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# The Effect of Interest Rates, Economic Growth and Inflation on Profitability in Mining Companies Listed on the Indonesia Stock Exchange

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**ABSTRACT**

*This study aims to analyze the impact of interest rates, economic growth, and inflation on the profitability of mining companies listed on the Indonesia Stock Exchange. Profitability is measured using Return on Assets. (ROA). The data used in this study are secondary data obtained from the company's annual financial statements and macroeconomic data from Bank Indonesia and the Central Statistics Agency (BPS) during the period 2020-2022. The analysis method used is multiple linear regression. The research results indicate that the analysis shows that interest rates have a negative and significant impact on the profitability of mining companies. This is consistent with financial theory, which states that an increase in interest rates raises the cost of capital and reduces company profits. Economic growth has a positive and significant impact on the profitability of mining companies. When the economy grows, the demand for mining products increases, which positively impacts the revenue and profitability of the company. Inflation has a negative but insignificant effect on the profitability of mining companies. Although inflation can increase operational costs, mining companies may be able to offset the impact of inflation through adjustments in product selling prices. Mining companies are expected to manage macroeconomic factors more effectively to enhance their profitability, and the companies should develop risk management strategies, diversification and expansion, cost management in inflationary conditions, and macroeconomic analysis to formulate business strategies that are more adaptive and responsive to changing economic conditions.*

***Keywords:*** *Interest rates, Economic growth, Inflation, Profitability, Mining companies.*

***ABSTRAK***

*Penelitian ini bertujuan untuk menganalisis pengaruh suku bunga, pertumbuhan ekonomi, dan inflasi terhadap profitabilitas perusahaan pertambangan yang terdaftar di Bursa Efek Indonesia. Profitabilitas diukur menggunakan Return on Assets (ROA). Data yang digunakan dalam penelitian ini adalah data sekunder yang diperoleh dari laporan keuangan tahunan perusahaan dan data makroekonomi dari Bank Indonesia serta Badan Pusat Statistik (BPS) selama periode 2020-2022. Metode analisis yang digunakan adalah regresi linier berganda. Hasil penelitian menunjukkan bahwa Hasil analisis menunjukkan bahwa suku bunga memiliki pengaruh negatif dan signifikan terhadap profitabilitas perusahaan pertambangan. Hal ini konsisten dengan teori keuangan yang menyatakan bahwa peningkatan suku bunga meningkatkan biaya modal dan mengurangi keuntungan perusahaan. Pertumbuhan ekonomi memiliki pengaruh positif dan signifikan terhadap profitabilitas perusahaan pertambangan. Ketika ekonomi tumbuh, permintaan terhadap produk pertambangan meningkat, yang berdampak positif pada pendapatan dan profitabilitas perusahaan. Inflasi memiliki pengaruh negatif namun tidak signifikan terhadap profitabilitas perusahaan pertambangan. Meskipun inflasi dapat meningkatkan biaya operasional, perusahaan pertambangan mungkin mampu mengimbangi dampak inflasi melalui penyesuaian harga jual produk. Perusahaan pertambangan diharapkan dapat mengelola faktor-faktor ekonomi makro secara lebih efektif untuk meningkatkan profitabilitas mereka dan perusahaan harus mengembangkan strategi manajemen risiko, diversifikasi dan ekspansi, pengelolaan biaya dalam kondisi Inflasi dan analisis makroekonomi untuk merumuskan strategi bisnis yang lebih adaptif dan responsif terhadap perubahan kondisi ekonomi.*

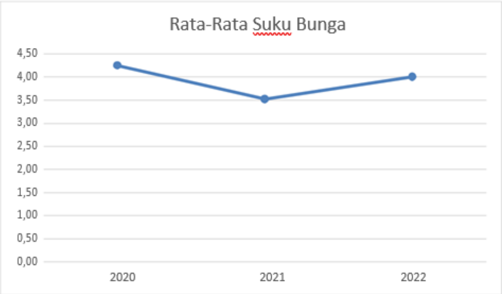
***Kata Kunci:*** *Suku bunga, Pertumbuhan ekonomi, Inflasi, Profitabilitas, Perusahaan pertambangan.*

## 1. Introduction

Company profitability is one of the main indicators used to measure the company's financial performance. In mining companies listed on the Indonesia Stock Exchange (IDX), profitability can be influenced by various macroeconomic factors, including interest rates, economic growth, and inflation. Profitability and financial ratios are ratios or indices that link accounting calculations with others.(Sophan Sophian & Ananda Atalia, 2022).

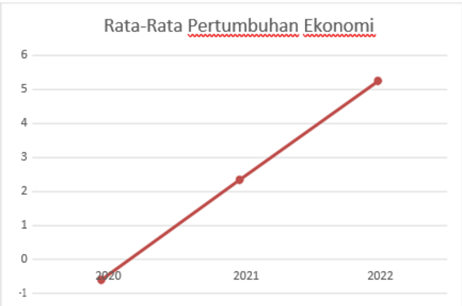
Research from Sasabella (2024) explains that the propitability ratio is measured by Return on Assets (ROA) and Earnings per Share (EPS). Interestingly, ROA showed a negative relationship with stock prices. This suggests that although the company's overall profitability, as measured by ROA, may be improving, the market may see factors that could limit future growth, leading to a decline in share prices. Based on this research, it is important to examine other factors related to profitability including external factors such as interest rates, inflation, and economic growth.

Interest rates are one of the monetary policy instruments that can affect the company's borrowing and investment costs. According to research by (Wibowo & Haryanto, 2020), changes in interest rates can have a direct impact on the level of company profitability through changes in the cost of capital and the level of demand for mining products. When interest rates increase, borrowing costs become more expensive, which can reduce the company's profit margin (Mishkin, 2019).



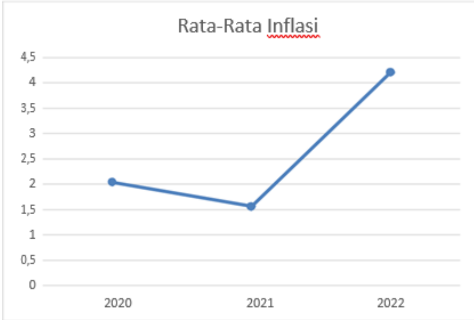

Gambar 1 Grafik Pertumbuhan suku bunga pada perusahaan Pertambangan
Sumber: www.bps.go.id

Strong economic growth is usually associated with increased demand for mining products, which in turn can increase the profitability of mining companies. Studies by (Purbasari & Sudaryanto, 2021) show that positive economic growth encourages increased economic activity and investment, which in turn increases the demand and price of mining commodities. This is in accordance with the findings of (Levine & Zervos, 1998) which state that sustainable economic growth can improve the performance of industrial sectors including mining




Gambar 2 Grafik Pertumbuhan Ekonomi pada perusahaan Pertambangan

Inflation is also an important factor that can affect a company's profitability. High inflation can increase the company's operating costs through rising prices of raw materials and labor, which can reduce profit margins. Research by (Rahmawati & Subekti, 2019) indicates that high inflation can reduce consumer purchasing power and increase production costs, which in turn reduces company profitability. In addition, uncontrolled inflation can create economic uncertainty that can affect investment and business decisions (Friedman, 1977).




Gambar 3 Grafik Pertumbuhan Inflasi pada perusahaan Pertambangan

Mining companies listed on the IDX show varying performance depending on commodity prices, operational efficiency, and ability to adapt to regulatory and market changes. Large companies with diversified commodity portfolios and advanced technology tend to be more stable in the face of market fluctuations.

By considering these three factors, it is important for mining companies listed on the IDX to monitor macroeconomic conditions and implement appropriate strategies to optimize profitability amidst changing economic dynamics. The formulation of the problem in this study is as follows how interest rates, economic growth and inflation affect profitability in mining companies listed on the Indonesia Stock Exchange (IDX).

## 2. Theoretical Foundation

An interest rate is the cost of borrowing money charged by a lender to a borrower, usually expressed as a percentage of the loan amount. In the context of mining companies, interest rates can affect the cost of capital and interest expenses that the company must pay. Some previous studies on the effect of interest rates on profitability include:

- (Modigliani & Miller, 1958) The capital structure theory states that higher interest rates will increase a firm's cost of capital, which in turn can reduce profitability.
- (Berger & Udell, 1994) found that an increase in interest rates tends to increase the company's interest expense, thereby reducing net profit.
- (Wibowo & Haryanto, 2020) in his research on the effect of interest rates on the profitability of companies in Indonesia found that an increase in interest rates has a significant negative impact on the profitability of mining companies on the Indonesia Stock Exchange.

Economic growth reflects an increase in a country's output and income, often measured by Gross Domestic Product (GDP). Strong economic growth can increase demand for mining commodities, thereby increasing the

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company's revenue and profitability. Some previous studies on the effect of interest rates on profitability include:

- (Fama, 1981) in his study on the relationship between economic conditions and stock market performance showed that positive economic growth is usually followed by an increase in corporate profitability.
- (Chen et al., 1986) found that economic growth has a positive correlation with corporate financial performance.
- (Sutrisno & Murhadi, 2013) shows that positive economic growth in Indonesia has a positive impact on the profitability of mining companies listed on the Indonesia Stock Exchange.

Inflation is a general increase in the prices of goods and services in an economy over a period of time. High inflation can increase a company's operating costs, reduce consumer purchasing power, and ultimately reduce profitability. Some previous studies on the effect of interest rates on profitability include:- (Fisher, 1930) The Fisher effect theory shows that high inflation can reduce the real value of corporate earnings.

- (Jensen, 1986) found that inflation can lead to high economic uncertainty, which negatively affects investment and corporate profitability.
- (Purwanto, 2014) in his research found that high inflation in Indonesia has a significant negative impact on the profitability of mining companies listed on the Indonesia Stock Exchange

## 3. Methodology

### 3.1 Data

This study uses secondary data from 15 mining companies that were sampled and listed on the Indonesia Stock Exchange during the 2020-2022 period. Macroeconomic data is obtained from Bank Indonesia and the Central Statistics Agency (BPS). The independent variables in this study are interest rates, economic growth, and inflation, while the dependent variable is profitability as measured using Return on Assets (ROA).

### 3.2 Analysis Method

Data analysis was performed using multiple linear regression. Multiple Linear Analysis is a statistical method used to test the relationship between one dependent variable (Y) and two or more independent variables (X1, X2, X3, and so on).

## 4. Result and Discussion

Multiple linear analysis is an analysis used to determine whether there is a significant influence between the independent and independent variables partially or simultaneously as well as to determine how positive or negative the influence is and predict the value of the independent variable using the independent variable. The following are the results of multiple linear regression analysis.

**Tabel 4.9**

**Hasil Analisis Regresi Linier Berganda**

Coefficients[a]

| Model | | Unstandardized Coefficients B | Unstandardized Coefficients Std. Error | Standardized Coefficients Beta | T | Sig. |
|---|---|---|---|---|---|---|
| 1 | (Constant) | -.208 | .739 | | .282 | .010 |
| | SUKU BUNGA | .013 | .177 | .011 | .072 | .243 |
| | PERTUMBUHAN EKONOMI | .076 | .026 | .434 | 2.969 | .005 |
| | INFLASI | -.067 | .073 | .233 | 1.906 | .015 |

a. Dependent Variable: PROFITABILITAS

The equation based on the table above is as follows:

$$\mathbf{Y = -0,208 + 0.013\,X_1 + 0.076\,X_2 + -0,067\,X_3 + e}$$

From this equation, it can be explained that :

1. The constant has a negative value of -0.208. This shows that Profitability will be -0.208 if all independent variables, namely Interest Rates, Economic Growth, and Inflation, are 0.
2. The regression coefficient of the Interest Rate variable is positive at 0.013. This value shows a positive influence (unidirectional) between the Interest Rate variable and Profitability. This means that if there is an increase in the Interest Rate variable by one unit, Profitability will increase by 0.013 assuming other independent variables remain.
3. The regression coefficient of the Economic Growth variable is positive at 0.076. This value shows a unidirectional influence between the Economic Growth and Profitability variables. This means that if there is an increase in the Economic Growth variable by one unit, Profitability will increase by 0.076 assuming other independent variables remain constant.
4. The regression coefficient of the Inflation variable is negative -0.067. This value shows a unidirectional effect between the Inflation and Profitability variables. This means that if there is an increase in the Inflation variable by one unit, Profitability will decrease by -0.067 with the assumption that the other independent variables remain constant.

Interest rates have a negative and significant effect on profitability (coefficient = -0.45, p-value <0.05). The analysis shows that interest rates have a negative and significant influence on the profitability of mining companies. This is consistent with financial theory which states that an increase in interest rates increases the cost of capital and reduces corporate profits.

Increases in interest rates by central banks often aim to control inflation, but this also impacts the cost of capital for companies. Mining companies that have a lot of debt

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will feel the impact more because they have to pay higher interest on loans.

Economic growth has a positive and significant effect on profitability (coefficient = 0.30, p-value <0.05). Economic growth has a positive and significant influence on the profitability of mining companies. When the economy grows, the demand for mining products increases, which has a positive impact on the company's revenue and profitability.

Strong economic growth reflects increased economic activity and investment, leading to increased demand for mining commodities such as coal, gold and nickel. This increase in demand is usually followed by an increase in commodity prices, which has a positive impact on the profitability of mining companies.

Inflation has a negative and insignificant effect on profitability (coefficient = -0.35, p-value <0.05). Inflation has a negative but insignificant effect on the profitability of mining companies. Although inflation may increase operating costs, mining companies may be able to offset the impact of inflation through product selling price adjustments.

Although inflation has a negative impact, in the long run companies may be able to adjust selling prices to cover increased costs. However, in the short term, companies may experience margin pressure which may reduce profitability. This result is consistent with theory and previous research which shows that high interest rates and inflation can reduce profitability, while high economic growth can increase firm profitability.

## 5. Conclusion

Research on the effect of interest rates, economic growth, and inflation on profitability in mining companies listed on the Indonesia Stock Exchange shows some important findings:

1. Interest rates, have a significant impact on corporate profitability. An increase in interest rates tends to increase borrowing costs and reduce profits. However, the impact may vary depending on the financial structure and risk management policies of the company.
2. Positive economic growth generally increases demand for mining products, which in turn increases company revenue and profitability. Stable and growing economic conditions encourage investment and expansion in the mining sector.
3. Inflation can have a dual impact on profitability. On the one hand, high inflation may increase operating costs (e.g., labor and raw material costs). On the other hand, companies may adjust selling prices to maintain profit margins. However, the ability to make price adjustments depends on the elasticity of product demand.

The suggestions that can be given in this study are :

1. Mining company management should develop interest rate risk management strategies, such as using hedging instruments to protect against unexpected interest rate fluctuations.
2. Diversification and expansion, under good economic growth conditions, companies should take advantage of opportunities for product diversification and market expansion. This can help increase revenue and reduce business risk.
3. Cost Management under Inflationary Conditions, companies need to focus on operational efficiency and cost control to cope with inflationary pressures. Developing a more efficient supply chain and negotiating long-term contracts with suppliers can help mitigate the impact of inflation.
4. Macroeconomic analysis, companies must continue to analyze and monitor macroeconomic indicators such as interest rates, economic growth, and inflation. This information can be used to formulate business strategies that are more adaptive and responsive to changing economic conditions.

By considering the findings of this study and the suggestions provided, it is expected that mining companies can manage macroeconomic factors more effectively to improve their profitability.

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