



The Impact of Exchange Rates and Interest Rates on Coal Mining Company Stock Prices Through Profitability

Tuti Fitriani, Abu Bakar

STIE Jambatan Bulan, Timika, Indonesia

Email: tutifitriani@gmail.com, abubakarqueen@gmail.com

Abstract

Fluctuations in exchange rates and interest rates in a dynamic economic environment mean that coal mining companies need to carefully monitor, identify, and respond to these changes with appropriate strategies in order to minimize risks and increase profitability and the company's stock price. This research explores the influence of exchange rates and interest rates on stock prices of coal mining companies through profitability as an intermediary variable. The research method used is an associative method with a sample consisting of 20 coal mining companies listed on the Indonesia Stock Exchange, which were selected through a purposive sampling technique. To achieve the objectives of this research, *path analysis* was applied to time series data for 2013–2022, obtained from the Indonesian Stock Exchange and Bank Indonesia. The results of this research show that exchange rates and interest rates have a significant influence on company stock prices directly. Meanwhile, profitability is unable to mediate the influence of exchange rates and interest rates on stock prices. This research provides important insights for mining company managers, enabling them to understand the impact of macroeconomic factors, such as exchange rates and interest rates, on stock prices.

Keywords:

Exchange Rate; Interest Rate; Profitability; Stock Price

Introduction

Coal mining has been a key pillar of the Indonesian economy for decades. This crucial role is evident in the coal mining sector's contribution, which accounts for approximately 85% of total state revenue from the mining sector (Rosdiana, 2021) or 3.5% of Indonesia's GDP (Ciera Group & PT Hatfield Indonesia, 2023). This underscores the sector's vital role in replenishing state coffers and maintaining national economic stability. Furthermore, Indonesia is the world's third-largest coal producer, after China and India (Widjaja & Sitabuana, 2022), further emphasizing Indonesia's strategic position as one of the world's leading coal producers (Yanto, 2022).

Indonesia's success as a leading global coal producer and exporter has not only impacted the country's economy but also affected the capital market, particularly the share prices of coal mining companies listed on the Indonesia Stock Exchange (IDX) (Utami et al., 2023; Fitri & Andriani, 2023; Ramadhan & Munawaroh, 2022). In this context, fluctuations in the share prices of coal mining companies in Indonesia serve as an indicator of the complex challenges faced by coal companies amidst the dynamics of the capital market. Despite Indonesia's central role as a major producer, these share price fluctuations reflect the sector's sensitivity to the variability of external and internal factors that collectively influence stock market stability.

The Impact of Exchange Rates and Interest Rates on Coal Mining Company Stock Prices Through Profitability

Various reports indicate that in October 2015, the mining sector, particularly coal companies such as PT Bukit Asam (PTBA), PT Harum Energy (HRUM), and PT Bumi Resources (BUMI), experienced a sharp decline in share prices due to the plummeting price of mining commodities and the implementation of downstreaming regulations (Nababan, 2019). In 2016, the coal sector experienced a recovery after the previous year's decline, with stock prices rising as global oil prices recovered, which impacted companies' external conditions. This positive trend continued into 2018, driven by improved financial performance by coal issuers (Utami et al., 2023). However, in 2019, stock prices declined again due to the poor performance of coal mining issuers, in line with the decline in global coal prices. This decline prompted several companies to reduce production volumes, resulting in lower net profits (Ramadhan & Munawaroh, 2022). In early 2020, the impact of the COVID-19 pandemic and adverse weather conditions triggered a decline in stock prices. However, towards the end of the year, coal and stock prices rebounded (Utami et al., 2023).

The stock price fluctuations of coal mining companies in Indonesia, as explained above, represent a dynamic phenomenon that intrinsically reflects the complexity of the capital market and is influenced by various factors. In this context, coal mining companies in Indonesia, as an integral part of the national economy, often face complex external and internal dynamics. Stock price fluctuations can reflect a company's response to changes in the external environment, such as global market uncertainty or changes in government policies related to the mining sector (Habibah et al., 2022). Understanding these stock price fluctuations is crucial for a company's ability to manage risk, respond adaptively to market changes, and ensure operational sustainability. Therefore, an in-depth analysis of external and internal variables is essential for developing appropriate strategies, mitigating risk, and enhancing competitiveness in the global market (Habibah et al., 2022).

Our research motivation was guided by the need to explore and investigate the dynamics of stock price fluctuations in coal mining companies in Indonesia. We focus on three main aspects in this study, which provide a strong foundation for the relevance and importance of this research within the context of the Indonesian capital market.

First, our interest focuses on understanding the impact of *exchange rates* and *interest rates* on stock price movements of coal mining companies in Indonesia. We chose to use exchange rates and interest rates as independent variables, believing that changes in these macroeconomic factors can significantly impact coal mining company stock prices. This is consistent with previous studies that have explored the response of exchange rates and interest rates to company stock price movements, both at the global level, such as those conducted by Aimer (2019), Mohamed & Sahin (2020), Odionye et al. (2023), A. Conrad (2021), and R. & Krishnan (2023), and at the local scale, such as those reported by Islamiati et al. (2023), Fitriani et al. (2022), Eka et al. (2022), Iradilah & Tanjung (2022), and Idrus (2022). All of these studies found that exchange rates and interest rates significantly influence stock price movements. The exchange rate is an economic factor heavily influenced by global events, such as monetary policies of major economies, global economic changes, and geopolitical uncertainty (Hutama et al., 2020). Therefore, this study will help understand the extent to which coal mining companies in Indonesia are vulnerable to unexpected external dynamics. Furthermore, Indonesia's coal mining sector is one of the largest in the world, and coal prices are heavily influenced by the global market. Fluctuations in exchange rates can impact the competitiveness

The Impact of Exchange Rates and Interest Rates on Coal Mining Company Stock Prices Through Profitability

and profit margins of coal mining companies in international trade, so this study will help identify their impact on company performance and investment in this sector. Furthermore, changes in exchange rates can also be a significant financial risk factor, especially if the company has debt in foreign currencies (Fitriani et al., 2022). Therefore, this study will help identify their impact on a company's financial risk and how the company manages it. Understanding how exchange rate changes affect the stock prices of coal mining companies will also be highly beneficial for investors and stakeholders in making more informed investment decisions and understanding the influence of exchange rates on stock price movements in this sector. Meanwhile, interest rates play a crucial role in determining a company's cost of capital. Low interest rates can reduce a company's borrowing costs (Eltania, 2022), increase net profits (H. Wijaya, 2020), and therefore boost stock prices (Chikmah & Yuliana, 2020). On the other hand, high interest rates can increase the *time value of money* (Oktavia et al., 2023), making capital market investments less attractive than other options, such as bonds. Conversely, low interest rates can increase investor interest in stocks, potentially supporting stock price increases (Idrus, 2022). Therefore, these findings can provide valuable insights for investors and stakeholders in making more informed investment decisions, as well as assist coal mining companies in managing their financial risks. By incorporating interest rates into the context of financial risk, this study also contributes to understanding how companies can more effectively manage their debt, particularly when the debt is denominated in foreign currencies. By including exchange rate and interest rate variables as the main focus of this study, it allows us to explore the extent to which coal mining companies respond to changes in these macroeconomic variables.

Second, we include profitability as an intervening variable. We consider profitability a variable that can moderate the relationship between the independent variables (*exchange rates* and *interest rates*) and the dependent variable (stock prices). We base this on the results of previous studies that claim profitability can mediate the relationship between several independent variables and stock price movements. For example, Islamiati et al. (2023) found that profitability can mediate the effect of exchange rates on stock prices, and Machbubah (2020) found that profitability can mediate the effects of inflation, the rupiah exchange rate, and interest rates on stock prices. In our study, profitability is represented by *Return on Assets* (ROA). ROA was chosen as a proxy for profitability because it reflects the efficiency of a company's asset utilization in generating profits (Almira & Wiagustini, 2020). By including this intervening variable, our study will explore the extent to which a company's internal financial performance, as measured by ROA, can moderate the influence of external variables on stock prices. With this approach, our research will contribute to a deeper understanding of the complex factors influencing coal mining company stock prices in the Indonesian capital market. We hope the results will provide richer insights into the role of profitability as an intervening variable in articulating corporate responses to macroeconomic dynamics.

Third, our research focuses exclusively on coal mining companies. We consider this specificity a critical step in detailing and fully understanding the impact of exchange rate and interest rate variables on stock price movements in the context of the Indonesian coal mining sector. By focusing our research on this sector, we aim to provide a more in-depth and contextual analysis of how fluctuations in these macroeconomic variables affect coal mining company performance, both directly and indirectly through profitability. This decision also

The Impact of Exchange Rates and Interest Rates on Coal Mining Company Stock Prices Through Profitability

allows us to explore the differences and unique characteristics in coal mining companies' responses to changing economic conditions. Through this approach, we hope to identify response patterns specific to the coal mining sector, which can provide more accurate and relevant insights for industry players, investors, and policymakers in this sector.

Our research makes a significant contribution to the literature on the influence of exchange rates and interest rates on stock prices through profitability. First, we investigate the impact of exchange rates and interest rates specifically on coal mining companies in Indonesia. Taking a comprehensive approach, this research involves an in-depth analysis of how exchange rate and interest rate fluctuations can affect the stock prices of these companies. The results of this analysis will provide critical insights into the extent to which coal mining companies in Indonesia are vulnerable to unexpected external dynamics. Second, this research approaches the issue of the influence of these variables through profitability as an intervening variable. We chose *Return on Assets* (ROA) as a proxy for profitability. By including this intervening variable, our research aims to explore the extent to which a company's internal financial performance can moderate the influence of exchange rates and interest rates on stock prices. This will provide a better understanding of how profitability can play a significant role in responding to macroeconomic fluctuations and stock price movements. Third, this research contributes to the understanding of how exchange rates and interest rates can interact with internal variables, namely profitability, in the context of coal mining companies. Thus, this study provides a more comprehensive picture of the complex factors influencing the stock prices of coal mining companies in the Indonesian capital market. Through this approach, our research aims to provide investors and stakeholders with deeper insights to make more informed investment decisions. Furthermore, these findings can help coal mining companies manage their financial risks more effectively, particularly in the face of fluctuations in exchange rates and interest rates. Therefore, this study not only addresses the impact of external variables on stock prices but also contributes to understanding the complex dynamics of the relationships between exchange rates, interest rates, profitability, and stock price movements in the Indonesian coal mining sector.

Methods

This research employed an associative quantitative approach to analyze the relationship between *exchange rates*, *interest rates*, profitability, and share prices of coal mining companies listed on the Indonesia Stock Exchange (IDX). Time series data from 2013 to 2022 were used. The population consisted of all coal mining companies listed on the IDX during this period, while the sample was selected using purposive sampling based on companies that published complete financial statements within the research timeframe. This resulted in a sample of 20 companies.

Data were collected from secondary sources, including financial statements from the IDX for profitability (ROA) and stock prices, as well as macroeconomic data such as exchange rates (rupiah/USD mid-exchange rate) and interest rates (BI Rate) from Bank Indonesia. Additional data were obtained from academic journals, government reports, and industry publications. Exchange rate data were calculated as the annual average of the mid-day exchange rate, while interest rates were averaged from monthly data. Profitability was

The Impact of Exchange Rates and Interest Rates on Coal Mining Company Stock Prices Through Profitability

measured using ROA, defined as net profit divided by total assets, and stock prices were based on the average annual share price of each company in the sample.

Data analysis involved several stages. First, descriptive statistics provided an overview of data distribution. Classical assumption tests—including normality (Jarque-Bera), heteroscedasticity (Breusch-Pagan-Godfrey), autocorrelation (Breusch-Godfrey LM Test), and multicollinearity (VIF)—were performed to validate the model. Path analysis was applied to test the direct and indirect effects of exchange rates and interest rates on stock prices, with profitability as an intervening variable. Hypothesis testing used t-tests for partial effects and F-tests for simultaneous effects, at a significance level of $p < 0.05$. Data transformation (natural logarithm) was applied to exchange rate variables and stock prices to stabilize variance. All analyses were conducted using statistical software to ensure accuracy.

Results and Discussion

Descriptive Statistics

Descriptive statistical tests were conducted to provide a brief overview of the variables used in this study and to evaluate the data's readiness for further analysis. Descriptive statistical tests are a method for summarizing and explaining data, including the mean, standard deviation, maximum, and minimum values of a particular variable. Table 2 presents the descriptive statistical output results for all variables in this study, including Ln_ER, IR, ROA, and Ln_SP, which were the focus of the study on 20 companies during the study period from 2013 to 2022.

The Ln_ER (Natural Logarithm of Exchange Rate) variable in this study describes the average middle exchange rate of the rupiah against the US dollar, measured in natural logarithm form. The average Ln_ER value was 9.50217, indicating that the exchange rate tended to be stable during the study period. The low standard deviation, at 0.10813, indicates that exchange rate variation was limited or tended to be homogeneous. The IR (Natural Logarithm of Exchange Rate) variable in this study describes the average interest rate applied by Bank Indonesia. The average IR value is around 5.46, indicating that interest rates tend to be stable during the study period. The standard deviation of 1.422741 indicates that interest rate variations during the study period are limited or tend to be homogeneous. The ROA (Return on Assets) variable in this study reflects a company's ability to generate profits from its assets. The varying range of values, from -4.59 to 22.56, indicates significant variations in the financial performance of the coal mining companies in this study's sample. Negative ROA values indicate that some companies experienced losses from their operations, while positive values indicate the company's ability to generate attributable profits from its assets. The high standard deviation, at 7.797511, indicates significant heterogeneity among companies' ROA values. This indicates that the financial performance of these companies has a significant degree of variation, with some companies having ROAs that differ significantly from the average. This provides insight into the diversity in the efficiency of a company's asset utilization in generating profits, which can be influenced by operational strategy, industry type, and other economic factors. This diversity also provides significant information for stakeholders to understand the diverse financial performance profiles within this industry sector. The Ln_SP (Natural Logarithm of Stock Price) variable in this study reflects stock prices in natural logarithm form. The average Ln_SP value is approximately 8.1273, with a

The Impact of Exchange Rates and Interest Rates on Coal Mining Company Stock Prices Through Profitability

low standard deviation of 0.358708, indicating that stock price variation is relatively limited among companies in the sample. In other words, companies tend to have a high degree of consistency in their stock prices.

Classical Assumption Test

As previously explained, we conducted a classical assumption test in this analysis to ensure that the results conform to the classical assumptions. This classical assumption test involves a series of steps to evaluate the validity of the statistical model used in the study. First, we tested the normality of the residual distribution to ensure that the model residuals were normally distributed. To test for normality, we used the Jarque-Bera statistic. If the p-value from the Jarque-Bera test is >0.05 , then the residuals are normally distributed (Nurlaili, 2022). Next, a heteroscedasticity test was conducted to evaluate the homogeneity of residual variance across the range of predicted values. To test for heteroscedasticity, we used the Breusch-Pagan-Godfrey test. If the p-value from the Breusch-Pagan-Godfrey test is >0.05 , then the data does not exhibit heteroscedasticity (Mazziya et al., 2015). An autocorrelation test was also run to examine whether there was a correlation between residuals at different time points. This test used the Breusch-Godfrey Serial Correlation LM Test. If the p-value of the Breusch-Godfrey Serial Correlation LM Test is >0.05 , it can be concluded that the data does not show any autocorrelation problems (Dewi, 2022). The final classical assumption test is the multicollinearity test, to examine whether there is a high correlation between the independent variables in the regression equation model. This test uses the Variance Inflation Factor (VIF) statistic. If the VIF value for each independent variable is <10 , it can be concluded that there is no multicollinearity problem in the regression model (Yaldi et al., 2022). Multicollinearity occurs when two or more independent variables in a regression model are highly correlated with each other. The results of these tests provide a basis for validating our analysis and ensuring that the basic assumptions underlying the statistical model are met, ensuring reliable interpretation and conclusions. Based on the analysis results shown in Table 3, both in structural model 1 and structural model 2, all independent variables show Variance Inflation Factor (VIF) values below 10. This indicates that there is no multicollinearity problem in the independent variables. The results of the normality test also show that the Jarque-Bera probability is greater than 0.05, indicating that the residual distribution of this study tends to be normal. Meanwhile, the autocorrelation test using the Breusch-Godfrey Serial Correlation LM Test method shows a value greater than 0.05. With these results, we conclude that the regression model does not experience autocorrelation problems. In addition, the results of the heteroscedasticity test using the Breusch-Pagan-Godfrey method also show a value greater than 0.05. Therefore, we can conclude that there is no indication of heteroscedasticity in the regression model.

Table 1. Summary of Analysis Results

Model Structural 1				
Dependent Variable	: ROA			
Included Observations	: 10			
Variable	Coefficient	t-Statistic	Prob.	VIF
Ln_ER	-0,100	-0,264489	0,7990	1,735
AND	-0,712	-1,887141	0,1011	1,735

The Impact of Exchange Rates and Interest Rates on Coal Mining Company Stock Prices Through Profitability

R-squared	0,424397	Jarque-Bera	0,162317
Adjusted R-squared	0,260633	Prob(Jarque-Bera)	0,922048
F-statistic	2,586286	Heteroskedasticity Test Breusch-Pagan-	0,2356
Prob(F-statistic)	0,144213	Godfrey	0,324
		Breusch-Godfrey Serial Correlation LM Test	

Model Structural 2

Dependent Variable	: Ln_SP			
Included Observations	: 10			
Variable	Coefficient	t-Statistic	Prob.	VIF
Ln_ER	-0,520	-3,306081	0,0163	1,752
AND	-0,596	-3,099323	0,0211	2,617
LENGTH	0,659	4,209363	0,0056	1,739
R-squared	0,915384	Jarque-Bera		0,403981
Adjusted R-squared	0,873076	Prob(Jarque-Bera)		0,817103
F-statistic	21,63612	Heteroskedasticity Test Breusch-Pagan-		0,3359
Prob(F-statistic)	0,001282	Godfrey		0,318
		Breusch-Godfrey Serial Correlation LM Test		

Source: Data Processing Results, 2023

Path Analysis

With the classical assumptions tested and meeting the criteria, the next step in our analysis is to apply path analysis. In the context of this research, path analysis will help us understand the relationship between exchange rates and interest rates on the stock prices of coal mining companies listed on the Indonesia Stock Exchange, both directly and indirectly through profitability.

Based on Table 3, the results of the feasibility test for structural model 1 indicate that the exchange rate and interest rate variables do not simultaneously affect profitability. This is indicated by the F-statistic probability value greater than 0.05. Thus, it can be concluded that the exchange rate and interest rate variables do not have a significant simultaneous effect on profitability, which is proxied by ROA. Meanwhile, the results of the feasibility test for structural model 2 indicate that the exchange rate, interest rate, and ROA variables simultaneously affect the stock prices of coal mining companies listed on the Indonesia Stock Exchange. This is indicated by the F-statistic probability value less than 0.05. Therefore, it can be concluded that the exchange rate, interest rate, and ROA variables simultaneously have a significant effect on the stock prices of coal mining companies listed on the Indonesia Stock Exchange.

The adjusted coefficient of determination (Adj. R-squared) for each structural model is 0.260633 and 0.915384, indicating that approximately 26.06% of the variation in profitability is explained by the exchange rate and interest rate variables. The remaining 73.94% is the result of other factors not included in the research model. On the other hand, 91.54% of the variation in stock prices of coal mining companies listed on the IDX is explained by the exchange rate, interest rate, and profitability variables.

Furthermore, the partial t-test results showed that no independent variables significantly affected the profitability of coal mining companies listed on the Indonesia Stock Exchange (IDX). Interestingly, in the context of stock prices, the t-test results indicated that all independent variables used in this study partially significantly affected the stock prices of coal

The Impact of Exchange Rates and Interest Rates on Coal Mining Company Stock Prices Through Profitability

mining companies listed on the IDX. This means that each variable has a strong impact on changes in the company's stock price. The negative coefficient value for the exchange rate variable indicates that an appreciation of the rupiah against the US dollar will increase the stock prices of coal mining companies listed on the IDX. Similarly, the negative value for the interest rate variable indicates that a decrease in the BI rate will increase the stock prices of coal mining companies listed on the IDX. The positive coefficient value for the profitability variable indicates that an increase in company profitability will increase the stock prices of these companies.

The analysis results in Table 3 also demonstrate the inability of profitability to mediate the relationship between exchange rates and interest rates on the stock prices of coal mining companies listed on the IDX. These results indicate that while there is a relationship between exchange rates and interest rates on stock prices, profitability does not act as a significant intermediary in the influence of these two variables on stock prices. The inability of profitability to act as a mediator suggests that the influence of exchange rates and interest rates on stock prices is more direct. This is clearly demonstrated in Table 2 below.

Table 2. Direct Influence, Indirect Influence and Total Influence

Influence Inter-Variable		Influence Immediately	Indirect Influence Through Profitability	Total Impact
Exchange Rate	→ Profitability	-0,100	-	-0,100
Interest	→ Profitability	-0,712	-	-0,712
Profitability	→ Stock Price	0,659	-	0,659
Exchange Rate	→ Stock Price	-0,520	$-0.100 \times 0.659 = -0.0659$	-0,5859
Interest	→ Stock Price	-0,596	$-0.712 \times 0.659 = -0.4692$	-1,0652

Source: Processed Data, 2023

The Effect of Exchange Rates on Profitability

Based on the analysis, we found that exchange rate fluctuations do not significantly impact the profitability of coal mining companies listed on the Indonesia Stock Exchange (IDX). This finding indicates that fluctuations in the rupiah exchange rate against the US dollar do not necessarily cause significant changes in the financial performance (profitability) of coal mining companies. This is possible because coal mining companies implement effective risk management strategies against exchange rate fluctuations, such as the use of derivative financial instruments or futures contracts, which help protect companies from the negative impact of exchange rate fluctuations on their finances. Thus, companies can maintain stable profitability despite exchange rate fluctuations. Research by Sirajuddin & Mahardika (2023) noted that 25 companies in this subsector, listed on the IDX during the 2016-2021 period, have taken proactive steps by implementing hedging policies to protect themselves from the risk of exchange rate fluctuations. Thus, these findings demonstrate that the use of derivative financial instruments or futures contracts has successfully served as a protective barrier against exchange rate fluctuations, which in turn helps coal mining companies maintain stable profitability. Hedging is a method used to reduce the risk of foreign exchange fluctuations. Hedging is designed as a strategy to minimize unexpected business risks while still allowing for potential investment profits. The basic principle of hedging is to offset losses from the initial asset position with profits earned from the hedging instrument position (Moningka et al., 2022).

The Impact of Exchange Rates and Interest Rates on Coal Mining Company Stock Prices Through Profitability

Besides hedging factors, the insignificant effect of the exchange rate on profitability is due to coal mining companies' business policies in response to the rupiah depreciation against the US dollar. When exchange rate depreciation increases import costs, coal mining companies tend to address this by optimizing revenue from export sales. By conducting export sales in foreign currencies, companies can take advantage of the rupiah's lower exchange rate to increase their revenue. In this way, revenue from export sales can provide a sufficient source of income to offset the increase in import costs caused by exchange rate depreciation. This strategy allows coal mining companies to maintain stable profitability, despite fluctuations in the rupiah exchange rate against the US dollar. Thus, using revenue from export sales to offset the increase in import costs arising from exchange rate depreciation is a smart strategy adopted by coal mining companies. The findings of Paramita & Alinsari (2022) and Hadi Saputro (2019) further confirm our finding that the rupiah exchange rate has no impact on profitability (ROA). This indicates that the company has implemented an effective risk management strategy to address the potential impact of exchange rate fluctuations on their profitability.

The Effect of Interest Rates on Profitability

Our findings indicate that the profitability of coal mining companies listed on the Indonesia Stock Exchange (IDX) is not significantly affected by changes in interest rates. This result illustrates that interest rate fluctuations do not directly create significant changes in the financial performance (profitability) of coal mining companies. In this context, it can be concluded that these companies have a high degree of resilience to interest rate fluctuations, which can be explained by the long-term economic cycle in the coal mining industry. Because coal mine investment and development require a long time, short-term interest rate fluctuations do not directly impact the company's long-term decisions (Ranto, 2019).

Another factor that may explain the insignificant impact of interest rates on coal mining company profitability is that global market conditions and other external variables are more dominant in influencing these companies' profitability than changes in interest rates. Commodity prices, global market demand, and government regulations can be more significant factors in determining the financial performance of coal mining companies. Furthermore, some coal mining companies have adopted effective risk management strategies such as hedging, which can help protect the company from risks associated with interest rate changes.

The Effect of Profitability on Stock Prices

Our findings confirm that profitability has a significant impact on the stock prices of coal mining companies listed on the Indonesia Stock Exchange (IDX). These results indicate that fluctuations in a company's profitability directly trigger substantial changes in the value of coal mining companies' shares.

The profitability measurement in this study uses Return on Assets (ROA), a ratio that evaluates a company's ability to generate profits relative to its total assets (Wijaya, 2019). When a company achieves a high return on assets, this has a positive impact on its stock price (Wijaya, 2019). This phenomenon can be explained by the ability of companies with high asset holdings to meet their various obligations. The presence of substantial assets also reflects a robust funding structure, which can be attractive to investors. With increased investor interest, the stock prices of coal mining companies will naturally increase (Alamsyah, 2019). This

The Impact of Exchange Rates and Interest Rates on Coal Mining Company Stock Prices Through Profitability

demonstrates that the relationship between profitability and stock price has a significant impact on capital market dynamics, providing a basis for companies to continuously strengthen their financial performance to maintain and increase the value of their shares on the IDX.

The relationship between profitability and stock prices aligns with signaling theory, which suggests that a company's positive performance can trigger an increase in its stock price (Pradnyana & Putra, 2018). This phenomenon also has implications for increasing the company's stock price on the capital market because demand for shares exceeds supply. Therefore, company owners are faced with strategic decisions to increase profits by optimizing asset utilization to increase profitability, thereby increasing the company's stock price on the capital market (Arrizqi, 2021). This phenomenon can be traced from two perspectives. First, companies with high profitability tend to be more attractive to investors, which can then create buying pressure on their shares. Second, high profitability can reflect operational efficiency and sound financial management. Coal mining companies that are able to generate significant profits from their assets can be in a stronger position to face economic challenges and capitalize on growth opportunities. Furthermore, strong profitability can increase investor confidence in the potential for dividends or other capital returns. This can be a crucial factor in attracting long-term investors seeking income and investment growth.

Our findings, consistent with previous research, provide an additional contribution to strengthening our understanding of the relationship between profitability and stock prices of coal mining companies listed on the IDX. The findings of Pradnyana & Putra (2018) and Arrizqi (2021), which align with ours, indicate that profitability is not merely an indicator, but rather a factor that has a significant impact on changes in stock value. Therefore, this study confirms the view that investing in coal mining companies can be an attractive option for investors, especially if the company can maintain or increase its profitability.

The Effect of Exchange Rates on Stock Prices

Our findings indicate that exchange rates have a significant negative impact on the stock prices of coal mining companies listed on the IDX. This finding can be interpreted in the context of investor perceptions of currency risk. Fluctuations in exchange rates can signal investors about the potential risks associated with investing in coal mining company shares. Increased currency risk can be perceived as a factor that can reduce the value of shareholders' investments (Wibowo, 2018). In situations where investors believe exchange rate fluctuations could harm their investments, they tend to adjust their valuation of a company's stock price. This can be reflected in selling or a decrease in demand for shares, which in turn can negatively impact stock prices.

Asnawi (2021) adds a new dimension by emphasizing that because Indonesia implements a managed floating exchange rate system, fluctuations in the rupiah exchange rate occur as a result of the dynamic interaction between supply and demand. When the rupiah depreciates, this can result in a decrease in the required investment value, thereby reducing the rate of return received by investors. The Effective Financing Rate (EFR) theory asserts that an investor's real return is determined by the nominal return on assets and changes in the exchange rate. Exchange rate changes are considered the most dominant factor with the potential to rapidly change the rate of return. However, significant changes in currency values, especially in the

The Impact of Exchange Rates and Interest Rates on Coal Mining Company Stock Prices Through Profitability

form of sharp depreciation, can have a psychological impact, triggering panic and triggering panic selling in the stock market.

Based on the explanation above, it can be concluded that a decline in the rupiah exchange rate against the US dollar, or depreciation, can create negative sentiment in the capital market. This impact is a potential decline in overall stock prices, including those of coal mining companies. This situation can be exacerbated if retail investors do not have full access to information. Therefore, educating retail investors is crucial. Points that can be explained include stock ownership opportunities when foreign investors sell during depreciation, the importance of understanding company fundamentals in the capital market, and adopting a long-term rather than a short-term investment perspective. By providing this understanding, it is hoped that retail investors can make more informed investment decisions and be less affected by temporary market fluctuations.

The consistency of our findings with previous research by Islamiati et al. (2023), Fitriani et al. (2022), and Eka et al. (2022) confirms that exchange rates have a significant influence on stock prices. In this context, these combined findings provide strong support for the view that changes in exchange rates have a consistent and significant impact on stock market dynamics, particularly for coal mining companies listed on the IDX.

The Effect of Interest Rates on Stock Prices

The finding that interest rates have a significant negative effect on the stock prices of coal mining companies on the Indonesia Stock Exchange (IDX) can be interpreted through various macroeconomic contexts and market dynamics. First, the negative influence between interest rates and coal mining company stock prices can be understood through the lens of economic policy and market equilibrium theory. When interest rates rise as part of efforts to control inflation or regulate economic growth, the impact creates changes in market dynamics. Market equilibrium theory states that stock prices reflect market expectations of a company's value. Rising interest rates can shift investor preferences, prompting them to shift to alternative investments such as bonds or time deposits that offer higher returns with lower risk. The discount effect may also play a role, where investors place a lower value on a coal mining company's future cash flows when interest rates rise.

Furthermore, the negative impact of interest rates can be seen as a result of market uncertainty related to global economic conditions. If global markets face challenges or uncertainty, this can put additional pressure on the stock prices of coal mining companies, which are closely linked to global economic health and commodity demand. When interest rates rise, investment instruments such as bonds or time deposits can become more attractive than stocks. This creates a safer investment alternative with the potential for stable returns, and this can lead to capital outflows from the stock sector, including coal mining companies. This situation illustrates how interest rate dynamics can influence investment decisions of market participants, creating additional pressure on stock prices in the sector.

The Effect of Exchange Rates and Interest Rates on Stock Prices Through Profitability

The results of this study indicate that profitability is unable to mediate the effect of exchange rates and interest rates on the stock prices of coal mining companies listed on the Indonesia Stock Exchange (IDX). This finding can be explained by the limited role of

The Impact of Exchange Rates and Interest Rates on Coal Mining Company Stock Prices Through Profitability

profitability as a risk buffer against exchange rate and interest rate fluctuations in the context of the coal mining industry. This is due to the high dependence on other factors such as commodity prices, government regulations, or global market dynamics which are more dominant in determining stock prices than internal factors such as profitability.

First, a high reliance on external factors such as commodity prices can make companies in this industry more vulnerable to changes in the global market environment than internal variables such as profitability. While profitability can play a key role in a company's financial health, external factors appear to have a more significant impact on the stock prices of coal mining companies listed on the IDX. Furthermore, government regulations can also play a key role in determining stock performance. Government policies related to the environment, mining permits, or taxes, for example, can have a direct impact on the well-being of coal mining companies. Therefore, regardless of a company's profitability, changes in government regulations can destabilize its stability and share value. In a dynamic global market, commodity price fluctuations can also be a major factor influencing stock prices. If coal prices fluctuate significantly, this may be a major driver of changes in coal mining companies' stock prices. In such a situation, profitability may not be sufficient to mitigate the impact of changes in exchange rates and interest rates. Furthermore, broader global market factors can also be a key determinant of coal mining companies' stock performance. Factors such as global economic conditions, global energy demand, and international trade policies can provide a broader context beyond a company's direct control. Taking all these factors into account, further research could explore how coal mining companies can manage and respond to variability in their external environment, including increasing resilience to exchange rate and interest rate fluctuations without ignoring external factors affecting their industry as a whole.

Conclusion

This study concluded that for coal mining companies listed on the Indonesia Stock Exchange (IDX), fluctuations in exchange rates and interest rates did not significantly affect profitability, largely due to effective risk management strategies like derivatives and export optimization mitigating currency risks. Profitability, measured by return on assets, significantly influenced stock prices, attracting investors consistent with signaling theory. However, exchange rates and interest rates exerted a direct negative impact on stock prices, reflecting investor concerns about currency risk and global economic conditions. Profitability did not mediate these effects, as external factors such as commodity prices and government regulations played a more dominant role in stock performance. Future research could explore the influence of additional macroeconomic variables and sector-specific external factors, such as commodity price volatility and regulatory changes, to further understand stock price dynamics in the Indonesian coal mining sector.

References

- A. Conrad, C. (2021). The Effects of Money Supply and Interest Rates on Stock Prices, Evidence from Two Behavioral Experiments. *Applied Economics and Finance*, 8(2), 33. <https://doi.org/10.11114/aef.v8i2.5173>
- Aimer, N. M. (2019). The Impact of Exchange Rate Volatility on Stock Prices: a Case Study of Middle East Countries. *Asian Development Policy Review*, 7(2), 98–110.

The Impact of Exchange Rates and Interest Rates on Coal Mining Company Stock Prices Through Profitability

- <https://doi.org/10.18488/journal.107.2019.72.98.110>
- Almira, N. P. A. K., & Wiagustini, N. L. P. (2020). Return on Asset, Return on Equity, dan Earning Per Share Berpengaruh Terhadap Return Saham. *E-Jurnal Manajemen Universitas Udayana*, 9(3), 1069. <https://doi.org/10.24843/ejmunud.2020.v09.i03.p13>
- Chikmah, A. L., & Yuliana, I. (2020). Pengaruh Profitabilitas terhadap Return Saham dengan Suku Bunga sebagai Variabel Moderating (Saham Sektor Aneka Industri Periode 2016-2018). *Jurnal Ekonomi Manajemen Dan Akuntansi*, 22(1), 11–17.
- Ciera Group, & PT Hatfield Indonesia. (2023). Laporan Final Pelingkupan SESA Strategic Environmental and Social Assessment (SESA) Mekanisme Transisi Energi (MTE) di Indonesia. https://fiskal.kemenkeu.go.id/docs/Final_SESA_Scoping_Report_Clean_Bahasa_Indonesia.pdf
- Dewi, E. R. (2022). Pengaruh Ekspor, Impor dan PDB Terhadap Kurs di Indonesia Menggunakan Metode ARDL (The Effect of Exports, Imports and GDP on the Exchange in Indonesia Using the ARDL Method). *SENTRI: Jurnal Riset Ilmiah*, 1(4), 884–897. <https://doi.org/10.55681/sentri.v1i4.304>
- Eka, I. P., & Putri, N. (2022). Pengaruh Inflasi, Nilai Tukar Kurs, Suku Bunga SBI Terhadap Harga Saham. *Jurnal Management Risiko Dan Keuangan*, 1(3), 179–187. <http://dx.doi.org/10.21776/jmrk.2022.01.3.04>.
- Eltania, M. (2022). Pengaruh Suku Bunga Kredit, Inflasi, dan Nilai Tukar Terhadap Jenis Penyaluran Kredit. *Contemporary Studies in Economic, Finance and Banking*, 1 NO 1(1), 25–37.
- Fitri, A., & Andriani, B. F. (2023). Pengaruh Kurs Rupiah, Dividend Per Share (DPS) dan Laba Perusahaan Terhadap Harga Saham di Perusahaan Pertambangan Sub Sektor Batu Bara Pada Indeks Saham Syariah Indonesia (ISSI) yang Terdaftar di BEI Periode 2016-2019. *Journal Islamic Accounting Competency*, 3(1), 100–111. <http://repository.uinjambi.ac.id/id/eprint/9842>
- Fitriani, T., Asnawi, S. K., & Hendrian, H. (2022). Pengaruh Kurs Tukar, Dana Asing, dan Volume Perdagangan Terhadap Indeks Harga Saham. *Owner*, 6(2), 2145–2155. <https://doi.org/10.33395/owner.v6i2.842>
- Habibah, U. K., Zuhroh, I., & Sangadah, D. (2022). Fluktuasi Harga Saham Batu Bara: Peran Faktor Spesifik dan Makroekonomi. *Jurnal Akademi Akuntansi*, 5(3), 349–363. <https://doi.org/10.22219/jaa.v5i3.21065>
- Hadi Saputro, S. (2019). Analisis Pengaruh Variabel Makroekonomi Terhadap Profitabilitas Pada Perusahaan Pertambangan. *Moneter - Jurnal Akuntansi Dan Keuangan*, 6(1), 91–96. <https://doi.org/10.31294/moneter.v6i1.5407>
- Hutama, P., Irawan, D., Adi, C., & Muhammad. (2020). Dampak Ketidakpastian Global Terhadap Perekonomian Indonesia. In *Komisi Ekonomi PPI Dunia. Perhimpunan Pelajar Indonesia se-Dunia*. ppi.com
- Idrus, M. (2022). Pengaruh Inflasi dan Suku Bunga Terhadap Harga Saham. *Jurnal Mirai Management*, 7(3), 263–269. <https://doi.org/10.37531/mirai.v7i3.4589>
- Iradilah, S., & Tanjung, A. A. (2022). Pengaruh Inflasi dan Suku Bunga terhadap Harga Saham Pada Perusahaan Perbankan yang Terdaftar di BEI. *Ekonomi, Keuangan, Investasi Dan Syariah (EKUITAS)*, 4(2), 420–428. <https://doi.org/10.47065/ekuitas.v4i2.2363>
- Islamiati, D., Herdiyana, & Hardiyanto, A. T. (2023). Pengaruh Suku Bunga, Nilai Tukar dan Pertumbuhan GDP Terhadap Indeks Harga Saham di Bursa Efek Indonesia dengan Profitabilitas Sebagai Variabel Intervening. *Magma*, 5(1), 1–21.
- Machbubah, E. A. (2020). Pengaruh Inflasi, Nilai Tukar Rupiah dan Suku Bunga Terhadap Harga Saham Dengan Profitabilitas Sebagai Variabel Intervening Pada Jakarta Islamic Index. Program Magister Ekonomi Syariah, Institut Agama Islam Tulungagung.
- Mazziya, P. A., Sukarsa, I. K. G., & Asih, N. M. (2015). Mengatasi Heteroskedastisitas Pada

The Impact of Exchange Rates and Interest Rates on Coal Mining Company Stock Prices Through Profitability

- Regresi Dengan Menggunakan Weighted Least Square. *E-Jurnal Matematika*, 4(1), 20. <https://doi.org/10.24843/mtk.2015.v04.i01.p083>
- Mohamed, M., & Sahin, A. (2020). An Analysis on the Relationship between Exchange Rate and Stock Prices in the Short-Run and Long-Run: NARDL Model Results for the Kuwait Economy. *Journal of the Faculty of Economics and Administrative Sciences*, 10(2), 397–426. <https://doi.org/10.18074/ckuiibfd.636490>
- Moningga, R. S., Tulung, J. E., & Wangke, S. J. C. (2022). Faktor-Faktor yang Mempengaruhi Keputusan Hedging pada Perusahaan Pertambangan yang Terdaftar di Bursa Efek Indonesia Periode 2016-2020. *Jurnal LPPM Bidang EkoSosBudKum (Ekonomi, Sosial, Budaya, Dan Hukum)*, 6(1), 427–436.
- Nababan, L. U. (2019). Penerapan Model Regresi Data Panel Pada Analisis Harga Saham Perusahaan Batubara. *Akuntabel*, 16(1), 81–97.
- Nurlaili, M. Y. S. E. (2022). Analisis Pengaruh Desentralisasi Fiskal Terhadap Pertumbuhan Ekonomi di Kabupaten/Kota Provinsi Jawa Timur. *Jurnal Ilmu Ekonomi JIE*, 6(2), 178–187. <https://doi.org/10.22219/jie.v6i2.20457>
- Odionye, J. C., Ob, N. E., Odo, A. C., Ugwuegbe, U. S., & Uba, N. C. (2023). Asymmetric Impact of Multifarious Exchange Rate Shocks on Stock Prices: Fresh Insights From Multiple Thresholds Nonlinear Autoregressive Distributed-Lag Approach. *The Journal of International Trade & Economic Development*. <https://doi.org/https://doi.org/10.1080/09638199.2023.2223320>
- Oktavia, L. S., Aldina, L., Nurdyanto, Fahrati, M., & Yulaeli, T. (2023). Faktor-Faktor yang Mempengaruhi Nilai Waktu Uang: Future Value, Present Value, dan Annuity. *Jurnal Publikasi Ilmu Manajemen (JUPIMAN)*, 2(3), 153–168. <https://doi.org/10.55606/jupiman.v2i2.2061>
- Paramita, M., & Alinsari, N. (2022). Struktur Modal dan Profitabilitas Industri Makanan dan Minuman di Indonesia. *AFRE (Accounting and Financial Review)*, 5(2), 214–221. <https://doi.org/10.26905/afr.v5i2.7541>
- Pradnyana, K. D. D., & Putra, I. M. P. D. (2018). Moderasi Corporate Social Responsibility pada Pengaruh Profitabilitas Terhadap Nilai Perusahaan pada Perusahaan Manufaktur. *E-Jurnal Akuntansi Universitas Udayana*, 24, 253. <https://ojs.unud.ac.id/index.php/Akuntansi/article/view/38398>
- R., V., & Krishnan, S. G. (2023). The Impact of Inflation, Interest Rates and GDP on Stock Prices - A Comparative Analysis. *International Journal of Management Focus*, 12(2).
- Ramadhan, Z., & Munawaroh, A. (2022). Determinan Harga Saham Perusahaan Sub Sektor Pertambangan Batu Bara. *Jurnal Muhammadiyah Manajemen Bisnis*, 3(1), 1–10. <https://doi.org/10.24853/jmmb.3.1.1-10>
- Ranto, S. R. (2019). Pengaruh Jangka Pendek Dan Jangka Panjang Variabel Makro Ekonomi Terhadap IHSG di Bursa Efek Indonesia Dengan Pendekatan Error Correction Model (ECM). *Jurnal Derivat: Jurnal Matematika Dan Pendidikan Matematika*, 6(1), 12–24. <https://doi.org/10.31316/j.derivat.v6i1.332>
- Rosdiana, R. (2021). Analysis of the Effect of Stock Prices on Coal Sub- Sector on the Indonesia Stock Exchange 2014-2019. *Dinasti International Journal of Economics, Finance & Accounting*, 2(5), 528–539. <https://doi.org/10.38035/dijefa.v2i5.1106>
- Sirajuddin, S., & Mahardika, D. P. K. (2023). Pengaruh Profitabilitas, Hedging, dan Board Diversity Terhadap Nilai Perusahaan (Perusahaan Sektor Pertambangan Sub Sektor Batu Bara yang Terdaftar di Bursa Efek Indonesia Periode 2016-2021). *EProceedings of Management*, 10(2), 1352–1359.
- Stevani, W., & Nuraidha. (2021). Analisis Return on Assets dalam Menilai Pertumbuhan Laba Perusahaan. *Parameter*, 6(2), 118–132. <https://doi.org/10.37751/parameter.v6i2.182>
- Utami, M. S., Sihabudin, & Purwandari, D. (2023). Pengaruh Return On Asset (ROA), Earning

The Impact of Exchange Rates and Interest Rates on Coal Mining Company Stock Prices Through Profitability

- Per Share (EPS), dan Debt to Equity Ratio (DER) Terhadap Harga Saham Pada Perusahaan Pertambangan Sub Sektor Batubara yang Terdaftar di Bursa Efek Indonesia (BEI) Pada Tahun 2016-2021. *Jurnal Mahasiswa Manajemen Dan Akuntansi*, 2(4), 705–726.
<https://journal.ubpkarawang.ac.id/mahasiswa/index.php/JMMA/article/view/815/615>
- Wibowo, R. K. (2018). Pengaruh Nilai Tukar, Tingkat Suku Bunga, Profitabilitas, dan Struktur Permodalan Terhadap Harga Saham BUMN yang Terdaftar di BEI Tahun 2015-2017. *Jurnal Ilmiah Mahasiswa FEB Universitas Brawijaya*, 7(2).
<http://repository.ub.ac.id/id/eprint/174137>
- Widjaja, V., & Sitabuana, T. H. (2022). Analisis Domestic Market Obligation dan Larangan Ekspor Batu Bara Terhadap Krisis di Indonesia. *Prosiding Serina IV*, 2(1), 663–670.
- Wijaya, H. (2020). Pengaruh Interest Rate, Investor Sentiment, Financial Distress Terhadap Stock Return. *Jurnal Bina Akuntansi*, 7(1), 80–106. <https://doi.org/10.52859/jba.v7i1.75>
- Wijaya, R. (2019). Analisis Perkembangan Return On Assets (ROA) dan Return On Equity (ROE) untuk Mengukur Kinerja Keuangan. *Jurnal Ilmu Manajemen*, 9(1), 40. <https://doi.org/10.32502/jimn.v9i1.2115>
- Yaldi, E., Pasaribu, J. P. K., Suratno, E., Kadar, M., Gunardi, G., Naibaho, R., Hati, S. K., & Aryati, V. A. (2022). Penerapan Uji Multikolinieritas Dalam Penelitian Manajemen Sumber Daya Manusia. *Jurnal Ilmiah Manajemen Dan Kewirausahaan (JUMANAGE)*, 1(2), 94–102. <https://doi.org/10.33998/jumanage.2022.1.2.89>
- Yanto. (2022). Determinan Ekspor Batubara Indonesia. *Prosiding Seminar Nasional Seminar Akademik Tahunan Ilmu Ekonomi Dan Studi Pembangunan*, 5, 220–225. <https://feb.untan.ac.id/wp-content/uploads/2023/06/18.pdf>