

The Influence Volatility, Profitability, Carbon Intensity on Stock Returns in Mining Companies 2021-2023

Satrio Budi Prakoso *, Ujang Suherman, Rengga Madya Pranata
Faculty Economy and Business, Management, Universitas Buana Perjuangan Karawang
Jl. HS.Ronggo Waluyo, Puseurjaya, Telukjambe Timur, Karawang, Jawa Barat 41361, Indonesia

Article Info

Article history:

Received February 15, 2024
Revised February 27, 2024
Accepted March 17, 2025

Keywords:

Emissions Coal
ROA
Return Stock
Volatility

ABSTRACT

Study This analyze influence volatility price share, profitability, and intensity carbon on the stock returns of Indonesian mining companies 2021–2023 using quantitative methods. Secondary data from report finance and trading share IDX, study This take sample 15 company with purposive sampling. The regression results show that while stock volatility has no effect and is not significant (coefficient 0.002 with significance $0.845 > 0.05$), profitability has a positive and significant effect. to return share (coefficient 1,712 with significance 0.009 (< 0.05), While That, carbon intensity Which measured through disclosure emission carbon Also No influential (coefficient -1,290 with a significance of 0.499 (> 0.05)). In conclusion, profitability is a factor the main thing that improves attractiveness share, whereas volatility and emission carbon No influential. Implications study This emphasizes the importance of financial performance the good one and increasing environmental awareness for sustainability mining sector.

This is an open access article under the [CC BY-SA](https://creativecommons.org/licenses/by-sa/4.0/) license.



Corresponding Author:

Satrio Budi Prakoso
Universitas Buana Perjuangan Karawang
Email: mn21.satrioprakoso@mhs.ubpkarawang.ac.id

INTRODUCTION

a. Background

Green economy supports sustainable development by balancing economic growth and environmental sustainability. Challenges such as climate change, loss of diversity biological, And inequality social the more complex, while the current economic system has not been able to overcome its impacts, it actually encourages excessive consumption and environmental degradation..(Anwar, 2022).

Stock price volatility is important for investors in investment strategies and has an impact on stock returns. Here is a short paraphrase of the explanation: Stock price volatility shows how much the stock price changes in a period. period. The more tall volatility, the more big risk And opportunity Which faced by investors. The causative factors can come from economic conditions, company performance, to global issues. Volatility is considered healthy if it is in the range of 10%–30%, because it is still reflect movement price Which reasonable. On the contrary, volatility in lower 10% or above 50% is considered unhealthy because it indicates stocks that are too stagnant or too volatile. (Putri & Syaichu, 2023).

Table 1 Comparison volatility price share and return share year 2021- 2023

| NO | NAME ISSUER | Year | Volatility Price Share Rp | Return Share % |
|----|----------------------------------|------|------------------------------|-------------------|
| 1 | PT. Coal Hill Sour | 2021 | Rp. 333.54 | -4% |
| | | 2022 | Rp. 61.82 | 36% |
| | | 2023 | Rp. 659.17 | -34% |
| 2 | PT Earth Resources Minerals | 2021 | Rp. 15.7 | 60% |
| | | 2022 | Rp. 39.08 | 37% |
| | | 2023 | Rp. 12.55 | 7% |
| 3 | Miscellaneous Mine (Limited) Tbk | 2021 | Rp. 248.39 | 16% |
| | | 2022 | Rp. 310.53 | -12% |
| | | 2023 | Rp. 258.99 | -14% |

Source: Data Processed by Researchers, 2025

From 9 sample, 3 company analyzed For measure volatility price share (VHS) and stock returns (RS). The increase in VHS is not always followed by an increase in RS, such as in PT. BRMS and PT ANTM Tbk. PT BMRS experienced a decrease in VHS from IDR15.7 (2021) to IDR12.55 (2023), while RS fell from 60% to 7%. PT ANTM Tbk recorded an increase in VHS from IDR248.39 (2021) to IDR258.99 (2023), but RS decreased from 16% to -14%.

Profitability ratios measure the effectiveness of a company in generating profits. ROA indicates asset efficiency, where an increase in ROA reflects better performance and has the potential to increase stock prices and returns (Mangkey et al., 2022). Profitability reflects a company's ability to generate profits from the assets or capital used. Indicators such as ROA, ROE, and NPM are used to assess financial performance. Generally, ROA above 5%, ROE between 15–20%, and NPM above 10% are considered healthy. Conversely, values below these standards indicate low profitability and potential financial problems in operations company.

Table 2 Comparison profitability (ROA) And return share year 2021- 2023

| NO | NAME ISSUER | Year | ROA (%) % | Stock Return % |
|----|---------------------|------|--------------|-------------------|
| 1 | Adaro Energy Tbk | 2021 | 12.3% | 57% |
| | | 2022 | 23.12% | 71% |
| | | 2023 | 15.67% | -38% |
| 2 | Bumi Resources Tbk | 2021 | 3.98% | -7% |
| | | 2022 | 11.7% | 140% |
| | | 2023 | 0.26% | -47% |
| 3 | Mine Coal Hill Sour | 2021 | 21.89% | -4% |
| | | 2022 | 27.71% | 36% |
| | | 2023 | 15.75% | -34% |

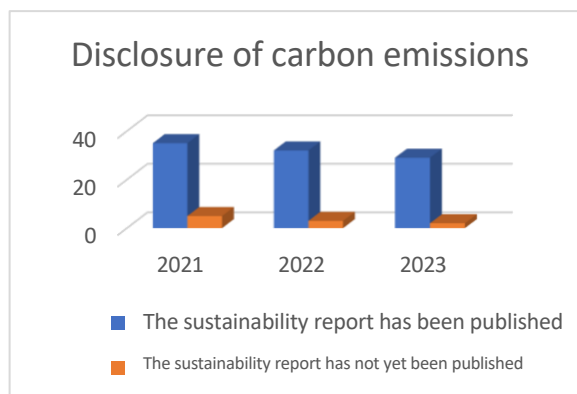
Source: Data Processed by Researchers, 2025

From 9 sample, profitability (ROA) And return share show trend varies. PT Adaro Energy Tbk experienced an increase in stock price volatility (VHS) from 12.3% (2021) to 15.67% (2023), but stock returns fell from 57% to -38%. PT Bumi Resources Tbk recorded a decrease in VHS from 3.98% to 0.26%, with stock returns falling from -7% to -47%.

Management emission carbon show efficiency operational And innovation technologies with strong long-term financial performance are more attractive to investors (Tsai et al., 2022). In Indonesia, Presidential Regulations No. 61 and 71 of 2011 require annual emission reporting, while Law No. 17 of 2004 ratified the Kyoto Protocol to support voluntary emission reductions (Aeni & Murwaningsari, 2023).

Disclosure of carbon emission intensity reflects the company's efficiency in managing emission gas House glass to output Which produced. Range mark 0 up to 16 indicates variation in emission levels, where values below 8 are considered unhealthy as they indicate high efficiency, while values above 12 reflect poor management. emission Which optimal. Disclosure the good one covers data Which complete, transparent, and in accordance with international reporting standards.

On the other hand, disclosure Which No in accordance standard or No consistent indicates weak environmental commitment from companies.



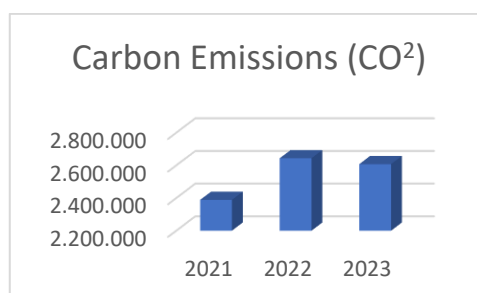
Source: Data Processed by Researchers, 2025

Picture 1 Chart Disclosure emission carbon year 2021-2023

Of the 35 samples, the number of companies publishing sustainability reports decreased from 35 (2021) to 32 (2022) and 29 (2023), while those that have not published decreased from 4 to 2. Disclosure of carbon emissions increases stock returns by demonstrating sustainability commitment, in line with stakeholder theory which emphasizes the importance of maintaining social legitimacy and investor trust.

Stock returns are indicators that show investors' profits or losses from stock investments in a certain period. This return figure reflects the company's performance and market perception of the company's business prospects. Factors such as financial stability, market risk, and macroeconomic conditions affect the value of stock returns. The range of healthy returns varies, but in general, return annual between 10% until 20% considered ideal, temporary return in below 5% or negative indicates suboptimal performance or loss.

Climate change causes global warming which has an impact on environmental damage and pollution (Nursulistyo et al., 2023).



Source: Data Processed by Researchers, 2025

Picture 2 Chart Carbon emission Indonesia on year 2021-2023

According to (Tommy Andrian & others, 2021) Indonesia produces carbon emissions of around 2.2-2.7 million tons per day. This makes Indonesia the 6th largest carbon emitter (Larasati et al., 2020). Increase emission carbon term long can lower profitability, investment, and productivity of global companies. Therefore, the role of government is important in reducing environmental impacts.

In recent years, the mining sector in Indonesia has faced complex dynamics due to stock price fluctuations, profitability, and environmental issues such as carbon emissions. Investors are increasingly selective in assessing company performance, not only based on profitability, but also stock stability and commitment to sustainability. Data shows that VHS can affect stock returns, while profitability remains the main factor in attracting investors. In addition, despite increasing awareness

of environmental impacts, carbon intensity has not significantly affected mining companies' stock returns. This phenomenon shows that financial and sustainability factors are increasingly playing a role in determining the attractiveness of investment in the mining sector, so that important for company For balancing strategy finance And not quite enough environmental responsibility to maintain competitiveness in the capital market.

Study This refer to on studies previously about influence volatility And profitability on stock returns by (Maulina, 2024) and (Putri & Syaichu, 2023) shows that the profitability variables ROA and VHS have a positive effect on stock returns, but are contradictory with studies by. (ALDZIHNI, 2021) Study This show volatility Stock prices have a negative effect on stock returns. The innovation of this research lies in the use of carbon intensity variables to analyze the environmental impact on stock returns in the mining sector. Study This give perspective new about influence emission carbon on investor perceptions, business risk, and stock returns, as pressure on sustainable business increases. Further studies are needed to deepen the understanding of this relationship.

Objective Study

1. Analyze influence volatility price share to return share in mining sector for the period 2021-2023.
2. Analyze influence profitability to return share in sector mining period 2021-2023.
3. Analyzing the effect of carbon intensity on stock returns in the mining sector for the period 2021-2023.

REVIEW LIBRARY

Theory Stakeholder

Theory stakeholders emphasize that sustainability company depends on relationship with the stakeholders interest. In industry mining, carbon disclosure is important because this sector is a major contributor to emissions. Research shows that carbon disclosure increases legitimacy, reduces regulatory pressure, and improves relations with the community. (Pratiwi, 2021).

Volatility Price Share

Volatility share show how much big price go on down in market The higher it is volatility, the more Lots investors interested For add ownership shares, especially when prices decline. (Paisal et al., 2024).

$$\sum \ln \left(\frac{H_t}{L_t} \right)^2$$

Information Variables :

H t = Price highest share on period t

L t = Price lowest share on period t

$\ln \left(\frac{H_t}{L_t} \right)$ = Logarithm natural from ratio between price highest And price lowest

Σ = Addition For all period Which observed

Ratio Profitability

Profitability measure ability company to achieve profit from income and capital, Wrong the only one past gross profit margin total sales (Handayani, 2022). Profitability ratios assess how much effective company in make profit (Pambudi & Meini, 2023) here is the formula:

$$ROA = \frac{\text{Earning after interest and tax}}{\text{Total assets}}$$

Carbon Intensity

Carbon emissions are the release of carbon that causes climate change, with the main gases according to the Kyoto Protocol such as CO₂, CH₄, N₂O, CFC, HFC, and SF₆. (Resya et al., 2021). Here is the formula:

$$CED = \frac{\text{Amount total score disclosure}}{\text{Amount total score maximum (16)}}$$

Return Share

Return share is profit investors from difference price share. before and after sales.(Lubis & Hrp, 2022). Realization of returns is the return based on data historical Which used For estimate risk And future returns (Kutaningtyas et al., 2024):

$$R_{i,t} = P_t - P_{t-1}/P_{t-1}$$

HYPOTHESIS STUDY

Influence Volatility Price Share To Return Share

According to (ALDZIHNI, 2021) Volatility share No influential to pharmaceutical company returns on the IDX (2017-2021), reflecting varying influences based on sector and research period. Meanwhile (Ryanza, 2021) High stock volatility has been shown to depress returns, because price instability reduces profits and investor confidence, in line with stakeholder theory. According to stakeholder theory (Pratiwi, 2021) Company need accommodate interest all parties. Instability price share can reduce trust investors, harm company performance and reputation.

H 1: Price volatility share influential negative against return share

Influence Profitability To Return Share

According to (Usri et al., 2023) Profitability has a positive influence on the company's stock returns. manufacturing in Indonesia, give profit more big for shareholders. According to stakeholder theory, companies must also pay attention to the interests of employees, customers, and suppliers for business sustainability. In (Ginting, 2021) Increased cash flow and profitability have a positive effect on stock returns, reflecting performance the company that Healthy with stable finances, attract investors, and encourage increased returns. In addition, in line with stakeholder theory (Pratiwi, 2021), based on stakeholder theory, high profitability has a positive effect on returns share Because increase trust investors, as well as support business sustainability and stakeholder interests which ultimately strengthen the company's value.

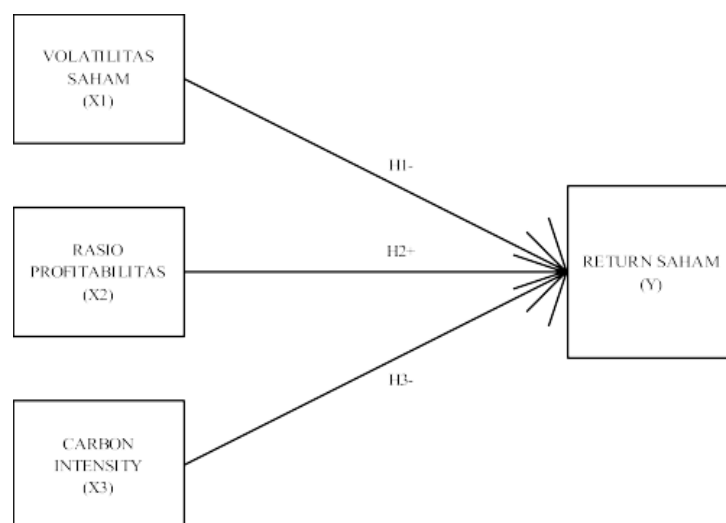
H2: Profitability influential positive to return share

Influence Carbon Intensity To Return Share

Research by (Hardianti & Mulyani, 2023) High carbon intensity can reduce the value companies and stock returns, especially if not enough transparent, because the market responded negatively. According to stakeholder theory, concern for the environment and society is important to maintain reputation, investor trust, and stock price stability in addition, (Fitriana et al., 2024) Companies must pay attention to stakeholder interests and collaborate to increase company value. If they ignore environmental impacts, stakeholder trust can decrease, which ultimately harm return share. In line with theory stakeholders Which explained by (Pratiwi, 2021), high carbon intensity has a negative impact on stock returns because it increases financial risk, reduces investment interest, and weakens stakeholder confidence in the company's sustainability.

H3: Carbon intensity influential negative to return share

Framework



Picture 1 Framework Thinking

Source: Data Processed by Researchers, 2024

METHOD STUDY

a. Type Study And Source Data

This research is quantitative with numerical data analysis, using secondary data from annual report And report finance And sustainable trading share company large on the IDX for the 2021–2023 period, obtained from the official IDX website (www.idx.co.id).

b. Population and Sample

The population includes 58 large trading sub-sector companies on the IDX (2021–2023). With purposive sampling, 15 companies were selected as samples observed for 3 years with a total of 45 financial reports and sustainability reports:

Table 3 Criteria sample and population

| NO | CRITERIA DETERMINATION SAMPLE | AMOUNT |
|----|--|--------|
| 1 | Company Which registered in BEI (Stock Exchange) Effect Indonesia) mining sector 2021-2023. | 58 |
| 2 | Publish annual report and/ or sustainability report | 35 |
| 3 | Company Which report emission carbon with include at least one related policy or aspect Carbon intensity). | 15 |

Source: Data Processed by Researchers, 2024

c. Operational Variables

According to (Simamora & Elviani, 2022) carbon emission disclosure in Indonesia is influenced by the board of directors. Studies show that the board of directors plays a significant role, with a disclosure score based on a carbon intensity scale of 0–16.

Table 4 Carbon emission disclosure

| No | Category | Item |
|----|-------------------------|---|
| 1 | Disclosure General | GRI 102-15 - Influence big, threat, and chance. GRI 102-29- Determine as well as manage effect economy, environment, and social. |
| 2 | Impact Economy Indirect | GRI 201-2 Impact finance as well as risk and opportunity consequence change climate. |
| 3 | Energy | GRI 302-1- Use water in accordance with the source. GRI 302-2-Source water Which affected in a way significant by its usage. |

| No | Category | Item |
|----|---------------------------------|--|
| 4 | Diversity Biological | GRI 302-3- Intensity energy. |
| | | GRI 302-4- Efficiency in use energy. |
| | | GRI 302-5- Efficiency energy on product and service. |
| | | GRI 303-3- Utilization return and recycle repeat water. |
| | | GRI 305-1- Emissions gas House glass scope 1 direct. |
| 5 | Water Five (Effluent) and Waste | GRI 305-2- Emissions gas House glass scope 2 No direct. |
| | | GRI 305-3- Emissions gas House glass scope 3 No directly other. |
| | | GRI 305-4- Intensity emission gas House glass. |
| | | GRI 305-5- Efficiency emission gas House glass. |
| | | GRI 305-6- Emissions substance destroyer ozone (ODS). |
| | | GRI 305-7- Emission air main like Nitrogen Oxide (NOx) And Sulfur Oxide (SOx). |

Source: Data Processed by Researchers, 2024

Table 5 Definition and Measurement Operational Variables

| No | Variables | Definition Operational | Measurement Variables | Measurement Scale |
|----|---------------------------------|--|--|-------------------|
| 1 | Volatility price stock (X1) | Stock volatility shows how much the price fluctuates up and down. (Lubis & Hrp, 2022) | $\sum \ln \left(\frac{H_t}{L_t} \right)^2$ | Nominal |
| 2 | Profitability (X2) | Profitability ratios assess the effectiveness of a company in achieving profits. (Pambudi & Meini, 2023) | $ROA = \frac{\text{Earning after interest and tax}}{\text{Total aktiva}}$ | Ratio |
| 3 | Carbon Emission Disclosure (X3) | Emission carbon is a gas that is released to atmosphere and contribute to changes climate. (Pambudi & Meini, 2023) . | $CED = \frac{\text{Jumlah total skor pengungkapan}}{\text{Jumlah total skor maksimal (16)}}$ | Nominal |
| 4 | Stock Return (Y) | Stock return is the difference between the stock price before and after the sale. (Pambudi & Meini, 2023) . | $R_{i,t} = P_{i,t} - P_{i,t-1} / P_{i,t-1}$ | Ratio |

d. Analysis Tools

Study This use variable independent volatility price shares (X1), profitability (X2), and disclosure emission carbon (X3), with stock returns (Y) as variable dependent as following :

$$Y: \alpha + \beta 1 \text{ Volatility} + \beta 2 \text{ ROA} + \beta 3 \text{ carbon intensity} + e$$

Information :

Y = Return

A = Constant

$\beta 1$ - $\beta 3$ = Regression Coefficient

Volatility = Stock Price Volatility

ROA = Return on Asset (Measurement for Profitability)

CI = Carbon Intensity

E = error

RESULTS STUDY

Test Analysis Statistics Descriptive

Table 6 Results Test Description Statistics

| | N | Minimum | Maximum | Mean | Std. Deviation |
|--------------------|----|---------|---------|---------|----------------|
| VHS (X1) | 45 | 7 | 7266 | 617.58 | 1228,152 |
| ROA (X2) | 45 | -10.79 | 59.26 | 13,1038 | 14.54866 |
| CI (X3) | 45 | 1 | 16 | 10.42 | 4,659 |
| RS (Y) | 45 | -84 | 222 | 20.98 | 59,424 |
| Valid N (listwise) | 45 | | | | |

Source: SPSS 25 Output (Processed by Researchers), 2025

Volatility price share show how much big fluctuation price in a period. Based on descriptive analysis, the average volatility reached 617.58 with a very wide spread of values, from 7 to 7266, and a high standard deviation of 1228,152. This matter indicates the presence of difference significant between company in movement price share, Which can influenced by performance, sector industry, and external factors. Very high volatility reflects high risk, but also opens up profit opportunities, although it is generally considered less stable for investors.

Profitability shows the company's ability to generate profits from asset Which owned, Which in matter This measured through Return on Assets (ROA). The average ROA in the mining sector is 13.10%, exceeding the healthy standard of 5%, so that reflect performance finance Which good in terms of general. Although Thus, the existence of a minimum ROA of -10.79 and a high standard deviation indicates the existence of inequality performance between company. By Because That, sector mining Still worth considering as an investment option, as long as it is supported by a thorough analysis of each company to reduce potential risks.

Based on descriptive analysis, the average carbon intensity of 10.42 indicates moderate carbon emissions in mining sector companies. Although still acceptable, this figure does not reflect optimal emission management efficiency. There is variation between companies, with a minimum value of 1 and a maximum of 16. For investors, sector This still interesting, especially If company have a commitment to sustainability and clear emissions disclosure. Selection of companies with low carbon intensity and compliance with environmental reporting standards is important to minimize long-term risks.

Variables Y on table refer to on Return Share (RS), namely reflection profit and loss of stock investment in a period. The results of descriptive statistics show that RS has an extreme range, from -84 to 222, with an average of 20.98 and a fairly high spread of 59.424. This range indicates the dynamics of company performance that are very diverse. In general, healthy annual returns are in the range of 10% to 20%, so companies with returns within or above this range are considered Healthy, temporary Which worth in below 5% or negative classified as No healthy. This fluctuation is a real picture of the influence of internal and external conditions, such as stability financial, risk market, And situation economy macro, to view investors on the company's business prospects.

Normality Test

Table 7 Results Test Kolmogorov- Smirnov

| One-Sample Kolmogorov-Smirnov Test | | |
|------------------------------------|----------------|-------------------------|
| | | Unstandardized Residual |
| N | | 45 |
| Normal Parameters ^{a,b} | Mean | 0.0000000 |
| | Std. Deviation | 53.48577488 |
| Most Extreme Differences | Absolute | 0.114 |
| | Positive | 0.114 |
| | Negative | -0.058 |
| Test Statistics | | 0.114 |
| Asymp. Sig. (2-tailed) | | .175 ^c |

Source: SPSS 25 Output (Processed by Researchers), 2025

Based on Test Kolmogorov-Smirnov show Asymp. Sig. $0.175 > 0.05$, so the data is stated to be normally distributed.

Test Multicollinearity

Table 8 Results Test Multicollinearity

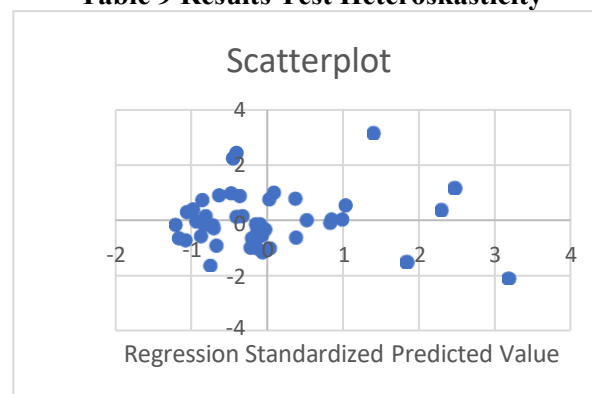
| Model | Collinearity Statistics | |
|------------|-------------------------|-----------|
| | VIF | Tolerance |
| (Constant) | | |
| 1 VHS (X1) | 0.775 | 1,291 |
| ROA (X2) | 0.856 | 1,168 |
| CI (X3) | 0.898 | 1,114 |

Source: Output SPSS 25 (Dilolah Peneliti), 2025

Test multicollinearity done Multicollinearity No happen If tolerance > 0.10 and VIF < 10 on all independent variables.

Test Heteroskasticity

Table 9 Results Test Heteroskasticity



Source: Output SPSS 25 (Processed) Researcher), 2025

Chart scatterplot display point spread random in around axis Y, indicates that the regression model is free from heteroscedasticity and can be used.

Table 10 Autocorrelation Test Results

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
|-------|-------------------|----------|-------------------|----------------------------|---------------|
| 1 | .436 ^a | 0.190 | 0.131 | 55,408 | 2,090 |

Source: Output SPSS 25 (Processed) Researcher), 2025

Test autocorrelation Durbin-Watson yields a value of 2,090 with 45 sample and four independent variables. Because it is in the range that indicates no autocorrelation, data study This fulfil assumption classic And worthy For testing Furthermore .

Test F (simultaneous)**Table 11 Results Test F**

| Model | Sum of Squares | df | Mean Square | F | Sig. |
|--------------|----------------|----|-------------|-------|-------------------|
| 1 Regression | 29498,941 | 3 | 9832,980 | 3,203 | .033 ^b |
| Residual | 125872,037 | 41 | 3070,050 | | |
| Total | 155370,978 | 44 | | | |

Source: Output SPSS 25 (Processed) Researcher), 2025

The F test in Table 12 shows F of 3.203 with a significance of 0.033, so that stock price volatility, profitability, and carbon intensity simultaneously affect stock returns.

Test Analysis Regression Linear Multiple**Table 12 Analysis Regression Linear Multiple**

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|------------|-----------------------------|------------|---------------------------|--------|-------|
| | B | Std. Error | Beta | | |
| (Constant) | 11,055 | 21,900 | | 0.505 | 0.616 |
| 1 VHS (X1) | 0.002 | 0.008 | 0.031 | 0.197 | 0.845 |
| ROA (X2) | 1,712 | 0.621 | 0.419 | 2,758 | 0.009 |
| CI (X3) | -1,290 | 1,892 | -0.101 | -0.682 | 0.499 |

Source: SPSS 25 Output (Processed by Researchers), 2025

$$Y = 11,055 + 0.002(\text{Volatility Price Stock}) + 1,712(\text{ROA}) + -1.290(\text{CI})$$

1. The coefficient $\beta_1(\text{VHS}) = + 0.002$ shows sign positive, If volatility price stocks rose 1% If other variables remain constant, stock returns rose 0.02%.
2. The coefficient $\beta_2(\text{ROA}) = 1,712$ show positive If profitability go on 1% with variable other still, so return share will increase 171.2%.
3. The coefficient $\beta_3(\text{CI}) = -1,290$ show negative If carbon intensity increase 1% with other variables constant, then stock returns will also decrease by -129%.

Coefficient Test Determination**Table 13 Results Coefficient Determination**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1 | .436 ^a | 0.190 | 0.131 | 55,408 |

Source: Output SPSS 25 (DIolah Peneliti), 2025

Results regression in Table 8 show adjusted R Square 19%, It means Independent variables explain 19% of stock returns, the remaining 81% is influenced by other factors.

Test Hypothesis**Table 14 Results Test Hypothesis**

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|------------|-----------------------------|------------|---------------------------|--------|-------|
| | B | Std. Error | Beta | | |
| (Constant) | 11,055 | 21,900 | | 0.505 | 0.616 |
| 1 VHS (X1) | 0.002 | 0.008 | 0.031 | 0.197 | 0.845 |
| ROA (X2) | 1,712 | 0.621 | 0.419 | 2,758 | 0.009 |
| CI (X3) | -1,290 | 1,892 | -0.101 | -0.682 | 0.499 |

Source: Output SPSS 25 (Processed) Researcher), 2025

Results test hypothesis with test t explained as following:

H1 states that stock price volatility has no effect on stock returns. However, test t (coefficient 0.002; significance 0.845 > 0.05) show its influence not significant, so H1 is rejected.

H2 state profitability influence positive on return share. Test t (coefficient 1.712; significance $0.009 < 0.05$) proves that the influence is significant, so H2 is accepted.

Hypothesis H3 states that carbon intensity has no effect on stock returns. However, the t-test shows a coefficient of -1.290 with a significance of 0.499 (>0.05), meaning that the effect is negative but not significant, so H3 is not accepted.

DISCUSSION

Influence Volatility Price Share to Return Share

The Stock Price Volatility (VHS) variable shows no effect on stock returns. Therefore, H1 is not accepted. This study is supported by stakeholder theory (Pratiwi, 2021). Companies must consider the interests of all parties, including investors, because stock price instability can reduce investor confidence and harm company performance. This study is also in line with previous studies. (Rosyida et al., 2020) and (Fadilah et al., 2023) found that high stock price volatility reduces stock returns because it increases risk for investors. (Ryanza, 2021) also showed that high volatility reduces stock returns.

Influence profitability to Return Share

The profitability variable (ROA) shows a positive and significant influence, so that H2 accepted. Research This supported by theory stakeholders (Pratiwi, 2021), which emphasizes the importance of paying attention to all stakeholders. High profitability does not only increase return share, but Also reflect efficiency asset And cash flow stability. The results of this study are also in line with previous studies (Usri et al., 2023) Showing that profitability has a positive effect on stock returns in manufacturing companies (Simatupang & Siregar, 2020) and Profitability has a positive effect on stock returns in the mining sector, indicating that high profits can increase stock values in various sectors.

Influence carbon intensity to Return Share

The carbon intensity (CI) variable shows no effect, so H3 is not accepted. This is in line with stakeholder theory (Pratiwi, 2021) which emphasizes the importance of paying attention to society and the environment. If ignored, reputation can decline, investor confidence decreases, and stock returns have no effect. In line with previous research (Hardianti & Mulyani, 2023), poor carbon intensity can reduce company value and stock returns because non-transparency can be negatively assessed by the market. (Aeni & Murwaningsari, 2023) found that companies that care environment tend interesting more Lots investors, whereas carbon high intensity Can influence bad at perception investors. However, (Sarvasti, 2024) found that carbon emissions disclosure has no effect, high emissions can create a bad image for investors.

CONCLUSION

The conclusion is that stock price volatility (coefficient 0.002 significance 0.845) does have a negative effect, but No significant So even though price share up and down, the effect to return share No so felt. if profitability (ROA) (coefficient 1,712 significance 0.009) influence positive And significant to return share company mining. This means that the more profitable the company, the more attractive it is for investors. Likewise, carbon intensity (coefficient -1.290 significance 0.499) which does not have a significant effect on stock returns, because environmental issues are the main consideration for investors in this sector.

The implications of this research show that stock price volatility is not significant on stock returns because its influence on stock returns is not that significant. No feel whereas profitability is factor main in interesting investors and increase stock returns. Therefore, mining companies need to focus on strategies to improve financial performance and operational efficiency in order to maintain investment attractiveness. In addition, although carbon emission disclosure has not had a significant effect on stock returns, global trends show an increasing awareness of environmental issues. Thus,

companies in this sector are advised For start strengthen strategy sustainability use maintain competitiveness and attract more investors who consider environmental aspects in making investment decisions

REFERENCES

- [1] Aeni, N. A. N. N., & Murwaningsari, E. (2023). Pengaruh Pengungkapan Emisi Karbon Dan Investasi Hijau Terhadap Nilai Perusahaan. *Jurnal Ekonomi Trisakti*, 3(2), 3135–3148.
- [2] ALDZIHNI, S. (2021). PENGARUH LIKUIDITAS, VOLATILITAS HARGA SAHAM DAN KAPITALISASI PASAR TERHADAP RETURN SAHAM PERUSAHAAN MANUFAKTUR SEKTOR FARMASI YANG TERDAFTAR DI BURSA EFEK INDONESIA (BEI) TAHUN 2017.
- [3] Anwar, M. (2022). Green economy sebagai strategi dalam menangani masalah ekonomi dan multilateral. *Jurnal Pajak Dan Keuangan Negara (PKN)*, 4(1S), 343–356.
- [4] Fadilah, A., Wiharno, H., & Nurfatimah, S. N. (2023). Pengaruh Harga Saham, Return Saham, Volatilitas Harga Saham, Ukuran Perusahaan Dan Volume Perdagangan Saham Terhadap Bid-Ask Spread Saham. *Prosiding FRIMA (Festival Riset Ilmiah Manajemen Dan Akuntansi)*, 6, 212–226.
- [5] Fitriana, D. A., Wiratno, A., Pratiwi, U., Ulfah, P., & Soedirman, U. J. (2024). Pengaruh Kinerja Lingkungan, Carbon Emission Disclosure, dan Kinerja Keuangan Terhadap Nilai Perusahaan. 3(1), 50–64.
- [6] Ginting, S. (2021). Analisis pengaruh pertumbuhan arus kas dan profitabilitas terhadap return saham pada perusahaan lq 45 di Bursa Efek Indonesia. *Jurnal Wira Ekonomi Mikroskil*, 2(1), 39–48.
- [7] Handayani, L. T. (2022). Analisis Kinerja Keuangan Menggunakan Rasio Likuiditas dan Profitabilitas. *Ekobistek*, 11(4), 376–381.
- [8] Hardianti, T., & Mulyani, S. D. (2023). Pengaruh Carbon Emission Disclosure Dan Ukuran Perusahaan Terhadap Nilai Perusahaan Dengan Kinerja Lingkungan Sebagai Variabel Moderasi. *Jurnal Ilmiah Wahana Pendidikan*, 9(9), 275–291.
- [9] Kutaningtyas, B. A., Azzahra, N. F., Agustin, S. N., & Ujang Suherman. (2024). Analisis Pengaruh Return On Equity Dan Net Profit Margin Terhadap Return Saham. *Maeswara: Jurnal Riset Ilmu Manajemen Dan Kewirausahaan*, 2(1), 209–214.
- [10] Lubis, N. Y., & Hrp, W. S. M. (2022). PENGARUH RETURN SAHAM, VOLUME PERDAGANGAN SAHAM, DAN VOLATILITAS HARGA SAHAM TERHADAP BID ASK SPREAD (Studi Empiris pada Industri Pertambangan yang Terdaftar Di Bursa Efek Indonesia Tahun 2017-2021). *JURNAL AKUNTANSI AUDIT DAN PERPAJAKAN INDONESIA (JAAPI)*, 3(2), 350–361.
- [11] Mangkey, J. O., Mangantar, M., & Sumarauw, J. (2022). Pengaruh Rasio Pasar Dan Rasio Profitabilitas Terhadap Return Saham Pada Industri Perhotelan Di Bursa Efek Indonesia. *Jurnal EMBA: Jurnal Riset Ekonomi, Manajemen, Bisnis Dan Akuntansi*, 10(2).
- [12] Maulina, I. (2024). PENGARUH LEVERAGE, PROFITABILITAS DAN PRICE EARNING RATIO TERHADAP RETURN SAHAM:(Studi Empiris Terhadap Perusahaan Manufaktur Sub Sektor Industri Dasar dan Kimia yang Terdaftar di Bursa Efek Indonesia Tahun 2017-2021). *Jurnal Ilmiah Manajemen, Ekonomi Dan Bisnis*, 1(2).
- [13] Nursulistyo, E. D., Aryani, Y. A., & Bandi, B. (2023). The disclosure of carbon emission in Indonesia: a systematic literature review. *Jurnal Dinamika Akuntansi Dan Bisnis*, 10(1), 1–18.
- [14] Paisal, A., Suhandoko, A. R., Adawiyah, D. S. R., Pebrianti, P., & Suherman, U. (2024). Kinerja Portofolio Investasi Saham Dengan Standar Deviasi Untuk Mengukur Volatilitas Pasar Ekuitas Pada Pasar Modal Indonesia. *Maeswara: Jurnal Riset Ilmu Manajemen Dan Kewirausahaan*, 2(1), 268–279.
- [15] Pambudi, S. G., & Meini, Z. (2023). The Effects Of Profitability, Liquidity And Firm Size On Firm Value, With Sustainability Report As The Moderating Variable. *Jurnal Ekonomi*, 12(01), 318–326.
- [16] Pratiwi, D. N. (2021). Implementasi Carbon Emission Disclosure Di Indonesia. *Jurnal Ilmiah Akuntansi Dan Bisnis*, 13(2), 101–112. <https://ojs.unud.ac.id/index.php/jiab/article/view/39495>
- [17] Putri, C. O. B., & Syaichu, M. (2023). PENGARUH RETURN ON ASSET, RISIKO SISTEMATIK, VOLUME PERDAGANGAN SAHAM, BID-ASK SPREAD, DAN VOLATILITAS SAHAM TERHADAP RETURN SAHAM (Studi Kasus Pada Perusahaan Jakarta Islamic Index Tahun 2015-2020). *Diponegoro Journal of Management*, 12(1).
- [18] Resya, F., Wardayati, S. M., & Roziq, A. (2021). Company Size, Profitability, and Growth on Abnormal Stock Return with Carbon Emission Disclosure. *Scholars Journal of Economics, Business and Management*, 8(7), 190–196.
- [19] Rosyida, H., Firmansyah, A., & Wicaksono, S. B. (2020). Volatilitas harga saham: leverage, ukuran perusahaan, pertumbuhan aset. *JAS (Jurnal Akuntansi Syariah)*, 4(2), 196–208.

- [20] Ryanza, A. N. (2021). PENGARUH VOLATILITAS HARGA SAHAM, MOMENTUM OVERNIGHT RETURN DAN FIRM SIZE TERHADAP RETURN SAHAM (Studi kasus perusahaan yang terdaftar dalam Indeks LQ45 Periode 2017-2021). FAKULTAS EKONOMI DAN BISNIS UIN JAKARTA.
- [21] Sarvasti, L. D. (2024). PENGARUH GREEN ACCOUNTING, CARBON EMISSION DISCLOSURE, DAN PROFITABILITAS TERHADAP RETURN SAHAM PADA PERUSAHAAN SEKTOR FOOD AND BEVERAGE YANG TERDAFTAR DI BEI TAHUN 2020-2022. UPN Veteran Jawa Timur.
- [22] Simamora, R. N. H., & Elviani, S. (2022). Carbon emission disclosure in Indonesia: Viewed from the aspect of board of directors, managerial ownership, and audit committee. *Journal of Contemporary Accounting*, 1–9.
- [23] Simatupang, R. S., & Siregar, L. (2020). Pengaruh Profitabilitas Dan Kebijakan Dividen Terhadap Harga Saham (Studi Empiris Perusahaan Sub Sektor Pertambangan Batubara Terdaftar Di Bursa Efek Indonesia Tahun 2018-2019). *Jurnal Ekonomis*, 13(4b).
- [24] Tommy Andrian, K., & others. (2021). Determinant factors of carbon emission disclosure in Indonesia. *Journal of Southwest Jiaotong University*, 56(1).
- [25] Tsai, W.-H., Lu, Y.-H., & Hsieh, C.-L. (2022). Comparison of production decision-making models under carbon tax and carbon rights trading. *Journal of Cleaner Production*, 379, 134462.
- [26] Usri, A. K., Oktaviani, M., & Sa'adah, L. (2023). PENGARUH PROFITABILITAS DAN SOLVABILITAS TERHADAP RETURN SAHAM. *Inspirasi Ekonomi: Jurnal Ekonomi Manajemen*, 5(3), 167–174.