

# The Effects of Interest Rates and Inflation on Profitability: Data from Indonesian Telecom Companies (2019–2023)

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## Abstract

*This study aims to analyze the relationship between Inflation and Interest Rates on Profitability in Telecommunication Companies listed on the Indonesia Stock Exchange for the 2019-2023 Period. The sampling technique taken in this study uses Saturated Sampling where all members of the population are used as samples, the number of samples taken in this study is 18 telecommunication companies. The data collection technique in this study uses secondary data, namely financial statement data that has been published by Telecommunication Companies on the Indonesia Stock Exchange (IDX). The analysis test used in this study is using Multiple Linear Regression Analysis. The data analysis method uses the SPSS 25 application. The results of this study show that: Partially, it is obtained that Inflation has a positive and significant effect on Profitability, while Interest Rates are partially insignificant and have no effect on Profitability, and Inflation and Interest Rates simultaneously affect Profitability. This can be seen in the results of the Coeficent Determination (Adjusted R Square) which means that the dependent variable can be explained by the independent variable by 51.8% while the remaining 48.2% is explained by other variables that are not included in the regression model.*

**Keywords:** Inflation; Interest; Profitability

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## I. INTRODUCTION

The telecommunications industry in Indonesia has characteristics that include the provision of mobile phone services, internet, data networks, and the latest telecommunication solutions. Companies in this sector play a role as the backbone of digital infrastructure, supporting the connectivity of the community, business, and government sector. Along with the rapid development of technology and digital transformation, the telecommunications sector has become one of the main pillars in supporting global connectivity and economic growth of a country.

The Indonesia Stock Exchange (IDX) plays an important role as a platform for telecommunications companies that want to obtain funding through the capital market. Telecommunications companies listed on the IDX occupy a strategic position in defining and shaping the information and communication technology ecosystem in Indonesia. Through their presence in the capital market, telecommunications companies on the IDX have access to the resources necessary to increase network capacity, develop the latest technologies, and present innovations that drive industry growth. These companies face global challenges by playing a role in strengthening the resilience of national telecommunications infrastructure. At the macro level, their contribution is not only limited to the provision of telecommunications services, but also includes drivers of innovation and national economic growth

Companies use profitability as a parameter to assess the value of a company [1]. When a company is able to increase its profitability, it signifies that the company can manage its assets effectively and efficiently, which in turn can lead to higher profits. Profitability can be measured using several indicators, such as profit margin, net profit, return on assets (ROA), and return on equity (ROE). To measure profitability, the study will use return on assets (ROA) proxies, which can demonstrate a company's ability to generate a net profit by using all of its assets.

This research involves telecommunication companies that have been listed on the Indonesia Stock Exchange (IDX). The reason for choosing the telecommunications sector is that it attracts investors as an option to allocate capital significantly, and economic growth has a major impact on the overall health of the economy.

NO.	PATENT CODE	ROA				
		2019	2020	2021	2022	2023
1	JAST	2,64%	-12,55%	7,89%	4,08%	3,25%
2	KBLV	-35,69%	-0,33%	27,61%	-22,12%	-7,59%
3	LINK	13,45%	12,07%	9,08%	2,07%	-4,22%
4	TLKM	12,47%	11,97%	12,25%	10,06%	5,86%
5	BALI	1,11%	1,81%	3,77%	4,08%	2,73%
6	BTEL	182,91%	-3310,99%	-457,54%	-354,40%	12,97%
7	CENT	0,15%	-6,67%	-4,08%	-10,68%	-4,21%
8	EXCL	1,05%	0,55%	1,77%	1,28%	1,46%
9	BRAKE	-7,91%	-3,94%	-1,00%	2,29%	-0,24%
10	GHON	8,58%	9,39%	8,80%	7,84%	7,37%
11	GOLD	2,14%	3,89%	4,05%	3,99%	3,93%
12	IBST	1,45%	0,65%	0,66%	0,44%	0,39%
13	ISAT	2,60%	-1,00%	10,82%	4,72%	4,16%
14	LCKM	1,60%	3,29%	1,12%	0,48%	0,05%
15	DELETE	0,95%	-2,06%	-0,59%	9,75%	2,13%
16	TBIG	2,81%	2,92%	3,82%	3,92%	3,45%
17	TOWR	85,05%	8,33%	5,24%	5,33%	1,15%
18	MTEL	9,51%	2,38%	2,39%	3,18%	3,53%

Based on the table above, there are fluctuations in ROA in each company from year to year. This shows that the profitability of telecommunication companies fluctuates depending on the condition of the company. Several companies experienced consecutive declines in ROA, including JAST, LINK, CENT, EXCL, FREN, GOLD, IBST, LCKM. On the contrary, there is an increase in ROA such as KBLV, ISAT, and SUPR. This shows an improvement in the company's financial performance. BTEL recorded a very high increase in ROA in 2019 and then decreased in 2020-2022 even though it was still very large. Most companies are able to maintain ROA in the range of 2-12% except for BTEL, KBLV, and higher ISAT. Changes in the company's profitability level, which are reflected in the fluctuation of ROA assets every year, indicate the influence of both internal and external factors on the company's financial performance. These factors include the inflation rate, the prevailing interest rate, and the company's internal conditions can affect the level of profitability achieved [2].

## II. LITERATUR REVIEW

### 2.1 Profitability

Profitability refers to the ability of a company to generate profits over a certain period of time, and reflects how effective management is in carrying out its operations[3]. A company's net profit is often compared to various measures of activities or other financial conditions, such as sales revenue, assets, or shareholder equity. The magnitude of profit is also used as an indicator to evaluate the overall performance of the company[4]. The varying profitability of a company has a significant impact on the valuation of that company, as profitability is often considered a key indicator that reflects a company's ability to generate profits. The consistent and significant increase in profit by the company not only indicates strong and efficient performance, but also reflects positive growth potential. This can trigger a positive response from investors, who see increased profits as a signal that the company has healthy financial prospects and can provide favorable returns, prompting them to value the company at a higher valuation[5]. If a company's profitability reaches a high level, it can indicate that the company's management has successfully managed its assets effectively and efficiently, generating profits in each period[6].

### 2.2 Inflation

Inflation is a phenomenon in which there is an overall and sustained increase in prices, which is related to market mechanisms triggered by various factors. This can be caused by the growth of public consumption, excess liquidity in the market that encourages consumption or speculation, and even to the unsmooth distribution of goods[7]. economy. Its characteristics and impacts change from time to time, and vary from country to country[8]. Inflation is always related to the amount of money in circulation as well as the monetary policy implemented by the government through the central bank. The government has the ability to control the amount of money in circulation by influencing the process of money creation[9].

**2.3 Interest**

Interest rates are fees charged on money loans, generally expressed as a percentage of the loan amount. An interest rate is an interest rate expressed as a percentage over a period of time, be it per month or per year. Interest rates are an indicator that shows the cost of resources lent by debtors and must be paid to creditors[10]. Interest rates are considered as the return on making savings. Households tend to save more when interest rates are high because this will generate more income for savers[11]. However, when interest rates are low, interest in saving decreases because people tend to prefer to spend their money rather than save it. Therefore, when interest rates are low, people tend to increase their consumption spending[12]

**III. METHOD**

The research method used in this study is a type of quantitative analysis research. Data collection was carried out by *purposive sampling*. Furthermore, the data analysis stage is carried out by multiple linear regression.

**IV. RESULT AND DISCUSSION**

**Classic Assumption Test  
Normality Test**

**One-Sample Kolmogorov-Smirnov Test**

		Unstandardized Residual
N		40
Normal Parameters <sup>a,b</sup>	Mean	.0000000
	Std. Deviation	1.11150099
Most Extreme Differences	Absolute	.120
	Positive	.120
	Negative	-.087
Test Statistic		.120
Asymp. Sig. (2-tailed)		.153c

The Kolmogorov-Smirnov test shows the Asymp value. Sig 0.153 is greater than 0.05 which means the data has a normal distribution.

**Uji Autokorelasi**

Bound Variables	dU value	DW Value	4-dU value
ROA (Y)	1,6000	1,257	2,4

The results of the autocorrelation test obtained a DW value of 1.606, so that the DW value of 1.606 is located between the upper limit of dU (1.6000) and (4-dU), which is 2.4 or  $dU < DW < 4-dU$ , so it is stated that no autocorrelation occurs.

**Multicollinearity Test**

Variable	Collinearity Statistics		Information
	Tolerance	BRIGHT	
Inflation	0.678	1.475	No Multicollinearity Occurs
Interest	0.678	1.475	No Multicollinearity Occurs

The results of the multicollinearity test show that inflation and interest rates have the same VIF and tolerance values, namely a VIF value of 1.475 less than 10.00 and a tolerance of 0.678 greater than 0.1, so there is no correlation between the free variable or no multicollinearity.

**Heteroscedasticity Test**

It can be seen that the variable data used did not cause heteroscedasticity symptoms. This can be seen from the significance value between the Inflation variable (X1) and the Interest Rate variable (X2) with the absolute residual showing a value greater than 0.05, namely Inflation (0.270) and Interest Rate (0.883).

**Regresi Linear Berganda**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Mr.
	B	Std. Error	Beta		
(Constant)	2.683	.943		2.846	.007
1 INFLATION	.509	.162	.558	3.147	.003
INTEREST	-.366	.229	-.284	-1.601	.118

**1. Variable Coefficient X1 (Inflation)**

The value of *Unstandardized Coefficients* Inflation is (0.509). The regression coefficient of the inflation variable is equal to zero, which means that if inflation is equal to zero, then every unit increase, the inflation variable will contribute to an increase in *Return On Assets* (ROA) of (0.509).

**2. Variable Coefficient X2 (Interest rate)**

The value of *Unstandardized Coefficients* Interest Rate is (-0.366). The regression coefficient of the interest rate variable is equal to zero, which means that if the interest rate is equal to zero, then every unit increase, the interest rate variable will contribute to a decrease in *Return On Assets* (ROA) by (-0.366).

**Uji Hipotesis**

**Partial Test (t-Test)**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Mr.
	B	Std. Error	Beta		
(Constant)	2.683	.943		2.846	.007
1 INFLATION	.509	.162	.558	3.147	.003
INTEREST	-.366	.229	-.284	-1.601	.118

**1. The Effect of Inflation on Profitability**

The results of the t-test of the influence of inflation variables on the ROA variable presented in table 4.8 obtained a calculated t-value greater than the t-table ( $3.147 > 1.68709$ ) and a significance value of 0.003 is smaller than 0.05 ( $0.003 < \alpha = 0.05$ ). So the conclusion from the test results is that  $H_0$  was rejected and  $H_a$  was accepted, which means that inflation affects the ROA of Telecommunication companies for the 2019-2023 period.

**2. Effect of Interest Rates on Profitability**

The results of the t-test of the influence of the Interest Rate variable on the ROA variable presented in table 4.8 obtained a calculated t-value greater than the t-table ( $-1.601 < 1.68709$ ) and a significance value of 0.000 greater than 0.05 ( $0.118 < \alpha = 0.05$ ). So the conclusion from the test results is that  $H_0$  was rejected and  $H_a$  was accepted, which means that the Interest Rate is not significant to the ROA of Telecommunication companies for the 2019-2023 period.

**Simultaneous Test (Test F)**

Model	Sum of Squares	df	Mean Square	F	Mr.
Regression	12.965	2	6.483	4.978	.012b
1 Residual	48.182	37	1.302		
Total	61.147	39			

The F test shows that F calculates > F table which is (4.978 > 3.24) and has a significance level less than 0.05 (0.012 > 0.05). Based on the results of the F test, it is clear that Ha was accepted and Ho was rejected so that the decision is that Inflation and Interest Rates together have a significant effect on ROA.

**V. CONCLUSION**

**1. Inflation Drivers on Profitability**

This study shows that inflation affects the *Return On Assets* (ROA) of telecommunication companies listed on the Indonesia Stock Exchange (IDX), which indicates that changes in the inflation rate have a significant impact on the company's financial performance, especially in the company's ability to manage assets to generate profits.

**2. The Effect of Interest Rates on Profitability**

This study shows that interest rates have no effect on *Return on Assets* (ROA) in telecommunication companies listed on the IDX. It can be indicated that companies in this sector have operational and financial characteristics that make them relatively resistant to interest rate fluctuations. This means that telecommunications companies usually have stable revenues because telecommunication services, such as the internet, telephone, and data, are fundamental needs that remain in demand, even in fluctuating economic conditions. With stable income, the impact of changes in funding costs due to interest rates has become smaller on financial performance, especially ROA.

**3. The Effect of Inflation and Interest Rates on Profitability**

This study shows that inflation and interest rates simultaneously affect the *Return on Assets* (ROA) of telecommunication companies listed on the Indonesia Stock Exchange (IDX). This can be indicated that inflation and interest rates play an important role for telecommunications companies to understand the interaction between these economic factors in planning long-term strategies. For example, when interest rates are high and inflation is also increasing, companies may need to look for cheaper funding alternatives or improve operational efficiency to reduce the negative impact on profitability.

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