

***THE EFFECT OF DEBT TO ASSET RATIO (DAR) AND NET PROFIT MARGIN (NPM) ON FINANCIAL PERFORMANCE IN COAL MINING SUBSECTOR COMPANIES LISTED ON THE INDONESIA STOCK EXCHANGE (IDX) FOR THE PERIOD 2021–2024***

**PENGARUH DEBT TO ASET RASIO (DAR) DAN NET PROFIT MARGIN (NPM) TERHADAP KINERJA KEUANGAN PADA PERUSAHAAN SUB SEKTOR PERTAMBANGAN BATUBARA YANG TERDAFTAR DI BEI TAHUN 2021-2024**

**Jaliusman<sup>1</sup>, Rio Brandlee<sup>2</sup>, Jhon Piter<sup>3</sup>**

Akuntansi, Sekolah Tinggi Ilmu Ekonomi Pangeran Antasari<sup>1,2,3</sup>

[jaliusman74@gmail.com](mailto:jaliusman74@gmail.com), [riobrandlee@stkipipangerantasar.ac.id](mailto:riobrandlee@stkipipangerantasar.ac.id), [jhonpiter1609@gmail.com](mailto:jhonpiter1609@gmail.com)

**ABSTRACT**

*This study was conducted to gain a deeper understanding of how the Debt to Asset Ratio (DAR) and Net Profit Margin (NPM) affect the financial performance of coal mining companies listed on the Indonesia Stock Exchange (IDX) from 2021 to 2024. This study used a quantitative method with a multiple linear regression analysis approach. The sample consisted of 25 companies with a total of 100 observations obtained through purposive sampling techniques based on secondary data in the form of financial reports accessed through the official IDX website. The sample represents companies in the coal mining subsector during the study period. The results show that the Debt to Asset Ratio (DAR) has a negative and significant effect on Return on Assets (ROA), while the Net Profit Margin (NPM) has a positive and significant effect on ROA. Simultaneously, the DAR and NPM also significantly influence company financial performance. This suggests that capital structure and profitability are important factors in determining the efficiency of a company's asset utilization. These findings indicate that companies need to optimally manage debt use and improve operational efficiency to improve financial performance.*

**Keywords:** *Debt to Asset Ratio, Net Profit Margin, Financial Performance*

**ABSTRAK**

Penelitian ini dilakukan untuk memperoleh pemahaman yang lebih mendalam mengenai bagaimana Debt to Asset Ratio (DAR) dan Net Profit Margin (NPM) mempengaruhi kinerja keuangan perusahaan sub sektor pertambangan batubara yang terdaftar di Bursa Efek Indonesia (BEI) tahun 2021–2024. Penelitian ini menggunakan metode kuantitatif dengan pendekatan analisis regresi linier berganda. Sampel dalam penelitian ini terdiri dari 25 perusahaan dengan total 100 observasi yang diperoleh melalui teknik purposive sampling berdasarkan data sekunder berupa laporan keuangan yang diakses melalui situs resmi BEI. Sampel tersebut merepresentasikan perusahaan pada sub sektor pertambangan batubara selama periode penelitian. Hasil penelitian menunjukkan bahwa Debt to Asset Ratio (DAR) berpengaruh negatif dan signifikan terhadap Return on Assets (ROA), sedangkan Net Profit Margin (NPM) berpengaruh positif dan signifikan terhadap ROA. Secara simultan, DAR dan NPM juga berpengaruh signifikan terhadap kinerja keuangan perusahaan. Hal ini menunjukkan bahwa struktur modal dan tingkat profitabilitas merupakan faktor penting dalam menentukan efisiensi penggunaan aset perusahaan. Temuan ini mengindikasikan bahwa perusahaan perlu mengelola penggunaan utang secara optimal serta meningkatkan efisiensi operasional guna meningkatkan kinerja keuangan.

**Kata kunci:** Debt to Asset Ratio, Net Profit Margin, Kinerja Keuangan

**INTRODUCTION**

Coal mining companies represent one of the strategic sectors in the Indonesian economy due to their significant contributions to state revenue, export activities, and national energy supply. Indonesia, as one of the world's largest coal producers, plays a crucial role in meeting both domestic and global energy demands. Therefore, the sustainability and performance of companies within this sector are of primary concern to various stakeholders.

Coal mining subsector companies listed on the Indonesia Stock Exchange (IDX) face various complex dynamics, including fluctuations in international coal prices, rising operational costs, changes in government policies, and regulatory pressures related to environmental and sustainability issues. Unstable commodity price fluctuations can significantly affect company revenues and profitability, while the high capital requirements in this industry encourage companies to rely on external financing sources such as debt.

These conditions require companies to maintain stability and efficiency in financial management to remain competitive and sustainable. In this context, financial performance analysis serves as an important tool to evaluate the extent to which companies can optimally manage their resources. Financial performance can be measured using various financial ratios, one of which is profitability ratios proxied by Return on Assets (ROA), reflecting the company's ability to generate profit from its total assets.

Furthermore, the company's capital structure, as reflected in the Debt to Asset Ratio (DAR), is also a crucial factor in determining financial performance. A high level of debt can increase financial risk due to interest expenses that must be borne by the company, thereby potentially reducing profit. On the other hand, Net Profit Margin (NPM) indicates the company's efficiency in generating net profit from its sales. The higher the NPM, the greater the company's ability to generate profit, which ultimately has a positive impact on financial performance.

The analysis of a company's financial performance is not only important for internal management but also for external parties such as investors, creditors, and the government. Investors require accurate information regarding the company's financial condition as a basis for making investment decisions. Creditors are concerned with assessing the company's ability to meet its short-term and long-term obligations. Meanwhile, the government uses such information as a basis for formulating policies related to the energy and natural resources sectors.

Coal mining companies listed on the Indonesia Stock Exchange (IDX) are required to publish financial reports periodically, thereby providing transparency and data accessibility for researchers and the public. This enables comparative analysis among companies within the same sector to assess financial performance and the ability of companies to respond to both global and domestic economic dynamics.

Based on these phenomena, it is important to conduct research examining the factors that influence corporate financial performance, particularly those related to capital structure and profitability. Therefore, the researcher is interested in conducting a study entitled "The Effect of Debt to Asset Ratio (DAR) and Net Profit Margin (NPM) on Financial Performance in Coal Mining Subsector Companies Listed on the Indonesia Stock Exchange for the Period 2021–2024," with the objective of analyzing the extent to which these two variables influence financial performance proxied by Return on Assets (ROA) in responding to the dynamics of the coal mining industry.

## RESEARCH METHODH

For the period 2021–2024, this quantitative study utilizes secondary data (financial statement data) from companies listed on the Indonesia Stock Exchange (IDX) operating in the mining subsector. Company details were obtained from the official IDX website ([www.idx.co.id](http://www.idx.co.id)). This study was conducted from October 2025 to June 2026. The research includes data from 25 mining companies listed on the IDX from 2021 to 2024. A purposive sampling approach was employed to determine the sample. The criteria for sample selection are as follows:

**Table 1. Research Sample Criteria**

No	Sample Selection Criteria	Number of Companies
01	Coal mining subsector companies listed on the IDX during the 2021–2024 period	21
02	Companies that publish complete annual financial reports on the IDX during 2021–2024	-3
03	Companies that do not report positive profits	-1
	<b>Ts</b>	<b>21</b>
	<b>TO</b>	<b>84</b>
	<b>21X4</b>	

Source: Research (2025)

A total of 84 observations were used in this study, covering 21 companies in the mining subsector listed on the Indonesia Stock Exchange (IDX) during the 2021–2024 period. The study uses 21 companies as the sample, selected based on specific criteria. The data collection method employed is documentation, focusing on companies within the mining subsector. The data used are secondary data in the form of annual financial statements for the period 2021–2024 obtained from the official IDX website. In the data collection process, the researcher conducted data selection based on indicators for each research variable, which will be further explained in the following section.

This study uses Return on Assets (ROA) as the dependent variable (Y), while the independent variables consist of Debt to Asset Ratio (DAR) and Net Profit Margin (NPM). The relationships among these variables can be expressed in the research model as follows:

$$\text{Return on Assets (ROA)} = \frac{\text{Net Income}}{\text{Total Assets}}$$

Financial performance (Y) represents an overview of the company's achievement and success, which can be interpreted as the results obtained from various activities and the extent to which a company has implemented financial principles properly (Irham, 2024).

$$\text{Debt to Asset Ratio (DAR)} = \frac{\text{Total Debt}}{\text{Total Assets}}$$

Debt to Asset Ratio (DAR), as variable X1, is a solvency ratio used to measure the extent to which a company's assets are financed by debt, reflecting the level of leverage and the company's financial risk (Sondakh et al., 2024).

$$\text{Net Profit Margin (NPM)} = \frac{\text{Net Income After Tax}}{\text{Sales}}$$

Net Profit Margin (NPM), as variable X2, is a profitability ratio used to measure a company's ability to generate

net profit from its sales. This ratio reflects the company's efficiency in managing operational costs, where a higher NPM indicates better company performance in generating profit (Handayani, 2023).

According to Ghazali (2021), who is recognized for developing the classical assumption testing approach, this study employs classical assumption tests to ensure robust and reliable results. These include normality tests, autocorrelation tests, multicollinearity tests, and heteroscedasticity tests.

Through the use of multiple linear regression analysis, this study examines the effect of DAR and NPM on the financial performance of mining subsector companies listed on the IDX from 2021 to 2024. The multiple linear regression model is formulated as follows:

$$Y = a + b_1X_1 + b_2X_2 + e$$

Where:

Y = Financial performance (ROA)

a = Constant

X1 = Debt to Asset Ratio (DAR)

X2 = Net Profit Margin (NPM)

b1, b2 = Regression coefficients

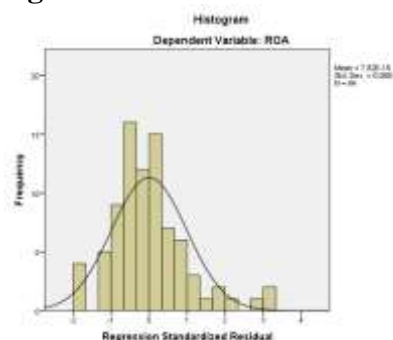
e = Error term

## RESULTS AND DISCUSSION

### Results of Classical Assumption Testing

#### Normality Test Results

#### Histogram Test Results



**Figure 1. Results of the Normality Test Using Histogram**

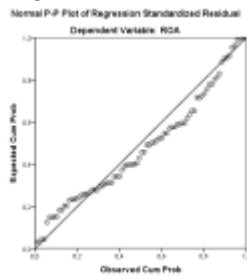
Source: Research Results (2025)

Based on the test results described previously, it can be observed that the

histogram forms a pattern resembling a normal distribution curve or bell-shaped curve, which is symmetrically distributed to the left and right of the central point. This indicates that the distribution of residual values from the regression model tends to be normal.

This finding is further supported by the presence of a normal curve line that follows the pattern of the histogram bars, as well as the absence of significant extreme deviations on either the left or right side. Therefore, it can be concluded that the normality assumption in the regression model has been satisfied, where the residual data based on the histogram normality test show a distribution that approximates normality.

2) . **Result Uji P-PLOT**



**Figure P-P Plot Test Results**  
Source: Research Results (2025)

The normality test in this study was conducted using a P-P Plot graph. Data are considered to be normally distributed if the points are dispersed around the diagonal line and follow its direction. The test results presented earlier show that this pattern is satisfied, indicating that the data are normally distributed.

**Multicollinearity Test Results**  
**Table Multicollinearity Test Results**

**Coefficients<sup>a</sup>**

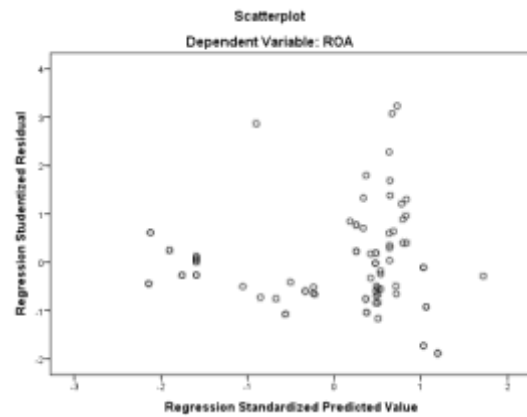
Model	Collinearity Statistics	
	Tolerance	VIF
1 (Constant)		
DAR	,995	1,005
NPM	,995	1,005

a. Dependent Variable: ROA  
Sumber: Hasil Penelitian 2025

Based on the test results presented previously, all variables have tolerance values above 0.10 and Variance Inflation Factor (VIF) values below 10. This indicates that there are no symptoms of multicollinearity, and therefore, the multicollinearity assumption is considered to be satisfied.

**Heterokedastitas Test Result**

*Scatterplot Test Result*



**Figure Heteroscedasticity Test Results Using Scatterplot**  
Source: Research Results (2025)

Based on the test results presented previously, it can be observed that the points are randomly dispersed above and below the Y-axis at the value of 0. This indicates that the distribution pattern does not form a specific pattern such as a funnel shape or any other systematic pattern. Therefore, it can be concluded that heteroscedasticity does not occur, and thus, the assumption of homoscedasticity in the regression model has been satisfied.

**Gletser Test Result**  
**Table Heteroscedasticity Test Results Using the Glejser Test**

**Coefficients<sup>a</sup>**

Model		Sig.
1	(Constant)	,426
	DAR	,689
	NPM	,235

a. Dependent Variable: ABSUT  
Sumber: Hasil Penelitian 2025

Based on the test results presented previously, it is known that all variables have significance values in the Glejser test greater than 0.05. This indicates that there are no symptoms of heteroscedasticity in the research model.

**Autokolerasi Test Result**

**Table Autocorrelation Test Results**

Model Summary					
Model	R	Adjusted R Square	Std. Error of Estimate	Durbin-Watson	
1	,417 <sup>a</sup>	,174	,153	,03654	1,975

a. Predictors: (Constant), NPM, DAR  
b. Dependent Variable: ROA

The Durbin-Watson value obtained from the test results is 1.975. The number of observations in this study is 84, with a significance level of 5%, and two independent variables. Based on these values, the upper bound (du) is approximately 1.59, and the value of 4 - du is 2.41. Since 1.59 < 1.975 < 2.41 (du < d < 4 - du), it can be concluded that the regression model falls within the region that does not indicate the presence of autocorrelation.

Therefore, the regression model is considered to have passed the autocorrelation test and is free from autocorrelation issues.

**Results of Data Analysis in This Study  
Research Model: Linear Regression Analysis**

**Table Linear Regression Analysis**

Coefficients <sup>a</sup>				
Model		Unstandardized Coefficients		Standardized Coefficients
		B	Std. Error	Beta
1	(Constant)	,021	,011	
	DAR	-,066	,032	-,207
	NPM	,061	,018	,348

a. Dependent Variable: ROA  
Sumber: Hasil Penelitian 2025

The following equation is obtained from the previously presented test results:

$$\text{Financial Performance} = 0.021 - 0.066 \text{ DAR} + 0.061 \text{ NPM}$$

Where:

The constant value of 0.021 indicates that if the variables DAR (X1) and NPM (X2) are assumed to remain constant or unchanged, the average value of the company's financial performance is 0.021.

1. The DAR variable (X1) has a regression coefficient of -0.066. This indicates that every one-unit increase in DAR will result in a decrease of 0.066 in financial performance, assuming other variables remain constant.
2. The NPM variable (X2) has a regression coefficient of 0.061. This means that every one-unit increase in NPM will increase financial performance by 0.061, assuming other variables remain constant.

**Koefisien Determinasi Test (R<sup>2</sup>)**

**Table Coefficient of Determination**

Results					
Model Summary <sup>b</sup>					
Model	R	Adjusted R Square	Std. Error of Estimate	Durbin-Watson	
1	,417 <sup>a</sup>	,174	,153	,03654	1,975

a. Predictors: (Constant), NPM, DAR  
b. Dependent Variable: ROA

Sumber: Hasil Penelitian 2025

Based on the Adjusted R Square value of 0.153, it can be concluded that the two independent variables in this study, namely DAR and NPM, are able to

explain 15.3% of the variation in the dependent variable, financial performance. Meanwhile, the remaining 84.7% is explained by other variables outside the scope of this research model. This indicates that the ability of DAR and NPM to explain changes in financial performance is still relatively limited. Therefore, there is a possibility that other factors may have a more dominant influence on financial performance in the research object.

### Hasil Uji F Secara Simultan Table Simultaneous F-Test Result

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	,023	2	,011	8,519	,000 <sup>b</sup>
	Residual	,108	81	,001		
	Total	,131	83			

a. Dependent Variable: ROA

b. Predictors: (Constant), NPM, DAR

Sumber: Hasil Penelitian 2025

Based on the results of the F-test in the ANOVA table, the calculated F-value is 8.519 with a significance level of 0.000. Since the significance value is less than 0.05, it can be concluded that the variables DAR and NPM simultaneously have a significant effect on ROA.

### Partial t-Test Results Table Partial t-Test Results

Coefficients <sup>a</sup>			
Model		t	Sig.
1	(Constant)	1,860	,066
	DAR	-2,041	,045
	NPM	3,432	,001

a. Dependent Variable: ROA

Sumber: Hasil Penelitian 2025

From the hypothesis testing results (with a t-table value of 1.99), the following findings were obtained:

1. The independent variable X1 (DAR) has a t-value of -2.041 and a significance value of 0.045, indicating that DAR has a negative effect on the company's financial performance.
2. The independent variable X2 (NPM) has a t-value of 3.432 and a significance value of 0.01, indicating that NPM has an effect on the company's financial performance.

Based on the results of the t-test and F-test, it can be concluded that the independent variables in this study, namely DAR and NPM, have an effect on financial performance. The t-test results show that DAR has a negative and significant effect on financial performance, while NPM has a positive and significant effect on financial performance, as evidenced by t-values greater than the t-table value and significance levels less than 0.05.

Furthermore, based on the F-test, it is found that the calculated F-value is greater than the F-table value with a significance level below 0.05. Therefore, it can be concluded that DAR and NPM simultaneously have a significant effect on financial performance. Thus, both partially and simultaneously, DAR and NPM are proven to have a significant influence on financial performance.

### Discussion of Research Results The Effect of DAR (Debt to Asset Ratio) on Financial Performance

Based on statistical testing results, the DAR variable has a significance level of 0.045, which is less than 0.05. This indicates that DAR has a significant effect on ROA. In addition, the negative regression coefficient indicates that DAR has a negative effect on financial performance.

Thus, it can be concluded that the higher the DAR, the lower the company's financial performance as measured by ROA. This occurs because an increase in

the proportion of debt in the company's asset structure leads to higher financial obligations, such as interest and debt repayments, which may reduce the company's ability to generate profits from its assets.

In coal mining subsector companies, high debt usage increases financial risk, especially since this industry is highly affected by commodity price fluctuations. When coal prices decline, debt obligations remain fixed, thereby reducing company profitability. These findings are consistent with Kusumanningsih and Mujiyati (2024), who state that high leverage can exert pressure on a company's financial performance.

#### **The Effect of NPM (Net Profit Margin) on Financial Performance**

Based on statistical testing results, the NPM variable has a significance level of 0.001, which is less than 0.05. This indicates that NPM has a significant effect on ROA. The positive regression coefficient indicates that NPM has a positive effect on ROA.

This means that the higher the NPM, the higher the company's financial performance as measured by ROA. This reflects that the company's ability to generate net profit from sales contributes significantly to the effective use of assets in generating profits.

In coal mining subsector companies, maintaining profit margins is crucial due to high operational costs and the influence of global commodity prices. Companies that efficiently manage costs and maintain high profit margins will achieve better financial performance. These findings are also consistent with Kusumanningsih and Mujiyati (2024), who state that profit margin has a positive effect on company profitability.

#### **The Effect of DAR and NPM on Financial Performance**

Based on the F-test results, the calculated F-value is 8.519 with a significance level of 0.000. Since the significance value is less than 0.05, it can be concluded that DAR and NPM simultaneously have a significant effect on financial performance in coal mining subsector companies.

This indicates that both independent variables in the research model are able to jointly explain variations in ROA. However, based on the Adjusted R Square value of 0.153, DAR and NPM only explain 15.3% of the variation in ROA, while the remaining 84.7% is influenced by other variables outside the model.

This suggests that although DAR and NPM have a significant effect, there are other more dominant factors influencing company profitability. In coal mining companies, profitability is not only affected by capital structure and profit margins but also by external factors such as coal commodity prices, operational costs, and global market conditions.

### **CONCLUSIONS AND RECOMMENDATIONS**

#### **Conclusion**

Several conclusions can be drawn based on the hypothesis testing conducted. In coal mining subsector companies listed on the IDX during the 2021–2024 period, DAR is proven to have a negative and significant effect on financial performance. This indicates that increased use of debt in the company's asset structure tends to reduce profitability due to higher financial obligations, particularly in an industry highly influenced by commodity price fluctuations.

Meanwhile, NPM is proven to have a positive and significant effect on financial performance. This indicates that

higher efficiency in generating net profit from sales leads to higher profitability as measured by ROA.

Simultaneously, DAR and NPM have a significant effect on financial performance. However, the relatively low Adjusted R Square value indicates that these variables do not fully explain variations in profitability. Other factors such as coal prices, production costs, and global market conditions also play an important role.

Thus, although DAR and NPM significantly affect financial performance, they are not sufficient to comprehensively explain profitability in the coal mining subsector. Additional variables are needed for future research.

### **Recommendations**

For future researchers, it is recommended to increase the sample size and extend the observation period to obtain more representative and accurate results. Additionally, future studies should consider including other variables that may affect profitability, such as firm size, liquidity, operational efficiency, and external factors like coal prices and global market conditions.

For companies, particularly in the coal mining subsector, the results of this study can serve as a reference in financial decision-making. Companies are expected to manage debt more prudently to avoid excessive financial burdens and improve operational efficiency to maintain and enhance profit margins (NPM), thereby positively impacting profitability.

For investors, the findings of this study can be used as a reference in evaluating a company's financial performance, particularly in assessing the impact of capital structure and profitability on ROA. However, investors are also advised to consider other factors outside this research, such as industry

conditions, commodity prices, and other financial indicators, to obtain a more comprehensive understanding before making investment decisions.

### **REFERANCE**

- Imam Ghozali. (2021). *Aplikasi Analisis Multivariate dengan Program IBM SPSS*. Semarang: UNDIP.
- Irham Fahmi. (2022). *Analisis Laporan Keuangan*. Bandung: Alfabeta.
- Kasmir. (2021). *Analisis Laporan Keuangan*. Jakarta: Rajawali Pers.
- Hery. (2020). *Analisis Laporan Keuangan*. Jakarta: Grasindo.
- Sugiyono. (2022). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D*. Bandung: Alfabeta.
- Brigham Eugene F., & Houston Joel F.. (2021). *Fundamentals of Financial Management*. Cengage Learning.
- Sondakh Jenny J., et al. (2024). Pengaruh rasio solvabilitas terhadap kinerja keuangan perusahaan. *Jurnal Akuntansi dan Keuangan*.
- Handayani Sri. (2023). Pengaruh Net Profit Margin terhadap profitabilitas perusahaan. *Jurnal Ekonomi dan Bisnis*.
- Kusumanningsih., & Mujiyati. (2024). Pengaruh struktur keuangan dan profitabilitas terhadap kinerja perusahaan. *Jurnal Akuntansi dan Keuangan*.
- Kurniawan, M. A. (2025). Analisis tren NPM dan ROA terhadap kinerja keuangan perusahaan. *Prosiding Seminar Nasional Manajemen*.
- Choiroh, N., et al. (2023). Pengaruh Net Profit Margin dan Return on Assets terhadap pertumbuhan laba. *Jurnal Ekuivalensi*.
- Dharma, N. P. G. A., & Riswan. (2025). Determinasi ROA, ROE, dan NPM terhadap kinerja perusahaan. *Jurnal Ekonomi, Manajemen dan Akuntansi*.

- Hosea, R., et al. (2024). Pengaruh NPM terhadap ROA pada perusahaan perbankan. *Jurnal COSTING*.
- Tiara, R., & Yanti, L. D. (2025). Pengaruh NPM, ROA, dan DAR terhadap pertumbuhan laba. *Global Accounting Journal*.
- Setiawan, J., et al. (2025). Pengaruh DER, ROA, dan ROE terhadap profitabilitas perusahaan. *Jurnal Pajamkeu*.
- Sukmayanti, A. W., et al. (2025). The influence of DER, ROA, and NPM on firm value in coal companies. *Journal Locus Penelitian*.
- Febi. (2024). Pengaruh ROA dan NPM terhadap pertumbuhan laba perusahaan. *Global Accounting Journal*.
- Khasanah, A., & Prajawati, M. I. (2025). Pengaruh NPM terhadap ROA dengan DER sebagai moderasi. *Jurnal Ilmiah Ekonomi dan Manajemen*.
- Bursa Efek Indonesia. (2024). Laporan Keuangan Perusahaan Sub Sektor Pertambangan Batubara.
- Kementerian Energi dan Sumber Daya Mineral. (2024). Laporan Kinerja Sektor Batubara Indonesia.
- Badan Pusat Statistik. (2024). Statistik Pertambangan Indonesia.