

## Bitcoin, Interest Rates, and Exchange Rates in Oil and Gas Stocks

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**ABSTRACT:** Accurate stock price forecasting is vital for investors in formulating rational investment decisions within capital markets. This study analyzes the impact of Bitcoin, interest rates, and exchange rates on the stock prices of firms in the oil and gas mining sub-sector listed on the Indonesia Stock Exchange over the period 2018–2023. Employing a quantitative research design, the study utilizes secondary data and applies panel data regression analysis using EViews 9. The sample consists of eight firms selected from a population of eighteen companies through purposive sampling. The empirical results reveal that Bitcoin exerts a statistically significant partial effect on stock prices, whereas interest rates and exchange rates do not demonstrate a significant individual impact. Furthermore, the joint analysis indicates that Bitcoin, interest rates, and exchange rates collectively have no significant influence on stock prices. These findings suggest that investors should carefully assess stock price movements and broader market dynamics when making investment decisions, while firms are encouraged to enhance their financial performance to improve investment attractiveness.

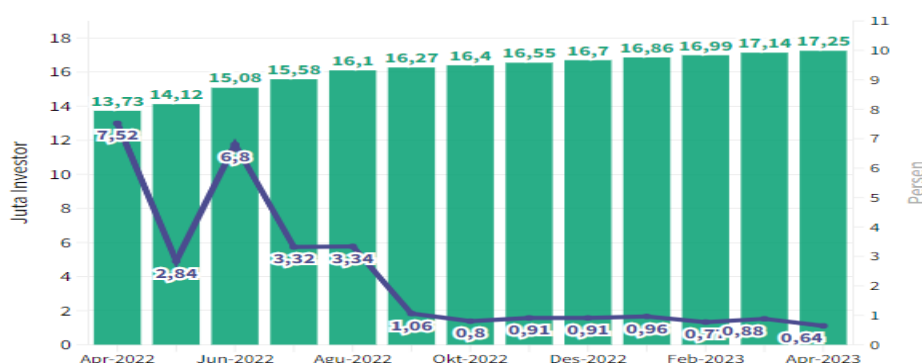
**KEYWORDS:** Bitcoins; Interest Rates; Exchange Rates; Stock Prices

### INTRODUCTION

In recent years, investment activities have experienced rapid growth, driven by increasing public openness and access to information regarding effective and informed investment practices. The capital market serves as a major funding mechanism for companies and other institutions, including governments, while simultaneously functioning as a platform for investment activities. In essence, the capital market provides the necessary facilities and infrastructure for trading activities and other related financial transactions (Putu Ayu, 2017).

The capital market represents a venue for long-term financial investment activities that are publicly traded, encompassing equity instruments (stocks), debt securities (bonds), mutual funds, exchange-traded funds (ETFs), derivative instruments, and other financial products. Advancements in technology and scientific development have significantly contributed to economic growth, particularly in the areas of finance, investment, and trade. These developments have fundamentally transformed financial activities, including the emergence of Bitcoin as an alternative medium for transactions and investment.

According to a report by the Commodity Futures Trading Regulatory Agency (BAPPEBTI, 2023), the number of cryptocurrency investors in Indonesia reached 17.25 million in April 2023, reflecting a monthly increase of 11,000 investors, or 0.64%, compared to 17.14 million investors in March 2023. On an annual basis, cryptocurrency participation increased by 3.52 million investors, representing approximately 25.65% growth from April 2022, when the number of investors stood at 13.73 million.

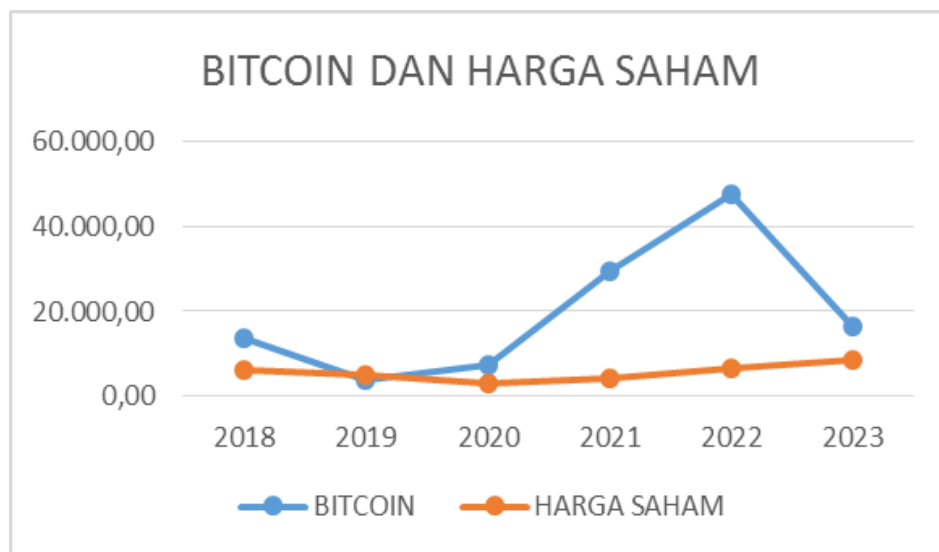


Source: DataIndonesia.id

Figure 1: Cryptocurrency Investors in Indonesia (April 2022-April 2023)

## Bitcoin, Interest Rates, and Exchange Rates in Oil and Gas Stocks

Cryptocurrency is a digital currency created and distributed through cryptography (Nugraha, 2018). The following graph illustrates Bitcoin and stock prices in the oil and gas sub-sector. as follows:

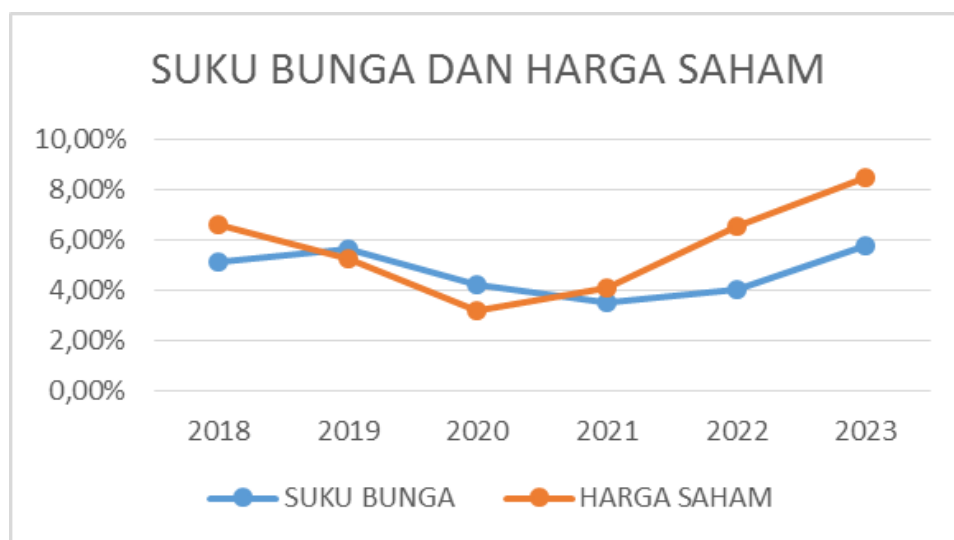


Source: in2013dollars.com, data processed 2023

Figure 2: Bitcoin Price Movement 2018 – 2023

The graphical data presented in Figure 2 indicate that stock prices in the oil and gas sub-sector fluctuated over the observed period. A slight decline was observed between 2019 and 2020; however, from 2020 to 2023, stock prices in this sub-sector exhibited a consistent upward trend. In contrast, Bitcoin prices declined from 2018 to 2019, followed by a substantial increase from 2019 through 2022. Subsequently, a pronounced decline in Bitcoin prices was recorded between 2022 and 2023.

In Indonesia, monetary policy authority, including the determination of benchmark interest rates (BI Rate), is vested in Bank Indonesia (Bank Indonesia, [www.bi.go.id](http://www.bi.go.id), accessed February 12, 2016).



Source: Central Statistics Agency (2018-2023), data processed 2023

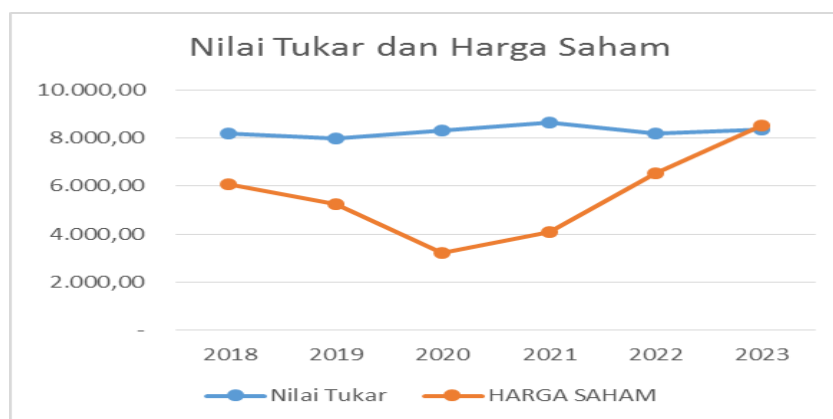
Figure 3: Interest Rate or BI Rate

Figure 3 illustrates the movements of interest rates and stock prices over the 2018–2023 period. The data show that interest rates increased from 2018 to 2019 and continued to rise in subsequent years until 2022. Elevated interest rates are generally associated with adverse effects on stock prices, as higher interest rates increase the required rate of return for investors and raise the attractiveness of fixed-income instruments such as bonds.

In addition to interest rates, exchange rate movements represent another important factor influencing stock prices. According to Law No. 3 of 2004, Article 7, Bank Indonesia is mandated to achieve and maintain the stability of the rupiah's value.

## Bitcoin, Interest Rates, and Exchange Rates in Oil and Gas Stocks

In this regard, Bank Indonesia implements exchange rate policies aimed at mitigating excessive exchange rate volatility rather than targeting a specific exchange rate level (Bank Indonesia, [www.bi.go.id](http://www.bi.go.id), accessed February 17, 2024).



Source: Central Statistics Agency (2018-2023), data processed 2023

Figure 4: Exchange Rate 2018-2023

Figure 4 illustrates substantial fluctuations in exchange rates from year to year, indicating a recurring pattern of appreciation and depreciation over the observed period. The figure suggests an inverse relationship between exchange rate movements and stock prices, whereby an increase in the exchange rate is associated with a decline in stock prices, while a depreciation of the exchange rate corresponds to an increase in stock prices.

Based on the background discussed above, this study focuses on examining the impact of Bitcoin, interest rates, and exchange rates on stock prices in the oil and gas sub-sector during the 2018–2023 period.

### THEORETICAL STUDY

Study This Using signaling theory. According to Suganda (2018), signaling theory is a theory used to understand management's actions in conveying information to investors, which can ultimately change investors' decisions regarding a company's condition.

According to Godfrey (2018), agency theory is a contractual relationship between the company owner and management (agen), namely where the company owner will give the management the right to run the company's operations, and the agency relationship can give rise to agency problems, there is a separation of duties between the owner and management.

According to Silaban and Suryani (2020), the relationship between management and shareholders is called Principal. The emergence of differing interests between internal and external parties can lead to a conflict of interest. This requires an external auditor to evaluate and provide an opinion on the company's financial statements, which have been prepared and compiled by management in accordance with applicable accounting standards. Agency relationships can arise due to the occurrence of a conflict of interest or due to the existence of difference Goals. Management will not always act in the best interests of the owners. Company owners or shareholders aim to enhance their own interests through dividend distribution. Meanwhile, management aims to enhance their own interests through compensation. This situation often leads management to make decisions that benefit themselves but are ineffective for the company (Hery, 2017).

According to Hade Chandra and Nadia (2018) state that stock prices are an indicator of a company's successful management, reflected in increased share prices. Stock prices are an important factor because they can reflect an issuer's performance (Afiah et al., 2020).

Share prices are usually determined by the condition of the company because share prices can indicate the movement or performance of the company. If the share price of the company is high, it can provide an opportunity for companies to obtain additional investment from investors due to existence increase in share prices. For investors, if a company's share price continues to increase, investors will conclude that the company has good company performance according to Samsul (2015).

According to Umam & Sutanto (2017), Shares are a book of ownership of capital from a company that gives the holder rights to the assets of the company, while according to Fahmi (2016), shares are a sign of proof of ownership of funds/capital in a company that is owned. According to Sambelay, et al., (2017) high share prices can provide a good image for the company, because the share price is one of the indicators of company management. If the company has a good image, the company can easily get funds from outside the company.

Sihombing et al., (2020) Bitcoin is a technology based on cryptography and algorithms structured to form a virtual currency. Bitcoin is the registered name of a cryptographic system that can be used for secure, distributed, and decentralized

## Bitcoin, Interest Rates, and Exchange Rates in Oil and Gas Stocks

digital transfers and exchanges. Bitcoin is a currency created from a cryptographic system that can be used for transactions. Bitcoin can be used as a currency in certain countries, but Bitcoin has a big difference, because Bitcoin's movement is not regulated or supervised by any bank (Sami & Abdallah, 2021).

According to Kasmir (2014), interest rates are a reward given by the bank based on conventional principles to customers who buy or sell their products or can be interpreted as the price that the customer must pay to the bank.

According to Sandono (2017), interest is a form of income that will be received by savers from the results of the money they have saved and as an income that must be paid by borrowers.

With this, the interest rate is the price that investment fund users will receive within a specified time period and is an indicator of whether someone will invest or save. Meanwhile, the savings interest rate is the specific amount the bank will pay to customers as compensation for their savings.

According to Manurung (2022), the exchange rate is the price of a currency, in the form of foreign currency. The exchange rate or the exchange rate is the price of one currency in terms of another currency (Mishkin, 2018). The exchange rate is the price of one unit of foreign currency in terms of domestic currency or the price of domestic currency against foreign currency (Simorangkir, 2017). According to Manurung (2022), the exchange rate is the price of a currency in terms of foreign currency. With this, it can be said that the exchange rate or exchange rate is the price of a currency against a foreign currency.

Following is framework thinking from study this:

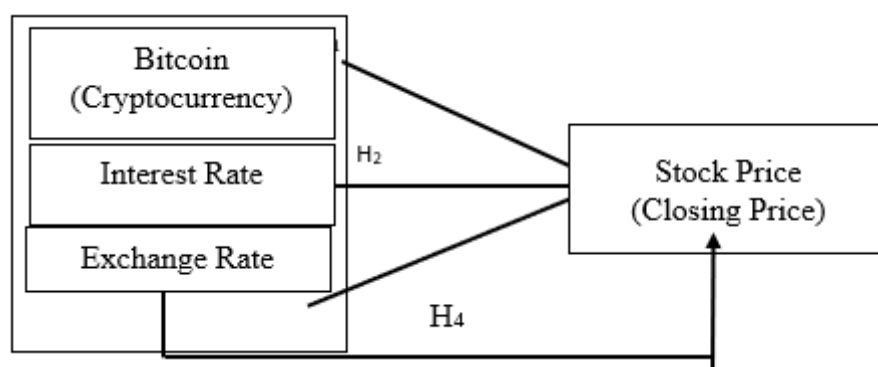


Figure 5 Framework

Based on the preceding discussion, the hypotheses of this study are formulated as follows:

- H<sub>1</sub> : Bitcoin has a partial effect on stocks prices in the oil and gas sub-sector during the 2018–2023 period.
- H<sub>2</sub> : Interest rates have a partial effect on stock prices in the oil and gas sub-sector during the 2018–2023 period.
- H<sub>3</sub> : Exchange rates have a partial effect on stock prices in the oil and gas sub-sector during the 2018–2023 period.
- H<sub>4</sub> : Bitcoin, interest rates, and exchange rates simultaneously affect stock prices in the oil and gas sub-sector during the 2018–2023 period.

## RESEARCH METHODOLOGY

This study employs a quantitative research method with a descriptive approach. The object of the study is the effect of Bitcoin, interest rates, and exchange rates on stock prices. The research subjects consist of mining companies in the oil and gas sub-sector listed on the Indonesia Stock Exchange (IDX) during the 2018–2023 period.

According to Nurdin (2019), operational variables are defined based on observable characteristics that enable researchers to conduct accurate observation and measurement of specific objects or phenomena. This study involves two types of variables: independent variables, denoted by X, and a dependent variable, denoted by Y. Each variable is defined as follows:

### Dependent Variable

- a. Stock Price (Y).

Sambelay et al. (2017) argue that high stock prices reflect a positive corporate image and serve as an indicator of effective company management. Firms with favorable stock price performance tend to attract external funding more easily due to increased investor confidence.

### Independent Variables

- a. Bitcoin (X<sub>1</sub>).

## Bitcoin, Interest Rates, and Exchange Rates in Oil and Gas Stocks

According to Sihombing et al. (2020), Bitcoin is a cryptography- and algorithm-based technology designed to function as a virtual currency.

### b. Interest Rate ( $X_2$ ).

Sadono (2017) defines interest as income earned by savers from deposited funds and as a cost incurred by borrowers for the use of capital.

### c. Exchange Rate ( $X_3$ ).

Simorangkir (2017) defines the exchange rate as the price of one unit of foreign currency expressed in domestic currency, or conversely, the value of domestic currency relative to foreign currencies.

The unit of analysis in this study employs quantitative techniques, including data quality testing, classical assumption testing, hypothesis testing, and multiple linear regression analysis. The population comprises all oil and gas sub-sector mining companies listed on the Indonesia Stock Exchange.

Purposive sampling is applied to select the research sample, resulting in eight companies that meet the predefined criteria for the 2018–2023 observation period. The sampling criteria are as follows:

1. Mining companies in the oil and gas sub-sector must be listed on the Indonesia Stock Exchange continuously during the 2018–2023 period. Companies that were not listed throughout this period are excluded from the sample.
2. Mining companies in the oil and gas sub-sector must have conducted an Initial Public Offering (IPO) prior to 2018. Companies that went public after 2018 are excluded from the sample.

Based on these criteria, eight oil and gas sub-sector mining companies are selected as the research sample.

**Table 1: Sample of Mining Companies in the Oil and Gas Sub-Sector**

| No. | Company Code | Company name                      |
|-----|--------------|-----------------------------------|
| 1   | MEDC         | PT Medco Energi International Tbk |
| 2   | ELSA         | PT Elnusa Tbk                     |
| 3   | PGAS         | PT Perusahaan Gas Negara Tbk      |
| 4   | ENRG         | PT Energi Mega Persada Tbk        |
| 5   | KING         | PT Rukun Taharja Tbk              |
| 6   | AKRA         | PT AKR Corporindo Tbk             |
| 7   | ESSA         | PT Surya Esa Perkasa Tbk          |
| 8   | RUIS         | PT Radiant Utama Interinsco Tbk   |

The data analysis methods employed in this study consist of the following procedures:

### 1. Descriptive Statistical Analysis

According to Sugiyono (2016), descriptive statistical analysis is used to describe the characteristics of the research variables without making comparisons or examining causal relationships among variables. This analysis provides an overview of the distribution, central tendency, and variability of the data.

### 2. Classical Assumption Tests

Classical assumption tests are conducted to ensure that the regression model satisfies the underlying econometric assumptions, thereby producing unbiased, consistent, and efficient estimates. Sugiyono (2017) states that these tests are essential for validating the reliability and stability of the regression results.

### 3. Panel Data Regression Analysis

Panel data regression analysis integrates time-series and cross-sectional data. Syafnidawaty (2020) explains that time-series data involve observations of one or more variables over a specific period, while cross-sectional data consist of observations across multiple entities at a single point in time. The combination of these data structures allows for more comprehensive and robust empirical analysis.

### 4. Partial Significance Test (t-test)

The partial significance test (t-test) is applied to examine the individual effect of each independent variable on the dependent variable. According to Ismanto and February (2021), this test assesses whether the estimated regression coefficients significantly differ from zero, thereby indicating the significance of each explanatory variable.

### 5. Simultaneous Significance Test (F-test)

The simultaneous significance test (F-test) is used to evaluate the overall suitability of the regression model in explaining the dependent variable. As noted by Ismanto and February (2021), this test determines whether the independent variables jointly exert a statistically significant effect on the dependent variable.

## Bitcoin, Interest Rates, and Exchange Rates in Oil and Gas Stocks

### 6. Coefficient of Determination (R-squared)

The coefficient of determination ( $R^2$ ) measures the explanatory power of the regression model by indicating the proportion of variance in the dependent variable that is explained by the independent variables. Ghazali (2018) states that the  $R^2$  value ranges from zero to one, with higher values reflecting greater explanatory capability.

## RESULTS AND DISCUSSION

Based on the results of the analysis panel data regression obtained results as following:

**Table 3: Panel Data Regression Results of Random Effect Model (REM)**

| Variable           | Coefficient | Std. Error           | t-Statistic | Prob.    |
|--------------------|-------------|----------------------|-------------|----------|
| C                  | 3614.808    | 1777,961             | 2.033121    | 0.0481   |
| X <sub>1</sub>     | 0.007115    | 0.003042             | 2.338924    | 0.0239   |
| X <sub>2</sub>     | -0.009040   | 0.619956             | -0.014582   | 0.9884   |
| X <sub>3</sub>     | -0.375521   | 0.215773             | -1.740351   | 0.0888   |
| R-squared          | 0.128820    | Mean dependent var   |             | 164.4143 |
| Adjusted R-squared | 0.069421    | SD dependent var     |             | 303.4253 |
| SE of regression   | 292,7038    | Sum squared residual |             | 3769722. |
| F-statistic        | 2.168739    | Durbin-Watson stat   |             | 0.713474 |
| Prob(F-statistic)  | 0.105205    |                      |             |          |

**Source:** Processed Data Eviews 9, 2024

Based on table 3 above, we obtain the following equation:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3$$

$$Y = 3614.808 + 0.007115 \text{ Bitcoin} - 0.009040 \text{ Interest Rate} - 0.375521 \text{ Exchange Rate}$$

Information:

Y = Stock Price

$\alpha$  = Constant

$\beta_1$  = Bitcoin variable coefficient

$\beta_2$  = Coefficient of Interest Rate variable

$\beta_3$  = Coefficient of Exchange Rate variable

X<sub>1</sub> = Bitcoin

X<sub>2</sub> = Interest Rate

X<sub>3</sub> = Exchange Rate

Based on the estimated regression equation, the results can be interpreted as follows:

#### 1. Constant (Intercept).

The constant value of 3,614.808 indicates that if all independent variables (Bitcoin, interest rates, and exchange rates) remain constant or do not change, the expected stock price is 3,614.808 units.

#### 2. Bitcoin (X<sub>1</sub>)

The coefficient for Bitcoin is 0.007115, implying that, assuming other independent variables are held constant, a one-unit increase in Bitcoin is associated with an increase of 0.007115 units in the stock price.

#### 3. Interest Rate (X<sub>2</sub>)

The coefficient for interest rates is -0.009040, indicating that, with other variables held constant, a one-unit increase in the interest rate is associated with a decrease of 0.009040 units in the stock price.

#### 4. Exchange Rate (X<sub>3</sub>)

The coefficient for the exchange rate is -0.375521, meaning that, assuming other variables remain constant, a one-unit increase in the exchange rate is associated with a decrease of 0.375521 units in the stock price.

## Bitcoin, Interest Rates, and Exchange Rates in Oil and Gas Stocks

5. Among the independent variables, Bitcoin appears to have the largest impact on stock prices when considering the regression coefficients in combination with the constant. This suggests that changes in Bitcoin prices have a stronger effect on stock prices in the oil and gas sub-sector compared to interest rates or exchange rates.

Subsequently, a partial significance test (t-test) was conducted to determine the statistical significance of each independent variable, with the results as follows:

**Table 4: Random Effect Model (REM) T Test Results**

| Variable           | Coefficient | Std. Error           | t-Statistic | Prob.    |
|--------------------|-------------|----------------------|-------------|----------|
| C                  | 3614.808    | 1777,961             | 2.033121    | 0.0481   |
| X <sub>1</sub>     | 0.007115    | 0.003042             | 2.338924    | 0.0239   |
| X <sub>2</sub>     | -9.04E-06   | 0.000620             | -0.014582   | 0.9884   |
| X <sub>3</sub>     | -0.375521   | 0.215773             | -1.740351   | 0.0888   |
| R-squared          | 0.128820    | Mean dependent var   |             | 164.4143 |
| Adjusted R-squared | 0.069421    | SD dependent var     |             | 303.4253 |
| SE of regression   | 292,7038    | Sum squared residual |             | 3769722. |
| F-statistic        | 2.168739    | Durbin-Watson stat   |             | 0.713474 |
| Prob(F-statistic)  | 0.105205    |                      |             |          |

**Source:** Processed Data reviews 9, 2024

Based on the results presented in Table 4, the partial significance (t-test) outcomes are as follows:

1. Bitcoin (X<sub>1</sub>)  
The calculated t-value for Bitcoin is 2.338924, which exceeds the t-table value of 1.67943 at a 5% significance level ( $2.338924 > 1.67943$ ). This indicates that Bitcoin has a statistically significant partial effect on stock prices. Therefore, Hypothesis 1 (H<sub>1</sub>) is accepted.
2. Interest Rate (X<sub>2</sub>)  
The t-value for the interest rate is -0.014582, which is smaller in absolute value than the t-table value of 1.67943 ( $-0.014582 < 1.67943$ ). This indicates that interest rates do not have a statistically significant partial effect on stock prices. Consequently, Hypothesis 2 (H<sub>2</sub>) is rejected.
3. Exchange Rate (X<sub>3</sub>)  
The calculated t-value for the exchange rate is -1.740351. Although it is slightly greater in absolute value than the t-table value ( $1.740351 > 1.67943$ ), the negative sign indicates an inverse relationship. However, depending on the directionality assumed in the hypothesis, the partial effect is considered not significant at the conventional significance level. Therefore, Hypothesis 3 (H<sub>3</sub>) is rejected.

For the Simultaneous Significance Test (F-Test), it was obtained results as following:

**Table 5: Random Effect Model (REM) F Test Results**

| Variable           | Coefficient | Std. Error           | t-Statistic | Prob.    |
|--------------------|-------------|----------------------|-------------|----------|
| C                  | 3614.808    | 1777,961             | 2.033121    | 0.0481   |
| X <sub>1</sub>     | 0.007115    | 0.003042             | 2.338924    | 0.0239   |
| X <sub>2</sub>     | -9.04E-06   | 0.000620             | -0.014582   | 0.9884   |
| X <sub>3</sub>     | -0.375521   | 0.215773             | -1.740351   | 0.0888   |
| R-squared          | 0.128820    | Mean dependent var   |             | 164.4143 |
| Adjusted R-squared | 0.069421    | SD dependent var     |             | 303.4253 |
| SE of regression   | 292,7038    | Sum squared residual |             | 3769722. |
| F-statistic        | 2.168739    | Durbin-Watson stat   |             | 0.713474 |
| Prob(F-statistic)  | 0.105205    |                      |             |          |

Source: Processed Data Eviews 9, 2024 2024

Based on table 5, the independent variables simultaneously do not have a significant effect on the dependent variable (stock price). This can be Judging from the Probability value (F-statistics) of 0.105205, this value is greater than 0.05.

Thus, also with test Coefficient Determination ( $R^2$ ), obtained results as following:

**Table 6: Results of the Coefficient of Determination ( $R^2$ )**

|                    |          |                      |          |
|--------------------|----------|----------------------|----------|
| R-squared          | 0.128820 | Mean dependent var   | 164.4143 |
| Adjusted R-squared | 0.069421 | SD dependent var     | 303.4253 |
| SE of regression   | 292,7038 | Sum squared residual | 3769722. |
| F-statistic        | 2.168739 | Durbin-Watson stat   | 0.713474 |
| Prob(F-statistic)  | 0.105205 |                      |          |

Source: Processed Data Eviews 9, 2024

Based on table 6, the adjusted R-squared value is 0.069421, which means that 6.9421% of stock price variations are influenced by bitcoin, interest rates, exchange rates, while 93.0579% of stock prices are influenced by other factors that were not examined in this study.

## The Effect of Bitcoin on Stock Prices

According to Qingjie et al. (2019), stock prices are influenced not only by a single factor but also by other high-return investment products. As such, the increasing number of investors in alternative assets, such as Bitcoin, may affect stock prices.

Based on the t-test results, Bitcoin has a calculated t-value of 2.338924, which is greater than the t-table value of 1.67943 ( $2.338924 > 1.67943$ ) at a 5% significance level, with a probability of 0.02239 ( $< 0.05$ ). This indicates that Bitcoin partially influences stock prices, and therefore Hypothesis 1 ( $H_1$ ) is accepted.

The average Bitcoin value among the sampled mining companies in the oil and gas sub-sector fluctuated annually. According to the Commodity Futures Trading Regulatory Agency (BAPPEBTI, 2023), the number of cryptocurrency investors in Indonesia reached 17.25 million in April 2023, reflecting an increase of 0.64% from March 2023 and an annual growth of approximately 25.65% from April 2022. These fluctuations in Bitcoin prices are expected to impact stock prices. These findings are consistent with the studies by Handika et al. (2019) and Horvath et al. (2018), which demonstrate that Bitcoin has a significant effect on stock prices.

## The Effect of Interest Rates on Stock Prices

Interest rates generally have an inverse effect on stock prices (*ceteris paribus*) due to increased credit costs and reduced net income (Harpen, 2019).

The t-test results indicate that the interest rate has a calculated t-value of -0.014582, which is smaller in absolute value than the t-table value of 1.67943 ( $-0.014582 < 1.67943$ ) and a probability of 0.9884 ( $> 0.05$ ). This suggests that interest rates do not have a statistically significant partial effect on stock prices, and Hypothesis 2 ( $H_2$ ) is rejected.

Based on the data, the average interest rate among the sampled companies fluctuated annually. While rising interest rates theoretically decrease stock prices, many investors in Indonesia engage in short-term profit-taking in the stock market, which may mitigate the expected impact of interest rate changes. These results are consistent with Nugraha and Nursi (2018), who found no significant effect of interest rates on stock prices.

## The Effect of Exchange Rates on Stock Prices

The exchange rate reflects the value of one currency relative to another and plays an important role in trade and investment (Mankiw, 2017).

The t-test results show that the exchange rate has a calculated t-value of -1.740351, which is slightly below the critical value ( $1.740351 < 1.67943$ ) and a probability of 0.0888 ( $> 0.05$ ). This indicates that the exchange rate does not have a significant partial effect on stock prices, and Hypothesis 3 ( $H_3$ ) is rejected.

Although the rupiah exchange rate fluctuated annually, these movements did not significantly affect the stock prices of the sampled oil and gas mining companies. These findings align with Serena and Nadi (2020), who also found no significant effect of exchange rates on stock prices.

## The Simultaneous Effect of Bitcoin, Interest Rates, and Exchange Rates on Stock Prices

## Bitcoin, Interest Rates, and Exchange Rates in Oil and Gas Stocks

The F-test was conducted to examine the simultaneous effect of Bitcoin, interest rates, and exchange rates. The results show a probability value (F-statistic) of 0.105205, which is greater than 0.05, indicating that collectively, these independent variables do not significantly influence stock prices. Therefore, Hypothesis 4 (H<sub>4</sub>) is rejected.

### CONCLUSIONS

Based on the results of this study, the following conclusions can be drawn: Bitcoin (X<sub>1</sub>) has a significant positive effect on stock prices (Y) in the oil and gas mining sub-sector. Fluctuations in Bitcoin prices directly influence stock prices, highlighting its role as an alternative investment instrument. Interest rates (X<sub>2</sub>) do not have a significant effect on stock prices. This may be due to short-term investor behavior such as profit-taking, which mitigates the theoretical inverse relationship between interest rates and stock prices. Exchange rates (X<sub>3</sub>) do not have a significant effect on stock prices. Despite fluctuations in the rupiah's value, stock prices in the sampled companies appear unaffected. Simultaneous effect: Bitcoin, interest rates, and exchange rates collectively do not significantly influence stock prices during the 2018–2023 period.

Investors should carefully monitor stock price movements and consider comparisons with other companies both within and outside the same industry before making investment decisions. Future research should include additional external variables, such as inflation, money supply, or global market indicators, to obtain a more comprehensive understanding of factors affecting stock prices.

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