,76%	10,69%

Source: data processed (2025)

The graph above illustrates the profitability development of four manufacturing companies, namely INDF, GOOD, MYOR, and CAMP, during the period 2020 to 2024. It can be seen that the level of profitability of each company fluctuates every year. Some companies, such as INDF and CAMP, show significant increases in certain years. This data reflects variations in financial performance between companies within the manufacturing sector.

Based on this description, the researcher wanted to conduct a study entitled The Effect of Inflation and Interest Rates on Stock Prices with Profitability as Profitability.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Inflation

Simanungkalit, (2020) explained that inflation can be simply interpreted as a general and sustainable price increase. A price increase on just one or two goods is not called inflation, unless the increase extends to or impacts most other goods, e.g. the price of rice, the price of fuel, the price of a car, the wages of labor, the price of land.

Interest rates

The interest rates is an annual percentage of the loan amount calculated based on the ratio between the amount of interest received each year and the total loan provided (Klasjok, 2018).

Stock Price

Dewi Natasha & Suwarno, (2022) revealed that the stock price is the value per share of a company set by the stock exchange. These stock prices also reflect the overall value of the company in the market.

Profitability

Kasmir, (2018) stated that profitability is the company's ability to generate profits during a certain period, which also reflects the level of effectiveness of management in carrying out the company's operational activities

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Signalling theory

Spence (1973) put forward signalling *theory,* which explains that management as the owner of information can provide signals to other parties through the dissemination of information about the condition of the company.

Top- Down Aproach Theory

Reilly & Brown, (2012) revealed that the top-down approach begins with a comprehensive analysis of economic conditions for all companies and securities, then analysis of the prospects of the global industry in the context of the economy. Finally, the analysis continues on individual companies in alternative industries and common shares issued by each company.

Hipotesis

The Effect of Inflation on Stock Prices

An increase in the company's stock price during inflation can provide a positive signal. This shows that the company is able to maintain its performance despite facing economic pressure due to inflation, this positive signal then increases investor confidence in the company, thus encouraging them to buy the company's shares.

H1: Inflation has a positive effect on stock prices

The effect of interest rates on stock prices

The information submitted by the company at a time when interest rates are rising gives a positive signal to investors This happens because the company is able to increase profits despite high borrowing costs, thereby increasing investor confidence. Such confidence encourages investors to buy stocks, which in turn has the potential to increase stock prices

H2: Interest Rates Have a Positive Effect on Stock Prices

The effect of profitability in moderating the relationship between inflation and stock prices

Companies with high levels of profitability can amplify the influence of inflation on stock prices because of their ability to continue to generate significant profits even when inflation increases, which in turn tends to drive up the selling price of products. This condition makes investors assess that the company has a good performance despite inflationary pressures. Therefore, investor confidence in the company's prospects increases and drives demand for stocks, potentially driving up stock prices.

H3: profitability moderates the relationship between inflation and stock prices

The effect of profitability in moderating the interest rate relationship to stock prices

Companies with high profitability can strengthen the influence of interest rates on stock prices. Although rising interest rates cause capital costs and debt repayment obligations to rise, depressing net profits, companies that are able to manage profits effectively still attract investors. This led investors to believe that the company could manage the risk of interest rate changes, so that the demand for shares increased and the stock price potentially rose

H4: profitability moderates the relationship between inflation and stock prices

METHODS

The research method used is quantitative research. The data source used in this study is secondary data. The data used comes from the annual *reports of* food and beverage *manufacturing companies* listed on the IDX for 2020-2024. The sample technique used was

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purposive sampling which obtained a population of 30 companies and the sample size used was 17 companies. Data analysis techniques using WarpPLS 7.0 software. The analysis method used to test the hypothesis is *path analysis* and there are 2 stages of model evaluation, namely *the outer model* (measurement model test) and *the inner model* (structural model test)

RESULTS

1. Evaluation of the outer model (measurement model test) which consists of 3 criteria, namely convergent validity, discriminant validity and reliability test

Table 1
Result output *combined loading and cross-loading*

Variabel	IN	IR	SP	ROS	P-Value
Inflation	(1.000)	0.000	0.000	0.000	<0,001
Interast rate	0.000	(1.000)	0.000	0.000	<0,001
Stock price	0.000	0.000	(1.000)	0.000	<0,001
ROS	0.000	0.000	0.000	(1.000)	<0,001

Source: Result Output WarPLS 8.0 (2025)

Table 2
Result output *combined loading and cross-loading*

Variabel	IN	IR	SP	ROS	Z*X1	Z*X2
R-squared			0,209			
Composite Reliability	1.000	1.000	1.000	1.000	1.000	1.000
Cronbach alpha	1.000	1.000	1.000	1.000	1.000	1.000
Avg. var. extrac	1.000	1.000	1.000	1.000	1.000	1.000
Q-squared			0,233			

Sumber: Hasil Output WarPLS 8.0 (2025)

a. *Convergent Validity* (Validitas Konvergen)

Based on table 1, all variables are valid where the *loading factor value* of all variables is > 0.5 to 1,000 and the P-value is < 0.05 so that it can be concluded that all variables are significant and qualified. Solimun & Nurjannah, (2017) revealed that the AVE value is more than 0.5, from table 4.4 the entire construct is qualified with a value of 1,000

b. *Discriminant Validity* (Validitas Diskriminan)

Discriminant validity can be seen from the *loading* and *cross loading values.* Solimun & Nurjannah, (2017) stated that a *loading* value greater than *cross loading* is said to be qualified, in table 1 the cross loading value is more than 0.0 lower than the *loading value* of 1,000, then the result has met the requirements of discriminant validity.

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c. Uji reliabilitas

Uji reliabilitas diukur menggunakan *Composite reliability* dan *Cronbach's alpha*. Pada tabel 2 menunjukkan bahwa semua nilai Composite reliability > 0,7 sebesar 1.000 dan Cronbach's alpha > 0,6 sebesar 1.000. Dapat disimpulkan bahwa data penelitian ini dikatakan reliabel.

1. Evaluation Model Struktural (*Inner Model*)

Tabel 3
Output general SEM Analysis Result

	Indeks	P-value	Kriteria	Keterangan
APC	0.228	0,0007	P-value <0,05	Diterima
ARS	0.209	0,011	P-value <0,05	Diterima
AVIF	3.521		< 5	Diterima

Source: Result Output WarPLS 8.0 (2025)

Structural model evaluation has various methods, namely testing model compatibility, determination coefficient value (R2) and Q-squared. In table 4.3, the APC model fit test is 0.0007, the ARS value is 0.011 and the AVIF value is 3.52. In table 4.2 the value of the determination coefficient (R2) of 0.209 shows that the 20.9% variation in stock price can be explained by inflation and interest rate variables, the Q-squared value of 0.233 is greater than 0 and therefore qualified. Effect size can be categorized into 3, namely <0.15 (weak), <0.35 (medium), and >0.35 (large) (Hair et al., 2010).

Table 4
Effect size koefisien jalur

Variabel	inflation	Interest Rates	Inflation*ROS	Interest Rate *ROS
Stock price	0,013	0,008	0,129	0,074

Source: Result Output WarPLS 8.0 (2025)

Based on the table above, it shows that the *effect size* for inflation on the stock price is 0.013 (relatively weak), the interest rate on the stock price is 0.008 (relatively weak). *The effect size* for ROS in moderating inflation on the stock price is 0.129 (relatively weak), ROS in moderating the effect of interest rates on the stock price of 0.074 (classified as weak).

1. Testing Hypothesis

The hypothesis test in this study uses the evaluation of structural models in WarPLS. The hypothesis test can be shown based on the *path coefficient* (β) and p-value (significant value) used. The hypothesis is accepted with a significant level of p-value used of less than equal to 5% or 0.05 (Solimun & Nurjannah, 2017). The following are the results that have been obtained based on data processing using WarPLS 8.0

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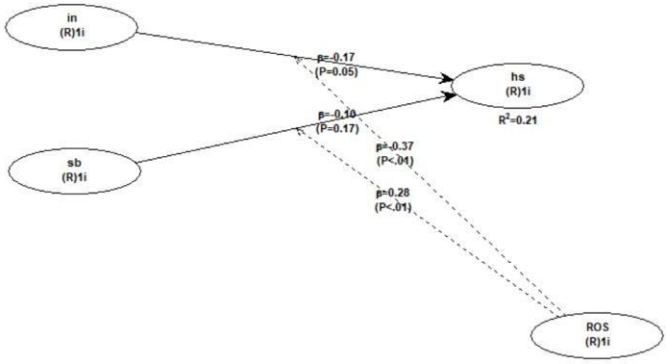
Gambar 1
Hasil estimasi *path coefficient*



Source: Result Output WarPLS 8.0 (2025)

Tabel 5
Estimasi *path coefficient*

Kriteria	Variabel	Inflation	Interest rates	Inflation*ROS	Interest rate*ROS
Path Coefficient	Stock Price	-0,169	-0,100	-0,366	0,279
P-value	Stock Price	0,053	0,172	<0,001	0,003

Source: Results Output WarPLS 8.0 (2025)

Based on table 5, it shows that the path coefficient of the inflation variable has a negative negative effect on the stock price with a *path coefficient* value of -0.169 and *a p-value* of 0.053, while the profitability proxied by ROS weakens the influence of inflation on the stock price because the *path coefficient* value is -0.366 and *p-value* < 0.001. Furthermore, the interest rate variable showed a negative result of insignificant negative results on stock prices with *a path coefficient* value of -0.100 and *a p-value* of 0.172, while the profitability proxied by ROS was able to moderate the interest rate on the stock price, which was shown by the *path coefficient value* of 0.279 and *p-value* < 0.003 means that ROS strengthens the influence of interest rates on stock prices.

DISCUSSION

The Effect of Inflation on Stock Prices

The results of this study prove that inflation has no effect on stock prices, this is evidenced by the P-value of 0.053 greater than 0.05. It can be interpreted that the magnitude of inflation does not affect stock prices. This happens because inflation during the study period is relatively mild, which is less than 10% per year, so that inflation is relatively easy to control and does not disrupt a country's economy. Under normal and controlled inflationary conditions, the increase in the price of goods is still able to be absorbed by the market so that

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the company's profitability is stable or increases. This condition encourages investors to continue investing in stocks as a means of maintaining purchasing power and the value of wealth, so that demand and stock prices are less likely to be significantly affected by low inflation. This is in accordance with the *theory of Against Inflation* which aims to explain how stocks can protect the value of investors' wealth from the impact of inflation. The results of this study are in line with the research of Gumilang & Nadiansyah (2021), Az-Zahra et al., (2024)

The Effect of Interest Rates on Stock Prices

The results of this study prove that interest rates have no effect on stock prices, this is evidenced by the P-value of 0.172 greater than 0.05. It can be interpreted that the size of interest rates does not affect the stock price. This is due to the characteristics of Indonesian investors who tend to carry out stock buying and selling activities quickly with the aim of profiting from the difference in the short-term selling and buying price of shares. This investment behavior that prioritizes speculation and profit causes interest rate fluctuations to have no effect on stock prices, this is in line with the theory of financial behavior which states that investor behavior in decision-making is based on complex cause-and-effect relationships and is influenced by internal and external factors. The results of this study are in line with the research of Pramastya, (2023), Chamim & Hidayat, (2019).

The Effect of Profitability Moderating Inflation on Stock Prices

The results of this study prove that profitability weakens the influence of inflation on stock prices, this is evidenced by the path coefficient value of -0.366 and P value of 0.001. Profitability proxied by Return on Sales (ROS) weakens the relationship between inflation and stock prices, Companies with low ROS show the company's inability to convert its sales into profits even though there is an increase in selling prices due to inflation, the Company is unable to significantly increase its profitability, as a result of which the influence of inflation on stock prices becomes weak or does not show an increase, because investors prioritize performance As the basis for investment decision-making, this is in line with the *theory of the top down approach* which states that the investment valuation process is carried out in stages. The results of this test are in accordance with research conducted by Khair et al., (2024), (Kasmir, 2018; Khair et al., 2024) Elvis., (2023).

The Effect of Profitability Moderating Interest Rates on Stock Prices

The results of this study prove that profitability strengthens the influence of interest rates on stock prices, this is evidenced by the path coefficient value of 0.279 and the P value of 0.003 has the meaning of a positive coefficient, when interest rates increase, companies tend to experience a decrease in net profit due to the obligation to pay higher interest on loans. Companies with *high Return on Sales* (ROS) can strengthen the relationship between interest rates and stock prices, as companies are able to absorb loan interest rates, even if there is an increase. This is in line with the theory *of the top down approach* which states that the investment valuation process is carried out in stages. The results of this test are in accordance with the research conducted by Khair et al., (2024), Ali & Azyasa, (2024).

CONCLUSION

This study analyzes the effect of inflation and interest rates on stock prices in manufacturing companies in *the food and beverage* subsector in 2020-2024, with profitability as a moderation variable. The results of the study show that inflation and interest

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rates have no direct effect on stock prices. However, profitability weakens the influence of inflation and strengthens the influence of interest rates on stock prices. The study has limitations on inflation and relatively small interest rate data and many companies do not record profits or publish annual reports, so the sample is reduced. Suggestions for researchers can further add other variables that can affect stock prices, because the variables in this study only explain 20.9% of stock price variations, as well as expand the number of research samples.

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