



## Strategic Financial and Market Factors Influencing Mining Performance in Emerging Economies

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### **Abstract**

This study aims to analyze the effect of Company Size, Leverage, Commodity Prices, Sales Growth, Profitability, Liquidity, and R&D Investment on the Future Performance of mining companies listed on the Indonesia Stock Exchange (IDX) for the period 2020–2023. Future Performance is proxied using ROAt1. This study uses a quantitative method with panel data regression analysis. The research sample was determined using purposive sampling, resulting in 26 mining companies with a total of 104 observations during the research period. Panel data regression analysis shows that leverage, profitability, and commodity prices have a significant effect on future performance, while company size, sales growth, liquidity, and R&D investment do not have a significant effect on the future performance of mining companies.

**Keywords:** *Future Performance; Company Size; Leverage; Commodity Prices; Sales Growth; Profitability; Liquidity; R&D Investment*

### **Introduction**

Company performance is a key factor in determining the success and sustainability of a business. Good performance supports profitability while strengthening competitiveness amid global competition. In Indonesia, the mining sector plays a strategic role in the national economy. However, data shows that the performance of this sector has tended to fluctuate in recent years. The mining sector plays a strategic role in Indonesia's economy, with mineral and coal contributions to GDP reaching IDR 2,198 trillion in 2023. However, the sector's performance shows high volatility. BPS data shows that the growth rate of mining and quarrying during the third quarter of 2022 to the second quarter of 2024 fluctuated sharply, particularly in the oil, gas, and geothermal sub-sectors, although the coal sub-sector recorded growth in 2022–2023, as shown in Figure 1.



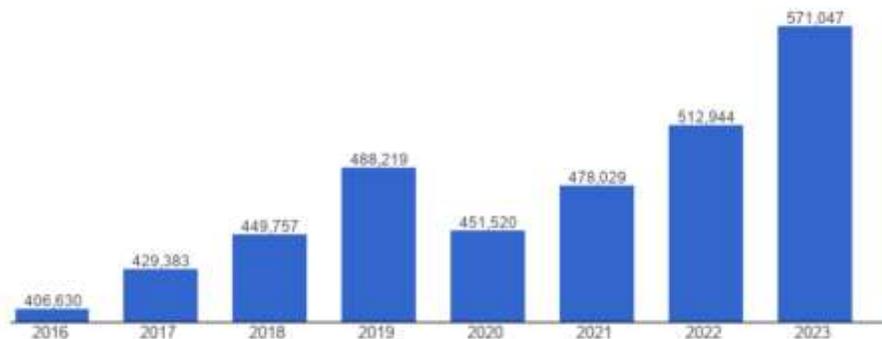
**Figure 1** Mining Growth Rate (BPS, 2024)

In line with this, the mining sector's contribution to the national GDP has actually experienced a downward trend from 13.03% in 2022 to around 9% in 2024, with the contribution of the coal sub-sector falling from 7.44% to 3.48% in the same period, as shown in Figure 2. This phenomenon indicates that increased production in certain sub-sectors has not been sufficient to drive improvement in the aggregate performance of the mining sector.



**Figure 2** Contribution of Mining to GDP (BPS, 2024)

In line with this, the mining sector's contribution to the national GDP has actually experienced a downward trend from 13.03% in 2022 to around 9% in 2024, with the contribution of the coal sub-sector falling from 7.44% to 3.48% in the same period, as shown in Figure 2. This phenomenon indicates that increased production in certain subsectors has not been sufficient to drive improvement in the aggregate performance of the mining sector.



**Figure 3** coal exports

On the other hand, global coal prices exceeded USD 300 per ton in 2022, as reported by the Direktorat Jenderal Mineral dan Batubara (2025). In addition, Figure 3 shows that mining exports increased to IDR 571.04 trillion in 2023. However, the increase in commodity prices and exports was not fully accompanied by an increase in the performance of mining companies in the following period ROAt+1 (Sitepu, 2025). This condition shows that the increase in commodity prices as an external factor does not automatically improve the fundamentals of the company. The sustainability of mining companies' performance is still greatly influenced by internal factors such as operational efficiency, funding structure, liquidity, and innovation capabilities. This phenomenon emphasizes the importance of examining the determinants of future performance of mining companies in Indonesia.

The mining industry faces global pressure to implement green mining and adapt to the energy transition, which demands innovation, operational efficiency, and a strong financial structure (Nabhani, 2025). Commodity price volatility and market demand instability mean that many mining companies still struggle to maintain consistent growth, mainly due to high leverage and weak internal fundamentals (Krisdamayanti & Retnani, 2020). These conditions indicate that the sustainability of a company's performance cannot be assessed solely based on its current profits, but rather on its ability to maintain future performance. Therefore, this study examines the effect of company size, leverage, commodity prices, sales growth, profitability, liquidity, and R&D investment on the future performance of mining companies listed on the Indonesia Stock Exchange for the period 2020–2023.

### **Theory of the Growth of the Firm**

The Theory of the Growth of the Firm was first proposed by Edith Penrose in 1959. This theory explains that company size is closely related to a company's ability to utilize its human and financial resources (Penrose, 1959).

### **Trade-Off Theory**

Presented by Kraus & Litzenberger in the year (1973), which explains that optimal capital structure is achieved through a balance between the benefits of debt (tax shield) and the risk of bankruptcy, so that the level of leverage affects the future performance of mining companies.

### **Price Theory atau Law of Supply and Demand**

This theory was proposed by Marshall (1890) which explains that commodity price fluctuations are determined by the interaction of global supply and demand, which directly affects the revenue and performance stability of mining companies.

### **Signaling Theory**

*Signaling Theory was first introduced by Ross, (1977).* This theory explains that information published by companies, such as financial reports, sales growth, and profitability, can serve as signals for investors to assess the company's future prospects. Positive signals will increase investor confidence, while negative signals can reduce investor interest in the company.

### **Innovation Theory of Profit**

The Innovation Theory of Profit was proposed by Schumpeter in the year (1934), through his work *The Theory of Economic Development*. According to Schumpeter, long-term corporate profits are highly dependent on innovation. Innovation not only creates new value, but can also replace and even destroy old ways through a process called creative destruction.

## Liquidity Preference Theory

Presented by Keynes in the year (1936), explains that a company's ability to maintain liquid assets plays an important role in dealing with risk and maintaining performance sustainability. According to Keynes, individuals and companies tend to hold assets in liquid form.

## Future Performance

Future Performance is defined as the company's performance in the coming period that reflects its continued ability to generate profits (Brown *et al.*, 2018). This variable is proxied by Return on Assets period  $t+1$  ( $ROA_{t+1}$ ) presented by Susanto *et al.* (2024), which represents the company's ability to maintain profitability after financial decisions in the current period

## Company Size

Company Size describes the scale of a company, reflecting its economic capacity and access to resources. According to Krisdamayanti & Retnani (2020), Company size reflects the economic capacity of the company and is generally measured by total assets or annual sales volume. This variable is proxied by the natural logarithm of total assets (Ln Total Assets).

## Leverage

Leverage can be defined as the level of external funds, particularly debt, used by a company to finance its assets and operational activities. Leverage increases profitability through the tax shield benefits of debt interest expenses. (Kraus & Litzenberger, 1973). According to Pradnyani *et al.* (2025), leverage can be measured by Debt to Asset Ratio (DAR).

## Commodity Prices

Commodity prices are the market value of minerals such as coal, nickel, or gold, determined by the interaction between supply and demand in the global market. Prices will rise if demand increases while supply is limited, and conversely, prices will fall if supply is abundant but demand decreases (Marshall, 1890). Commodity price measurements often use commodity price growth rates.

## Sales growth

Sales growth is an important measure that shows a company's ability to increase sales compared to the previous period (Prabasari & Amalia, 2022). Menurut Arhinful & Radmehr (2023a), *Sales growth can be calculated using the following formula:*

$$\text{Sales growth} = \frac{\text{Sales Current Period} - \text{Sales Previous Period}}{\text{Sales Previous Period}} \times 100\%$$

## Profitability

Profitability is a company's ability to generate profits from its operational activities by utilizing its assets, capital, and equity. Profitability has the potential to affect a company's ability to maintain and improve its future performance (Sihombing & Priambhodo, 2024). According to Putra (2024), profitability can be measured using several financial ratios, one of the most common being Return on Assets (ROA).

## Liquidity

Liquidity is a company's ability to meet its short-term obligations using its current assets (Christian *et al.*, 2023). In the context of mining companies, liquidity is crucial to maintaining operational continuity amid commodity price fluctuations. According to Putra *et al.* (2024), liquidity can be measured using the Current Ratio (CR).

## R&D Investment

R&D Investment (Research and Development Investment) is a form of corporate investment in research and development activities aimed at creating innovation, improving efficiency, and strengthening long-term competitiveness (Schumpeter, 1934). In this study, the researchers used R&D expenditure as a proxy, which according to Xu *et al.* (2021), R&D investment can be measured by the R&D expenditure ratio, which is the ratio of R&D expenditure to a company's total assets or total sales.

## The Effect of Company Size on Future Performance

In explaining the influence of company size on future performance, this study uses the Theory of the Growth of the Firm proposed by (Penrose, 1959) This theory explains that large companies have broader resources, greater financial flexibility, and stronger expansion capacity, enabling them to maintain competitiveness in the long term. In addition, large companies tend to have a better reputation, which increases investor confidence and strengthens operational stability (Krisdamayanti & Retnani, 2020). Previous research shows that company size has the potential to improve future performance due to more optimal resource management capabilities.

**H1:** Company size is thought to have an impact on the future performance of mining companies listed on the Indonesia Stock Exchange for the period 2020–2023.

## The Effect of Leverage on Future Performance

The effect of leverage on future performance can be explained through Trade-Off Theory. This theory states that the use of debt provides tax shield benefits that can increase profitability, but excessive leverage has the potential to increase financial risk and reduce company stability (Kraus & Litzenberger, 1973). In the capital-intensive mining industry, leverage is often used to support business expansion, but suboptimal debt management can weaken future performance.

**H2:** Leverage is thought to have an impact on the future performance of mining companies listed on the Indonesia Stock Exchange for the period 2020–2023.

## The Impact of Commodity Prices on Future Performance

The effect of commodity prices on future performance is explained through Price Theory or the law of supply and demand (Marshall, 1890). Global commodity prices determine mining companies' income levels, where price increases boost profits and growth prospects, while price declines weigh on company performance (Asikin *et al.*, 2023). Thus, commodity price fluctuations are a major external factor affecting the sustainability of mining companies' performance.

**H3:** Commodity prices are believed to have an impact on the future performance of mining companies listed on the Indonesia Stock Exchange for the period 2020–2023.

### **The Effect of Sales Growth on Future Performance**

In explaining the influence of sales growth on future performance, Signaling Theory states that sales growth is a positive signal regarding the company's future prospects (Ross, 1977). Companies with consistent sales growth demonstrate their ability to maintain market share and competitiveness. Therefore, sales growth reflects the fundamental strength of a company in maintaining sustainable performance.

**H4:** Sales Growth is believed to have an impact on the Future Performance of mining companies listed on the Indonesia Stock Exchange for the period 2020–2023.

### **The Effect of Profitability on Future Performance**

The effect of profitability on future performance can be explained through Signaling Theory. High profitability indicates efficient management of the company in generating profits and sends a positive signal to investors regarding long-term growth prospects (Ross, 1977). Thus, profitability is an important indicator of a company's financial health.

**H5:** Profitability is thought to have an impact on the future performance of mining companies listed on the Indonesia Stock Exchange for the period 2020–2023.

### **The Effect of Liquidity on Future Performance**

Liquidity Preference Theory proposed by Keynes, (1936), which explains that liquidity reflects a company's ability to meet short-term obligations and maintain operational stability. Companies with good liquidity are better able to cope with market uncertainty and maintain business continuity.

**H6:** Liquidity is believed to have an impact on the future performance of mining companies listed on the Indonesia Stock Exchange for the period 2020–2023.

### **The Effect of R&D Investment on Future Performance**

The effect of R&D investment on future performance is explained through the Innovation Theory of Profit, which emphasizes that innovation is the main source of long-term competitive advantage (Schumpeter, 1934). R&D investment drives technological development, operational efficiency, and the implementation of green mining practices that strengthen the sustainability of mining companies.

**H7:** R&D investment is believed to have an impact on the future performance of mining companies listed on the Indonesia Stock Exchange for the period 2020–2023.

### ***Method***

This study is a causal explanatory study with a quantitative approach. The data used is secondary data obtained from the financial reports of mining companies listed on the Indonesia Stock Exchange (IDX) for the period 2020–2023. The sampling technique used purposive sampling with criteria of mining companies that conducted exploration, did not experience an IPO or delisting during the research period, and reported R&D costs. The research sample consisted of 26 companies with a total of 104 observations. The data collection technique was carried out through financial statement documentation. Data analysis used panel data regression with the help of STATA 17 software.

## Result

### Description of Research Variable Statistics

**Table 1** Descriptive Statistics

Variable	Obs	Mean	SD	Minimum	Maximum
Y	104	0,1648128	0.3077071	-1.332181	1.0639
X1	104	20.12154	1.592337	15.66892	22.73394
X2	104	0.5013498	0.2633833	0.0016	1.2827
X3	104	0.3226477	0.6975196	-0.4990359	1.498322
X4	104	0.4858493	1.772332	-0.8188915	13.89061
X5	104	0.0698455	0.1871223	-1.122196	0.6176
X6	104	0.9899178	1.311662	0.000404	8.28253
X7	104	0.0129545	0.0249022	0.000000311	0.1460286

As shown in Table 1, descriptive statistics indicate that the sample companies are generally medium to large in size, with Company Size averaging 20.12 and relatively low variation. Leverage has an average value of 0.50, indicating that companies use debt of around 50% of total assets with moderate variation between companies. Commodity Prices recorded an average of 0.32 with high fluctuations, reflecting the volatility of commodity prices during the research period. Sales Growth had an average of 0.49 with very high variation, indicating significant differences in sales growth between companies. Profitability shows an average of 0.07 with considerable variation, including several companies that experienced operating losses. Liquidity has an average of 0.99 with high variation, indicating differences in companies' ability to meet short-term obligations. R&D Investment recorded a relatively low average of 0.013, indicating that the allocation of innovation funds in the mining sector is still limited. Meanwhile, Future Performance has an average of 0.16 with fairly high variation, indicating differences in future performance between companies during the observation period.

### Estimation Model Selection

This study uses panel data, so before testing the hypothesis, estimation models and classical assumption tests were selected using STATA 17. Model selection was performed using the Chow test and Hausman test to determine the most appropriate panel data regression model. The Chow Test results showed a probability value of 0.0020 ( $< 0.05$ ), indicating that the Fixed Effect Model (FEM) was more appropriate than the Common Effect Model (CEM). Furthermore, the Hausman test produced a prob  $> \chi^2$  value of 0.0029 ( $< 0.05$ ), confirming that FEM is more appropriate than the Random Effect Model (REM). Based on these results, the FEM model was used in further analysis and followed by classical assumption testing.

### Normality Test

Normality tests were conducted to test the normality of the residual distribution in the regression model. The results of the Jarque–Bera and Shapiro–Wilk tests show probability values  $< 0.05$ , so the null hypothesis stating that the residuals are normally distributed is rejected. Thus, the model residuals are not normally distributed. This condition is a common characteristic of financial data, which often shows deviations from normal (non-Gaussian) distribution and has been widely documented in the literature (Akbar *et al.*, 2026). However, residual abnormality does not cause the estimator to become biased, because with a relatively large sample size, the distribution of the estimator remains close to normal based on the Central Limit Theorem. Furthermore, according to Gujarati (2004), the assumption of residual

normality is not an absolute requirement for regression estimators to be unbiased and consistent, so panel data regression analysis can still be performed even if the assumption of normality is not fully met.

### Multicollinearity Test

Multicollinearity testing shows that all independent variables have VIF values below 10 with a Mean VIF of 2.95. Thus, the regression model does not experience serious multicollinearity problems.

### Heteroscedasticity Test

The Modified Wald Test results show a probability value  $< 0.05$ , indicating that the model experiences heteroscedasticity between companies. Therefore, the estimation is performed using clustered robust standard errors so that the regression coefficients and statistical tests remain consistent.

### Autocorrelation Test

The Wooldridge Test results show a Prob  $> F$  value of 0.3978 ( $> 0.05$ ), indicating that there is no autocorrelation in the research panel data.

### Hypothesis Test Results

**Table 2** Panel Data Regression Analysis Hypothesis Test Results

Y	Coefficient	Std. Err.	t	P>[t]	95% [Conf. Interval]	
X1	-0.049956	0.0298339	-1.67	0.107	-0.1113998	0.0114885
X2	0.1698319	0.0653858	2.60	0.016	0.0351673	0.3044964
X3	0.0296972	0.0111867	2.65	0.014	0.0066577	0.0527366
X4	0.0061702	0.0031627	1.95	0.062	-0.0003435	0.0126838
X5	1.012872	0.0733546	13.81	0.000	0.8617956	1.163949
X6	0.0190074	0.0160093	1.19	0.246	-0.0139643	0.0519791
X7	0.6906158	0.8591128	0.80	0.429	-1.07876	2.459992
cons	0.9737668	0.5960725	1.63	0.115	-0.2538676	2.201401

The results of panel data regression testing in Table 2 show that Leverage (X2), Commodity Prices (X3), and Profitability (X5) have significance values below 0.05, thus proving to have a significant positive effect on the Future Performance of mining companies. The regression equation obtained is:

$$Y = 0.1698X_{2it} + 0.0297X_{3it} + 1.0129X_{5it}$$

The regression coefficient shows that a 1% increase in leverage will increase Future Performance by 0.1698 units, a 1% increase in commodity prices will increase Future Performance by 0.0297 units, and a 1% increase in profitability will increase Future Performance by 1.0129 units. Thus, profitability is the variable with the greatest influence in the model.

**The F-test** results show a significance value of 0.000 ( $< 0.05$ ), indicating that all independent variables simultaneously affect Future Performance. Meanwhile, **the t-test** results prove that only Leverage, Commodity Prices, and Profitability have a significant effect, while Company Size, Sales Growth, Liquidity, and R&D Investment do not show a significant effect. The **Adjusted R<sup>2</sup>** value of

0.7010 indicates that 70.10% of the variation in Future Performance can be explained by the variables in the model, while the remaining 29.90% is influenced by other factors outside the scope of this study.

### **Discussions**

#### **The Effect of Company Size on the Future Performance of Mining Companies Listed on the Indonesia Stock Exchange for the Period 2020-2023.**

Based on the results of hypothesis testing, the Company Size variable does not have a significant effect on Future Performance, so the hypothesis is rejected. This finding shows that the size of a company does not automatically guarantee improved performance in the following period. These results do not fully support the Theory of the Growth of the Firm by Penrose, (1959), Because Indonesia's mining industry is capital-intensive, high-risk, and influenced by regulations and DMO obligations, large asset ownership does not necessarily create sustainable added value. Empirical data supports this finding. PT Medco Energi Internasional Tbk has an average Company Size of 22,587 but a Future Performance of only 7.27%, while PT Alamtri Resources Indonesia Tbk, with a Company Size of 15,967, recorded a Future Performance of 26.07%. Meanwhile, PT Golden Energy Mines Tbk, with a Company Size of 20,723, generated the highest Future Performance of 85.06%. These results are in line with Mardaningsih *et al.* (2021), Ekadjaja & Vernetta (2022) and Michella & Wijaya (2024), which concludes that company size does not significantly affect future performance.

#### **The effect of leverage on the future performance of mining companies listed on the Indonesia Stock Exchange for the period 2020-2023.**

Based on the results of hypothesis testing, the Leverage variable has a significant positive effect on Future Performance, so the hypothesis is accepted. This finding shows that the use of debt in the funding structure can encourage an increase in company performance in the following period. These results support the Trade-Off Theory proposed by Kraus & Litzenberger, (1973), which explains that debt provides tax shield benefits and can improve company performance when managed at an optimal level. In the Indonesian mining industry, which requires large capital investments for exploration and production, debt is used as a source of expansion financing that can increase productive asset capacity and future profits. Empirical data supports these findings. The average leverage of the sample companies decreased from 13.33162 in 2021 to 12.30604 in 2023, followed by a decrease in the average Future Performance from 5.80% to 4.07%. This pattern shows that a decrease in leverage tends to be followed by a decline in a company's future performance. The results of this study are in line with research Iqbal & Usman (2018) which found that leverage has a significant effect on future performance.

#### **The Effect of Commodity Prices on the Future Performance of Mining Companies Listed on the Indonesia Stock Exchange for the Period 2020-2023.**

Based on the results of hypothesis testing, the Commodity Prices variable has a significant positive effect on Future Performance, so the hypothesis is accepted. This finding shows that an increase in commodity prices can increase the revenue and profit margins of mining companies, which ultimately strengthens the company's performance in the following period. These results are in line with *Price Theory* or *Law of Supply and Demand* (Marshall, 1890). Explaining that increased demand for commodities amid limited supply will drive up prices. In the mining industry, company revenues are highly dependent on global commodity price dynamics, making price fluctuations a key external factor determining future performance prospects. Empirical data supports these findings. Based on World Bank data, coal prices increased from 60.79 in 2020 to 344.89 in 2022, while nickel prices rose from 13,787.26 to 25,833.73 during the same period. This increase in commodity prices was followed by an increase in Commodity Price Growth of 22.65% (2021) and 23.52% (2022), which was in line with the increase in the Future Performance of the sample companies from 1.73 (2020) to 5.80 (2021) and 5.53 (2022). This

pattern shows that the surge in global commodity prices contributed to the improvement in the future performance of mining companies in Indonesia. These results are also consistent with previous studies, namely research Asikin *et al.* (2023) which found that commodity prices have a significant effect on future performance.

### **The effect of sales growth on the future performance of mining companies listed on the Indonesia Stock Exchange for the period 2020-2023.**

The test results show that Sales Growth does not have a significant effect on Future Performance, so the hypothesis is rejected. This finding indicates that an increase in sales does not necessarily improve company performance in the following period. In the mining industry, sales growth is often influenced by commodity price fluctuations, high operating costs, and DMO obligations, so it does not always lead to increased profits. Thus, sales growth cannot be used as a strong indicator in predicting future performance. These results do not fully support Signaling Theory by Ross, (1977) and these results are also consistent with various studies such as, Prabasari & Amalia (2022), Mardaningsih *et al.* (2021), and Amin & Khilmi (2023), which found that sales growth did not have a significant effect on future performance. Empirical data shows that in 2022, sales growth rose to 20.39%, but future performance fell to 5.53%, and in 2023, sales growth remained high at 17.43%, while future performance declined to 4.07%. This pattern confirms that sales growth is not always followed by an increase in the future performance of mining companies.

### **The Effect of Profitability on the Future Performance of Mining Companies Listed on the Indonesia Stock Exchange for the Period 2020-2023.**

The test results show that Profitability has a significant effect on Future Performance, thus accepting the hypothesis. This finding indicates that companies with high profit margins tend to have better future performance prospects, as profitability enables companies to finance expansion, investment, and maintain operational stability. These results support *Signaling Theory* by Ross, (1977), where high profits are a positive signal to investors regarding the sustainability of the company's performance. These results are also consistent with previous studies that found profitability to be a key determinant of a company's future performance, such as the study by Nugroho *et al.* (2022), and Sihombing & Priambhodo, (2024) which states that Profitability has a significant positive effect on Future Performance. Empirical data from a comparison of average profitability and future performance. PT Golden Energy Mines Tbk recorded an average Profitability of 39% with Future Performance of 85.06%, while PT Ratu Prabu Energi Tbk had Profitability of -29% and Future Performance of -45.11%. This pattern confirms that the higher the profitability, the better the future performance prospects of mining companies.

### **The Effect of Liquidity on the Future Performance of Mining Companies Listed on the Indonesia Stock Exchange for the Period 2020-2023.**

The test results show that liquidity does not have a significant effect on future performance, so the hypothesis is rejected. This finding indicates that a company's ability to meet its short-term obligations does not directly determine its future performance. In the mining industry, sustainable performance depends more on the ability to generate long-term operating cash flow and global commodity price dynamics, rather than solely on short-term cash position. In addition, excessively high liquidity may reflect idle funds that have not been utilized for productive investment. These results indicate that *Liquidity Preference Theory* by Keynes (1936) not fully supported in the context of this study. The results of this study are in line with research Amin & Khilmi (2023), Ekadjaja & Vernetta (2022), and Michella & Wijaya (2024) that found Liquidity does not have a significant effect on Future Performance. Empirical data supports this finding. The correlation test shows a coefficient of 0.0994, close to zero, which indicates a very weak relationship between Liquidity and Future Performance. This

confirms that the level of liquidity cannot be used as a strong indicator in predicting the future performance of mining companies.

### **The Effect of R&D Investment on the Future Performance of Mining Companies Listed on the Indonesia Stock Exchange for the Period 2020-2023.**

The results show that R&D investment does not have a significant effect on future performance, thus rejecting the hypothesis. This finding indicates that R&D activities in Indonesian mining companies are still low and have not become a major factor in improving future performance. The mining industry is more asset-based, where a company's advantage is determined by its ownership of resources and production capacity, while internal innovation is still limited and its impact is long-term. These findings do not fully support the Innovation Theory of Profit (Schumpeter, 1934). The results of this study are in line with previous research by He & Pérez Estébanez (2023), which found that R&D investment did not have a significant effect on future performance. Empirical data shows that the R&D intensity of the sample companies was very low and inconsistent, yet their future performance remained high, indicating that the performance of mining companies during the research period was more influenced by global commodity price spikes than by internal R&D activities.

### **Conclusion**

This study concludes that Leverage, Commodity Prices, and Profitability have a significant effect on the Future Performance of mining companies on the IDX for the period 2020–2023. This shows that the management of funding structures, the ability to generate profits, and global commodity price dynamics are key factors in determining a company's future performance. Conversely, Company Size, Sales Growth, Liquidity, and R&D Investment do not significantly affect Future Performance. These findings indicate that asset scale, sales growth, short-term liquidity, and R&D investment are not yet direct determinants of future performance in the mining industry. Overall, the future performance of mining companies is more determined by profitability, funding strategies, and commodity market conditions than by other internal factors.

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