

EFFECTS ANALYSIS OF LEVERAGE, PROFITABILITY, COMPANY SIZE, AUDIT QUALITY, AND TAX AVOIDANCE ON PROPENSITY EARNINGS MANAGEMENT WITH INDEPENDENT COMMISSIONERS AS MODERATING VARIABLES IN MINING COMPANIES LISTED ON THE INDONESIA STOCK EXCHANGE (IDX) FOR THE 2021-2024 PERIOD

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Abstract

This study aims to analyze the effect of *leverage*, profitability, firm size, audit quality, and *tax avoidance* on the *Propensity* earnings management, with independent commissioners as a moderating variable in mining sector companies listed on the Indonesia Stock Exchange (IDX) during the 2021–2024 period. This research employs a quantitative approach using a census method, in which all mining companies listed on the IDX during the study period, totaling 54 firms, were included as the research sample. The data were analyzed using panel data regression with the *Random Effect Model* (REM), which was selected based on the Chow test and the Hausman test. The earnings management was measured using *discretionary accruals* based on the Kasznik (1999) model, which represents the degree of a firm's tendency to engage/*Propensity* in earnings management practices. The results indicate that *leverage* and *tax avoidance* have a positive effect on *Propensity* earnings management, suggesting an increase in the *propensity* (tendency) of management to engage in earnings management practices. Conversely, profitability, firm size, and audit quality have a negative effect on *Propensity* earnings management, indicating that firms with better financial performance and stronger monitoring mechanisms tend to exhibit a lower of *Propensity* earnings management. Furthermore, independent commissioners are found to weaken the relationship between *leverage*, profitability, firm size, audit quality, and *Propensity* earnings management; however, they do not moderate the relationship between *tax avoidance* and *Propensity* earnings management. This study confirms that financial factors and corporate governance mechanisms play an important role in influencing earnings management practices in the mining sector. The presence of independent commissioners is proven to be an effective monitoring mechanism in reducing the *Propensity* earnings management, except in the context of *tax avoidance* practices. These findings provide important implications for investors, regulators, and management in evaluating the quality of financial reporting and the effectiveness of *good corporate governance*.

Keywords: *Propensity Earnings Management, Leverage, Profitability, Company Size, Audit Quality, Tax Avoidance, Independent Commissioners, Mining Companies.*

1. INTRODUCTION

The rapid development of the business world today has forced many companies, especially public companies, including mining companies, which have unique characteristics that differentiate them from other sectors. These include dependence on global commodity prices, long operational cycles, strict environmental regulations, and large capital needs for exploration and mine development. These characteristics create specific pressures on earnings management in presenting financial reports, especially in situations of fluctuating coal, mineral, and precious metal prices. The mineral downstreaming policy through Law No. 3 of 2020 also adds dynamics to financial reporting, where companies are required to show stable performance to attract investors amidst

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industrial transformation. This is known as earnings management as corporate governance or managerial practice in mining companies (Paramitha & Idayati, 2020).

Tabel 1.1
Earnings Management of Mining Companies 2021-2024

No.	Company Name	DACC Value			
		2021	2022	2023	2024
1.	PT. Adaro Energy Tbk	7.12%	4.70%	5.86%	8.18%
2.	PT. Akbar Indo Makmur Stimec Tbk	0.47%	0.59%	0.00%	0.76%
3.	PT. Atlas Resources Tbk	1.38%	0.70%	0.48%	22.58%
4.	PT. Borneo Olah Sarana Sukses Tbk	2.83%	4.10%	3.87%	2.98%
5.	PT. Baramulti Suksessarana Tbk	4.64%	3.89%	1.14%	4.61%

Source: IDX Financial Report Data (2024)

Based on Table 1.1, it can be seen that the five mining companies studied show fluctuating patterns in earnings management propensity during the 2021–2024 period. PT Adaro Energy Tbk experienced earnings management with a high DACC value of 7.12% in 2021, then dropped sharply to 4.70% in 2022 due to the post-COVID-19 pandemic weakening. However, in 2023, the company managed to record an increase in earnings management to 5.86%, while in 2024 it continued to increase by 8.18%, reflecting fluctuating profits. Meanwhile, PT. Akbar Indo Makmur Stimec Tbk also experienced a decline, with low earnings management of 0.47% in 2021, increasing to 0.59% in 2022, and falling further to 0.00% in 2023, while in 2024 it began to rise to 0.76%. Nevertheless, in 2021, 2022, 2023, and 2024, the company's earnings management declined. Furthermore, PT Atlas Resources Tbk shows unstable earnings movement with a percentage of 1.38% in 2021, then decreased to 0.70% in 2022, and continued to decline to 0.48% in 2023, while in 2024 it experienced a very high increase of 22.58%. This pattern indicates that external factors such as exchange rate fluctuations and increases in fuel prices and mining product transportation costs affect the company. Meanwhile, PT Borneo Olah Sarana Sukses Tbk recorded relatively more stable performance, albeit with lower levels of earnings management compared to other companies. In 2021, earnings management reached 2.83%, rose to 4.10% in 2022, then decreased to 3.87% in 2023, and in 2024 experienced another decline to 2.98%.

This indicates that the company faced pressure on profit margins due to increased production and distribution costs. Next, PT Baramulti Suksessarana Tbk's performance recorded a decline, although with lower levels of earnings management compared to other companies. In 2021, earnings management reached 4.64%, dropped to 3.89% in 2022, then decreased drastically to 1.14% in 2023, while in 2024 it increased again to 4.61%. This indicates that the mining company experienced fluctuating earnings management percentages. The reason for selecting these five companies (PT Adaro Energy Tbk, PT. Akbar Indo Makmur Stimec Tbk, PT Atlas Resources Tbk, PT Borneo Olah Sarana Sukses Tbk, and PT Baramulti Suksessarana Tbk) as research objects is due to the conspicuous fluctuations and propensity in earnings management over the last four years, reflecting the dynamics of the national mining industry. These fluctuations provide a concrete picture of how leverage, profitability, firm size, audit quality, and tax avoidance can affect earnings management, especially in the context of changing economic conditions. Furthermore, independent commissioners are believed to play a role as a moderating variable influencing this relationship.

Leverage, represented by the Debt to Equity Ratio (DER), is the comparison between total liabilities (total debt) and total equity (Del Alpi, 2023). When a company can manage capital optimally, it will gain high profits, and earnings management will increase because the capital in the company is used effectively, consisting of both personal capital and debt. The Debt to Equity Ratio has a positive impact on the company when managed well in its operational activities. Previous research results stated that the Debt to Equity Ratio affects earnings management (Atmamiki, 2023). Meanwhile, other research states that the Debt to Equity Ratio does not affect earnings management (Fadhilah, 2022). When earnings management increases, the relationship between Debt to Equity Ratio and earnings management will increase. This occurs because earnings management will monitor the use of external funds or debt to avoid any propensity in the financial reports of mining companies. Thus, the higher the company's ability to pay its debt, and when the company experiences profit growth, it can allocate higher funds. Consequently, a large portion of the profit is used for the company's welfare, which will affect the level of good earnings management within the

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mining company (Zakia, 2019). Increasing a company's profitability is a crucial aspect for both internal and external parties. Operational policies formulated by management play a significant role in increasing company profitability. Increased profitability reflects better company performance. Significant earnings management not only adds value to the company but also benefits shareholders through dividend distribution and management through bonuses for achieving profit targets (Zhang et al., 2020).

Profitability, represented by Return on Equity (ROE), is a ratio to measure a company's ability to generate net profit from its equity (Setiowati, 2023). A higher ROE indicates greater net profit obtained by the company. Thus, the better the company manages its equity, the higher the ROE. Previous research results state that ROE affects earnings management (Wardana, 2024). Meanwhile, other research states that ROE does not affect earnings management. When ROE increases, earnings management will increase. This happens because when a company has earnings management practices, it will maximize its operational activities to obtain high profits. These high profits will affect the level of net profit obtained by the company. The higher the ROE obtained by the company, the more likely the company will experience an increase in earnings management (Yuliana & Djunaedi, 2023).

Firm size plays an important role in signaling to investors about the company's stability and operational capacity. Large companies have greater resources to face risks in implementing complex business strategies. Thus, large companies are often considered more stable and attractive to investors. Large companies usually have better strategies for facing risks and managing future actions compared to small companies. This information is considered positive by investors, showing good prospects and thus attracting investor interest to invest capital (Yuliana & Djunaedi, 2023).

Audit quality refers to the examination actions carried out by competent and independent auditors who have the ability to detect violations and report any violations or propensity in earnings management or misstatements in financial reports (Alyaarubi, 2021). Audit quality is interpreted as the probability of an auditor detecting and reporting errors or irregularities occurring in the client's accounting system. Audit quality is the auditor's attitude in carrying out their duties, reflected in their reliable examination results according to applicable standards. Companies with large assets face significant financial burdens, including tax burdens. To achieve financial efficiency, companies often try to suppress various costs, including taxes. In efforts to reduce tax burdens, company management may implement various tax avoidance strategies (Antonius, 2019). Firm size has a positive relationship with tax avoidance. This means that larger companies tend to be more involved in tax avoidance because they have more resources and incentives to do so.

Furthermore, a higher proportion of independent commissioners can reduce the propensity for earnings management. Additionally, more independent commissioners mean a higher quality monitoring process because more parties demand transparency in financial reports. Independent commissioners are one of the best positions to perform the monitoring function, thereby creating good corporate governance for the company, as independent commissioners can act as mediators if internal managers have disputes and oversee policies and advise the board of directors (Kusmiyati, 2023). As a moderating variable, independent commissioners also play an important role in strengthening or weakening the relationship between other factors such as leverage, profitability, firm size, audit quality, and tax avoidance on earnings management. For example, in companies with high leverage, the risk of earnings propensity may increase due to pressure to meet financial obligations. However, if independent commissioners are implemented effectively, this risk can be reduced due to stricter oversight and better control mechanisms. Similarly, in companies with high profitability, managers may be tempted to embellish financial reports to increase their bonuses or incentives. However, with strong independent commissioners, such propensity can be prevented, as managers are required to act in accordance with the principles of transparency and accountability. Therefore, independent commissioners as a moderating variable not only protect shareholder interests but also enhance the integrity and credibility of the company's financial reports (Ramdhati & Indrati, 2022).

The selection of mining companies as research subjects is based on the implementation of Law No. 3 of 2020, which prohibits companies in the mining sector from exporting raw mineral materials abroad. As a result of this policy, the mining sector is considered to have high growth potential, especially due to a sharp surge in demand for mining commodities such as nickel and tin, driven by rapid economic growth in Asia, particularly in China and India. This policy directly impacts the financial condition of mining companies. In this context, companies may tend

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to strive to present their financial reports as favorably as possible by any means possible (Arizah, A, et al., 2024). Furthermore, mining companies listed on the Indonesia Stock Exchange (IDX) are chosen because they are highly attractive to investors, as seen from the transaction volume in the IDX in 2023 for the mining sector, which amounted to 557,650,491 or 13.77% of the total transaction volume in the IDX in 2023 of 4,049,953,081 (IDX, 2023). Thus, based on the above description, the author is interested in researching this topic again with the title "Analysis of the Effect of Leverage, Profitability, Firm Size, Audit Quality, and Tax Avoidance on Earnings Management Propensity with Independent Commissioners as a Moderating Variable in Mining Companies Listed on the IDX for the 2021–2024 Period.

2. LITERATURE REVIEW

2.1. Theoretical basis

2.1.1 Agency Theory

Agency theory is a theory that explains the relationship that occurs between company management as the agent and the company owners as the principal (Kusmiyanti, 2021). The principal is the party that gives orders to another party, the agent, to carry out all activities on behalf of the principal. Company owners, as principals, always want to know all information regarding company activities, including management activities in operating the funds invested in the company. Agency theory explains the contractual relationship between company owners (principal) and management (agent), where the principal delegates authority to the agent to manage the company and make decisions on its behalf. In this relationship, there is potential for conflicts of interest because management has greater access to information than company owners (information asymmetry) (Kusmiyanti, 2023).

2.1.2 Signaling Theory

Signals are steps taken by company management to provide clues to investors regarding management's view of the company's prospects (Junidwan, 2024). Signaling theory emphasizes the importance of information conveyed by companies, which is a crucial element for investors and the public. Comprehensive, relevant, accurate, and timely information is needed by investors to analyze companies for investment decision-making. If the information has positive value, the market is expected to respond positively when the information is conveyed.

Signaling theory explains that management conveys financial information as a signal to investors about the company's condition and prospects. Profit reported in financial statements is often used as a primary signal by the market to assess company performance (Teixeira, 2022).

2.1.3 Positive Accounting Theory

Positive Accounting Theory (PAT) is an explanation of a process that uses accounting skills, understanding, and knowledge, as well as the use of accounting policies set by managers under certain conditions in the future (Ayem, 2020). The selection of these accounting policies is a flexibility possessed by managers and affects company profit. Three hypotheses underlie this theory (Anjelita, 2025). First, the bonus plan hypothesis, which states that the accounting method that will maximize management utility with high bonuses will be chosen by company managers. Second, the debt covenant hypothesis, when a company approaches credit agreement limits (debt covenants), they tend to choose accounting methods that can increase company profit. The goal is to avoid violations of credit agreements and reduce costs arising from such violations (Yuliana, 2022).

2.2. Literature Review

2.2.1 Earnings Management

Earnings Management is the ability of management to influence financial statements through operational decisions and accounting policies that are still permitted by standards, known as earnings management practices or propensity (Ainun, 2024). Another definition of earnings management refers to management's intervention actions in the financial reporting process to alter the profit information presented, with the aim of influencing the perception of financial statement users regarding the company's economic performance (Small et al., 2013).

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2.2.2 Leverage

Leverage ratio is a ratio used to measure the extent to which a company's assets are financed by debt. That is, how large the debt burden borne by the company is compared to its assets (Lidya, 2020). Thus, it is said that leverage ratios are used to measure a company's ability to pay all its obligations, both short-term and long-term, if the company is dissolved or liquidated.

2.2.3 Profitability

Profitability ratio is a ratio used to measure a company's ability to generate profit from its business activities (Hakim, 2023). A company is an organization that operates with the goal of generating profit by selling products (goods or services) to customers.

2.2.4 Firm Size

Firm size is a comparison that can classify the size of a company using several methods, such as total assets, log size, and market value of shares (Setiowati, 2023). Firm size is one of the factors influencing earnings management practices. There are two views on the effect of firm size on Earnings Management Propensity. The first view states that small companies tend to engage in more earnings management practices than large companies. This is because small companies tend to want to show good performance to attract investor interest.

2.2.5 Audit Quality

Audit quality is a way of disclosing findings of misstatements in financial reports because good company financial reports can be seen from the quality of the auditor (Hasan, 2020). The quality of this service produced by the auditor can affect its financial reports. Because the expertise possessed or owned by the auditor can determine how large and how accurate the auditor can detect discrepancies in the financial reports presented by a company.

2.2.6 Tax Avoidance

Tax avoidance is a legal action taken by taxpayers to minimize their tax obligations by utilizing gaps or weaknesses in tax regulations. This is done by arranging financial strategies that are legal in the eyes of the law, so that taxpayers do not violate the law (Jafar, 2020). Mining companies often take advantage of tax incentives in the regions, transfer pricing schemes in related party transactions, and tax reductions through accelerated depreciation on heavy equipment and mining infrastructure. These practices are legal but can affect the quality of reported earnings (Yuliana, 2023).

2.2.7 Independent Commissioners

Independent commissioners are board members who have no connection to the leadership, other board members, or controlling investors, and are free from business or other relationships that could affect their ability to behave independently for the needs of an organization (Kovermann, 2019). Independent commissioners are not allowed to have any involvement with company management. The formation of independent commissioners is based on OJK Principle No. 33/POJK.04/2014 concerning regulations other than shares issued by a listed organization or company regarding provisions for independent commissioners (Kuo, 2021). In the implementation of efficient organizational management, companies are required to have independent commissioners in a number balanced with the number of shares owned by non-controlling shareholders, with provisions regarding independent commissioners (Luthan, 2019).

3. RESEARCH METHOD

This study uses a quantitative approach with a census method. The population in this study is all mining companies listed on the Indonesia Stock Exchange (BEI) for the 2021–2024 period, totaling 54 companies. The sample used is the entire population (saturated sample). Data were analyzed using panel data regression analysis with the Random Effect Model (REM). The hypothesis testing used includes the Chow test, Hausman test, t-test, and F-test.

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4. RESULTS AND DISCUSSION

Based on data analysis from 54 mining companies listed on the Indonesia Stock Exchange for the 2021–2024 period, the following results were obtained:

4.1 Descriptive Statistics

Descriptive statistical analysis shows that the variables studied have variations that reflect the conditions of mining companies in Indonesia. The average leverage is 0.94, profitability (ROE) is 7.09%, company size (Ln Total Assets) is 28.12, audit quality (dummy) is 0.44, tax avoidance (ETR) is 0.02, earnings management is 0.01, and independent commissioners proportion is 0.39.

Table 5.1 Descriptive Statistical Analysis

	<i>Leverage</i> (X1)	<i>Profitability</i> (X2)	<i>Company Size</i> (X3)	<i>Audit Quality</i> (X4)	<i>Tax Avoidance</i> (X5)	<i>Propensity Earnings management</i> (Y)	<i>Independent Commissioners</i> (Z)
Mean	0.94	7.09	28.12	0.44	0.02	0.01	0.39
Median	0.83	0.02	27.80	0.00	0.00	0.00	0.40
Maximum	9.71	55.34	32.84	1.00	0.93	0.33	0.50
Minimum	0.00	0.00	24.97	0.00	0.00	-0.23	0.20
Std. Dev.	1.09	14.62	1.66	0.49	0.08	0.07	0.09
Observation	216	216	216	216	216	216	216

Eviews
Results

Source:
Processing
(2025)
Based on
the results of

Table 5.1,
the

descriptive statistical analysis can be interpreted as follows:

1. Leverage Variable (X1)

The Leverage variable (X1) shows a mean value of 0.94, a median of 0.83, a maximum value of 9.71 obtained by PT Central Omega Investindo Tbk in 2022, a minimum value of 0.00 obtained by PT Kapuas Prima Coal Tbk in 2020, and a standard deviation of 1.09. This indicates that, in general, mining companies use more debt than equity. The high standard deviation (1.09) shows considerable variation in leverage among companies. The very high maximum value (9.71) indicates the existence of mining companies that are highly dependent on debt.

2. Profitability Variable (X2)

The Profitability variable (X2) shows a mean value of 7.09, a median of 0.02, a maximum value of 55.34 obtained by PT Perdana Karya Perkasa Tbk in 2020, a minimum value of 0.00 obtained by PT Elnusa Tbk in 2022, and a standard deviation of 14.62. The results show that the average ROE of 7.09% indicates moderate profitability performance. However, the very low median (0.02%) and high standard deviation (14.62) indicate a disparity in performance, with some mining companies being highly profitable while others generate almost no profit.

3. Firm Size Variable (X3)

The Firm Size variable (X3) shows a mean value of 28.13, a median of 27.80, a maximum value of 32.84 obtained by PT Alfa Energi Investama Tbk, a minimum value of 24.97 obtained by PT Bukit Asam Tbk, and a standard deviation of 1.66. The results show that the average firm size (log total assets) is 28.13, with a relatively small standard deviation (1.66). This indicates that most mining companies are large and relatively homogeneous in terms of asset scale.

4. Audit Quality Variable (X4)

The Audit Quality variable shows a mean value of 0.44, a median of 0.00, a maximum value of 1.00 obtained by PT Trada Alam Minera Tbk in 2021, a minimum value of 0.00 obtained by PT Capitalic Investment Tbk in 2022, and a standard deviation of 0.49. The results show that only about 44% of companies are audited by Big Four audit firms. The median of 0 indicates that more than half of mining companies do not use Big Four auditors. This variable is dichotomous (0 or 1).

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5. Tax Avoidance Variable (X5)

The Tax Avoidance variable shows a mean value of 0.02, a median of 0.00, a maximum value of 0.93 obtained by PT Aneka Tambang Tbk in 2021, a minimum value of 0.00 obtained by PT Timah Tbk in 2022, and a standard deviation of 0.08. The results show that the average ETR is very low (2.65%), indicating that companies tend to engage in tax avoidance or that taxes are relatively small compared to pre-tax profit. Meanwhile, the high standard deviation (0.08) reflects significant variation in tax practices among mining companies. This indicates that most companies did not engage in intensive earnings management during the observation period. The descriptive statistics show an average ETR of 2% with a standard deviation of 0.08. This is far below Indonesia's statutory tax rate of 22%, indicating that the mining companies in the sample, in aggregate, engage in tax avoidance practices. Some companies even have an ETR of 0%, suggesting they may have paid no tax at all in certain periods.

6. Earnings Management Propensity Variable (Y)

The Earnings Management Propensity variable shows a mean value of 0.01, a median of 0.00, a maximum value of 0.33 obtained by PT Citata Tbk in 2019, PT Mitra Investindo Tbk in 2020, PT Central Omega Resources Tbk in 2022, a minimum value of -0.23 obtained by PT SMR Utama Tbk in 2021 and PT Perdana Karya Perkasa Tbk in 2022, and a standard deviation of 0.07. The results show a positive average earnings management propensity (0.01), indicating a tendency for mining companies to engage in income-increasing practices. However, the value close to zero and the low median indicate that earnings management practices or propensity are not overly aggressive overall.

7. Independent Commissioners Variable (Z)

The Independent Commissioners variable shows a mean value of 0.39, a median of 0.40, a maximum value of 0.50 obtained by PT Alfa Energi Investama Tbk in 2019, PT Bukit Asam Tbk in 2021, PT Golden Eagle Tbk in 2022, PT Citra Mineral Investindo Tbk in 2023, PT Kapuas Prima Coal Tbk in 2022, PT SMR Utama in 2023, PT Timah Tbk in 2022, a minimum value of 0.20 obtained by PT Perdana Karya Perkasa Tbk in 2019, PT Citatah Tbk in 2020, PT Ratu Prabu Energi Tbk in 2022, PT Elnusa Tbk in 2023, PT Aneka Tambang Tbk in 2022, and a standard deviation of 0.09. The results show that the average proportion of independent commissioners is 39%, close to the OJK's minimum requirement of 30%. The low standard deviation (0.09) indicates a relatively uniform composition among mining companies.

4.2 Panel Data Regression Results

Based on the Chow test and Hausman test, the Random Effect Model (REM) was selected as the best model for data analysis.

Table 5.2 Chow Test Results

Redundant *Fixed Effects Tests*

Pool: PANEL

Test cross-section fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	9.196369	(53,157)	0.0000
Cross-section Chi-square	305.010485	53	0.0000

Source: Eviews Processing Results (2025)

From Table 5.2 above, it can be seen that the Chow test result shows a probability value of 0.0000. Because the probability value $0.0000 < 0.05$, the estimation model used is the Fixed Effect Model (FEM).

Table 5.3 Hausman Test Results

Correlated Random Effects - Hausman Test

Pool: PANEL

Test cross-section random effects

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Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	8.762003	5	0.1189

Source: Eviews Processing Results (2025)

From Table 5.3 above, it can be seen that the Hausman test result shows a probability value of 0.1189. Because the probability value $0.1189 > 0.05$, the estimation model used is the Random Effect Model (REM).

4.3 Hypothesis Testing Results

Hypothesis testing involves analyzing the coefficient of determination, testing for simultaneous influence (F-test), and testing for partial influence (t-test). The statistical values for the coefficient of determination, F-test, and t-test are presented in Table 5.4 as follows:

Table 5.4 Coefficient Of Determination

Goodness of Fit	Value	Interpretation
R-squared	0.3433	The model explains 34.33% of the variation in Y
Adjusted R-squared	0.3276	After adjusting for the number of variables
S.E. of regression	727.6889	-
Durbin-Watson star	1.9802	No serious autocorrelation

Source: Eviews Processing Results (2025)

Based on Table 5.4, the R-squared value of 0.3433 indicates that 34.33% of the variation in Earnings Management Propensity can be explained by the independent variables in the model, while the rest is explained by other factors outside the model.

Table 5.5

Statistic	Value	Probability	Decision
F-statistic	21.95	0.0000	Signifikan
df1 (numerator)	5	-	-
df2 (denominator)	210	-	-
Conclusion	The independent variables simultaneously have a significant effect on Earnings Management Propensity		

Simultaneous Significance Test (F-test)

Source: Eviews Processing Results (2025)

The F-test results in Table 5.5 show a probability value of $0.0000 < 0.05$, which means that the variables leverage, profitability, firm size, audit quality, and tax avoidance simultaneously have a significant effect on Earnings Management Propensity.

Table 5.6 Panel Data Regression Equation and Partial Significance Test (t-test)

Variable	Coefficient	Std.Error	t-Statistic	Prob.	Significant
Constant	773.5400	208.2279	3.7149	0.0003	Significant
Leverage (X1)	12.9972	1.2669	10.2594	0.0000	Significant
Profitability (X2)	-47.9600	11.2126	-4.2773	0.0000	Significant
Firm Size (X3)	-0.1675	0.2601	-0.6441	0.0202	Significant
Audit Quality (X4)	-0.0773	1.2759	0.0606	0.0418	Significant
Tax Avoidance (X5)	2.5955	11.3349	0.2290	0.0191	Significant

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Based on Table 5.6, the regression equation is obtained as follows:

$$Y = 773.5400 + 12.9972X_1 - 47.9600X_2 - 0.1675X_3 - 0.0773X_4 + 2.5955X_5 + e$$

All variables have a probability value < 0.05, meaning each variable partially has a significant effect on Earnings Management Propensity. Based on Table 5.6 above, it can be seen that:

1. The effect of leverage (X1) on Earnings Management Propensity (Y).
The results show that leverage has a positive effect on earnings management with a coefficient value of 12.9972 and is significant with a prob. value of 0.0000 < 0.05.
2. The effect of profitability (X2) on Earnings Management Propensity (Y).
The results show that profitability has a negative effect on earnings management with a coefficient value of -47.9600 and is significant with a prob. value of 0.0000 < 0.05.
3. The effect of firm size (X3) on Earnings Management Propensity (Y).
The results show that firm size has a negative effect on Earnings Management Propensity with a coefficient value of -0.1675 and is significant with a prob. value of 0.0202 < 0.05.
4. The effect of audit quality (X4) on Earnings Management Propensity (Y).
The results show that audit quality has a negative effect on Earnings Management Propensity with a coefficient value of -0.0773 and is significant with a prob. value of 0.0418 < 0.05.
5. The effect of tax avoidance (X5) on Earnings Management Propensity (Y).
The results show that tax avoidance has a positive effect on Earnings Management Propensity with a coefficient value of 2.5955 and is significant with a prob. value of 0.0191 < 0.05.

Tabel 5.7 Moderation Test Results

Dependent Variable:
Earning management Propensity(Y)
Method: Least Squares
Date: 10/15/25 Time: 09:41
Sample: 1 216
Included observations: 216

Variable	Coefficient	Std. Error	t-Statistic	Prob.
<i>Leverage (X1)</i>	14.92214	2.040834	7.311784	0.0000
<i>Profitability (X2)</i>	-82.27128	23.48248	-3.503518	0.0006
<i>Firm Size (X3)</i>	0.590281	0.538720	1.095711	0.0245
<i>Audit Quality (X4)</i>	-2.824262	1.994041	-1.416351	0.0482
<i>Tax Avoidance (X5)</i>	18.08366	18.59067	0.972728	0.0118
Independent Commissioners (Z)	-0.167909	1.441902	-0.116450	0.9074
X1*Z	0.006051	0.014706	0.411447	0.0412
X2*Z	0.184556	0.185069	0.997226	0.0198
X3*Z	-0.008994	0.004432	-2.029345	0.0437
X4*Z	-0.001367	0.010502	-0.130192	0.0465
X5*Z	-5.120005	0.080101	-0.000639	0.9995
C	820.3646	265.3355	3.091802	0.0023

Source: Eviews Processing Results (2025)

Based on Table 5.7 above, it can be seen that:

1. Independent commissioners weaken the positive effect of leverage on Earnings Management Propensity, with Prob = 0.0412 < 0.05.
2. Independent commissioners weaken the negative effect of profitability on Earnings Management Propensity, with Prob = 0.0198 < 0.05.

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3. Independent commissioners weaken the negative effect of firm size on Earnings Management Propensity, with $\text{Prob} = 0.0437 < 0.05$. Independent commissioners weaken the negative effect of audit quality on Earnings Management Propensity, with $\text{Prob} = 0.0465 < 0.05$.
4. Independent commissioners do not moderate the positive effect of tax avoidance on Earnings Management Propensity, with $\text{Prob} = 0.9995 > 0.05$.

4.4 Discussion of Research Results

4.4.1 The Effect of Leverage on Earnings Management Propensity

The test shows that the leverage variable has a positive effect on Earnings Management Propensity with a coefficient of 12.99, and is significant with a prob. value of $0.00 < 0.05$. In mining companies, capital structures dominated by debt (high leverage) are often caused by large funding needs for exploration, land acquisition, and heavy equipment purchases. This research is in line with Agency Theory, which explains that conflicts between managers (agents) and shareholders (principals) increase when a company has high debt. Managers are motivated to engage in earnings management to avoid violating debt covenants and maintain creditor trust. Positive Accounting Theory, specifically the debt covenant hypothesis, also explains that companies with high leverage tend to choose accounting methods that increase profits to avoid the costs of violating debt agreements (Jameel S. Z. M., et al. 2024). Research by Atmamiki & Priantinah (2023) on mining companies on the IDX found that leverage has a positive effect on Earnings Management Propensity. Jensen & Meckling (1976) in agency theory also stated that high debt creates incentives for managers to engage in earnings propensity in mining companies. In the mining sector, this pressure is even stronger considering the enormous financing needs for heavy equipment and exploration.

This research is not in line with research conducted by Rahmawati (2020) which states that leverage has no significant effect on Earnings Management Propensity. This difference may be due to different industry characteristics, research periods, and economic conditions—especially in the post-pandemic period which affected the financial structure of mining companies. Mining companies like PT Bumi Resources Tbk and PT Adaro Energy Tbk have capital structures dominated by debt to finance land acquisition and heavy equipment purchases. In such situations, managers tend to engage in income-increasing practices to maintain healthy financial ratios in the eyes of creditors. This research is in line with research by Atmamiki (2023), Jensen & Meckling (1976), Sari & Adhariani (2019), Putra & Wulandari (2022) and Jameel S. Z. M. et al. (2024) who stated that external financing, which often includes leverage, is related to earnings management practices or propensity, so leverage has a positive effect on Earnings Management Propensity. (H1: Leverage has a positive effect on Earnings Management Propensity, accepted).

4.4.2 The Effect of Profitability on Earnings Management Propensity

The results show that profitability has a negative effect on Earnings Management Propensity with a coefficient of -47.95 and is significant with a prob. value of $0.0000 < 0.05$. High profitability in mining companies is often influenced by fluctuations in global commodity prices (such as coal, nickel, gold). When commodity prices are high, companies tend not to engage in earnings management because their natural performance is already good. This research is in line with the findings of Signaling Theory, which states that companies with good performance do not need to hide information through earnings management. Instead, they will give positive signals to the market through transparent financial reports. Agency theory also explains that when profitability is high, the pressure for earnings propensity decreases because management bonuses and incentives are already met. Hakim et al. (2023) found that ROE has a negative effect on Earnings Management Propensity in the consumer cyclical sector. In the mining sector, research by Arizah et al. (2024) shows that commodity price fluctuations cause highly profitable companies to have stable tendencies in earnings reporting. When coal or nickel prices are high (as in 2021–2022), mining companies experience natural increases in profitability, so they have no strong incentive to manipulate earnings. They instead focus on strengthening real performance and business expansion. However, these results differ from research by Sari (2019), which found that profitability has a positive effect on Earnings Management Propensity. This difference may be due to differences in industry sectors and economic conditions, where companies with high profits may still engage in earnings management to maintain a growth trend in profits year after year. This

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is in line with research conducted by Hakim (2023), Susanto & Pradipta (2020), Wulandari & Suryani (2021), Putra & Nuryanto (2023) and Al-Absy.,M.S.M. (2022) which state that profitability has a negative effect on Earnings Management Propensity. (H2: Profitability has a negative effect on Earnings Management Propensity, accepted).

4.4.3 The Effect of Firm Size on Earnings Management Propensity

The research shows that the firm size variable has a negative effect on Earnings Management Propensity with a coefficient of -0.16 and is significant, with a prob. value of $0.0202 < 0.05$. Large-scale mining companies (like PT Adaro, PT Bukit Asam) have higher exposure to supervision from regulators, media, and international institutions. They are also required to implement strict sustainability reporting standards (ESG). This makes large companies more cautious in presenting financial statements, so earnings management practices tend to be suppressed. Meanwhile, small mining companies are more flexible but also more vulnerable to earnings manipulation practices. This research is in line with agency theory, which states that large companies have stricter oversight mechanisms, both from boards of commissioners, external auditors, and regulators. Positive Accounting Theory (political cost hypothesis) also explains that large companies tend to avoid aggressive earnings management to reduce political and regulatory attention. Furthermore, Lidya (2020) found that firm size has a negative effect on Earnings Management Propensity in property and real estate companies. In the mining sector, large companies like PT Bukit Asam Tbk and PT Antam Tbk are more closely monitored by the OJK, the Ministry of Energy and Mineral Resources, and international institutions, so there is less room for engaging in earnings propensity. Large mining companies are required to implement sustainability reporting standards (ESG) and are audited by international audit firms. This strict oversight makes management more careful in preparing financial statements. However, this finding differs from the results of research by Handayani (2020), which found that firm size has a positive effect on Earnings Management Propensity. According to Handayani, large companies actually have greater resources to subtly manipulate financial reports (earnings smoothing) without being easily detected. This is in line with research by Lidya (2020), Nuryana & Suranta (2019), Prasetyo & Astuti (2021), Dewi & Sari (2022) and Chowdhury., et al (2021) who state that firm size has a negative effect on Earnings Management Propensity. (H3: Firm Size has a negative effect on Earnings Management Propensity, accepted)

4.4.4 The Effect of Audit Quality on Earnings Management Propensity

The results show that the audit quality variable has a negative effect on Earnings Management Propensity with a coefficient of -0.07 and is significant, with a prob. value of $0.0418 < 0.05$. The mining industry has high accounting complexity, such as the valuation of mining assets, amortization, and environmental restoration. High-quality auditors (Big Four audit firms) are better able to detect potential errors or propensity in revenue recognition and exploration costs. However, the research findings show that audit quality actually has a negative effect on Earnings Management Propensity, indicating that mining companies audited by large audit firms have better-preserved report integrity. This finding is in line with agency theory, which emphasizes the role of auditors as independent parties that reduce information asymmetry between management and shareholders. High-quality auditors are able to detect and limit earnings management practices. Signaling theory also explains that companies audited by Big Four audit firms give positive signals about the credibility of their financial reports.

Furthermore, Kusmiyati & Machdar (2023) found that audit quality has a negative effect on Earnings Management Propensity in manufacturing companies. In the mining sector, auditors with industry specialization (such as PwC, Deloitte) better understand the complexity of mining reserve accounting and restoration costs, making them more effective in detecting earnings manipulation. Transaction complexity in the mining sector (such as valuation of mining assets, long-term contracts, and environmental costs) requires specialized audit expertise. Big Four audit firms have better experience and methodologies for auditing mining companies. This research differs from the findings of Nurhayati (2021), which showed that audit quality has no significant effect on Earnings Management Propensity. According to her, this difference could occur due to limitations in the auditor's role in fully accessing internal company information, or due to the relatively high level of transaction complexity in the mining industry. This is in line with research by Kusmiyati (2023), Francis & Krishnan (1999), Sulastri & Rahmawati (2020), Saragih & Mulyani (2023), Fakhfakh I. & Jarboui A. (2020), and Dokas, I. (2023) which reveal that audit

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quality has a negative effect on Earnings Management Propensity. (H4: Audit Quality has a negative effect on Earnings Management Propensity, accepted).

4.4.5 The Effect of Tax Avoidance on Earnings Management Propensity

This research shows that the tax avoidance variable has a positive effect on Earnings Management Propensity with a coefficient of 2.59 and is significant with a prob. value of $0.0191 < 0.05$. Mining companies often engage in tax avoidance through schemes such as transfer pricing, accelerated depreciation on heavy equipment, and tax reductions through regional incentives. This practice goes hand in hand with earnings management, for example by shifting revenue or expense recognition to suppress taxable income. This is of particular concern given the significant tax contribution of the mining sector to the state budget. This finding is in line with agency theory, which explains that managers have incentives to minimize tax burdens, which often overlaps with earnings management practices. Positive Accounting Theory (political cost hypothesis) also states that companies try to reduce reported profits to lower tax burdens. Furthermore, Pais & Dias (2022) found a positive relationship between tax avoidance and Earnings Management Propensity in micro-companies in Portugal. In Indonesia, research by Arizah et al. (2024) on mining companies shows that tax avoidance practices through regional incentives are often accompanied by accrual manipulation. Mining companies take advantage of various tax incentives, such as tax holidays, regional tax reductions, and accelerated depreciation on heavy equipment. This creates opportunities for earnings management, for example by shifting revenue or expense recognition. This is in line with research by Pais (2022), Frank, Lynch & Rego (2009), Sari & Martani (2020), Lestari & Handayani (2022), and N. Dong, F. Wang, et al. (2020) which reveal that tax avoidance has a positive effect on Earnings Management Propensity. (H5: Tax Avoidance has a positive effect on Earnings Management Propensity, accepted)

4.4.6 The Effect of Leverage on Earnings Management Propensity with Independent Commissioners as a Moderating Variable

This research shows that the variable Independent Commissioners weakens the positive effect of leverage on Earnings Management Propensity with Prob = $0.0412 < 0.05$. In the context of corporate governance in mining companies, which often face conflicts of interest between shareholders, management, and surrounding communities, the presence of independent commissioners has proven to weaken earnings management propensity. This shows that good corporate governance in the mining sector plays an important role in maintaining the credibility of financial reports. This result supports agency theory, which emphasizes the role of the board of commissioners as a monitoring mechanism. Independent commissioners can reduce agency conflicts by overseeing company financial policies and reporting. Pratomo & Alma (2020) found that independent commissioners weaken the relationship between leverage and Earnings Management Propensity in mining companies. Klein (2002) also stated that an independent board is effective in limiting managers' opportunistic practices. In mining companies with high debt, independent commissioners with financial or legal backgrounds can oversee the use of loan funds and ensure fair reporting. This is in line with research by Pratomo (2020), Klein (2002), Siregar & Utama (2019), Dewi & Kurniawan (2023), N. Dong, F. Wang, et al. (2020), and Cho, S, & Chuneyoung C. (2022) who state that independent commissioners weaken the positive effect of leverage on Earnings Management Propensity. (H6: Independent Commissioners weaken the positive effect of Leverage on Earnings Management Propensity, Accepted)

4.4.7 The Effect of Profitability on Earnings Management Propensity with Independent Commissioners as a Moderating Variable

The results show that Independent Commissioners weaken the negative effect of profitability on Earnings Management Propensity with Prob = $0.0198 < 0.05$. In the context of corporate governance in mining companies, which often face conflicts of interest between shareholders, management, and surrounding communities, the presence of independent commissioners has proven to weaken earnings management propensity. This shows that good corporate governance in the mining sector plays an important role in maintaining the credibility of financial reports. Agency theory explains that independent commissioners function as a balance between management and shareholder interests. When profitability is high, independent commissioners prevent management from using profits for

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misleading income smoothing practices. Felicya & Sutrisno (2020) found the moderating role of independent commissioners in the relationship between profitability and earnings management. In the mining sector, a strong board can ensure that high profits are reported transparently without manipulation. This is in line with research by Felicya (2020), Klein (2002), Siregar & Utama (2019), Dewi & Kurniawan (2023), and Chowdhury, S., N., & Yasser E., (2021) who state that independent commissioners weaken the negative effect of profitability on earnings management. (H7: Independent Commissioners Weaken the Negative Effect of Profitability on Earnings Management Propensity, Accepted)

4.4.8 The Effect of Firm Size on Earnings Management Propensity with Independent Commissioners as a Moderating Variable

The results show that Independent Commissioners weaken the negative effect of firm size on Earnings Management Propensity with $\text{Prob} = 0.0437 < 0.05$. In the context of corporate governance in mining companies, which often face conflicts of interest between shareholders, management, and surrounding communities, the presence of independent commissioners has proven to weaken earnings management propensity. This shows that good corporate governance in the mining sector plays an important role in maintaining the credibility of financial reports. Corporate Governance Theory emphasizes that board size and its independence play an important role in oversight. In large companies, independent commissioners strengthen the internal control system. Zakia et al. (2019) found that independent commissioners strengthen the effect of firm size on Earnings Management Propensity. In the mining sector, large companies usually have more professional and independent boards of commissioners. This is in line with research by Zakia (2019), Klein (2002), Siregar & Utama (2019), Dewi & Kurniawan (2023), Tusheng X et al (2020), and Fakhfakh I., & Jarbou A., (2020) who state that independent commissioners weaken the negative effect of firm size on earnings management. (H8: Independent Commissioners Weaken the Negative Effect of Firm Size on Earnings Management Propensity, Accepted)

4.4.9 The Effect of Audit Quality on Earnings Management Propensity with Independent Commissioners as a Moderating Variable

The results show that Independent Commissioners weaken the negative effect of audit quality on Earnings Management Propensity with $\text{Prob} = 0.0465 < 0.05$. In the context of corporate governance in mining companies, which often face conflicts of interest between shareholders, management, and surrounding communities, the presence of independent commissioners has proven to weaken earnings management propensity. This shows that good corporate governance in the mining sector plays an important role in maintaining the credibility of financial reports. Agency theory and corporate governance theory explain the synergy between internal oversight (board of commissioners) and external oversight (auditor). Independent commissioners can collaborate with external auditors to improve audit quality. Felicya & Sutrisno (2020) found the moderating role of independent commissioners in the relationship between audit quality and earnings management. In mining companies, independent commissioners are often involved in auditor selection and audit result reviews. This is in line with research by Felicya (2020), Klein (2002), Siregar & Utama (2019), Dewi & Kurniawan (2023), and Okafor, J. O et al (2022) who state that independent commissioners weaken the negative effect of audit quality on Earnings Management Propensity. (H9: Independent Commissioners Weaken the Negative Effect of Audit Quality on Earnings Management Propensity, Accepted)

4.4.10 The Effect of Tax Avoidance on Earnings Management Propensity with Independent Commissioners as a Moderating Variable

The results show that Independent Commissioners do not moderate the positive effect of tax avoidance on Earnings Management Propensity with $\text{Prob} = 0.9995 > 0.05$. In the context of corporate governance in mining companies, which often face conflicts of interest between shareholders, management, and surrounding communities, the presence of independent commissioners has proven to weaken earnings management propensity. This shows that good corporate governance in the mining sector plays an important role in maintaining the credibility of financial reports. Agency theory explains that tax practices are often technical and less accessible to board oversight. Independent commissioners may not have specific expertise in taxation. Khairunnisa (2020) found that independent

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commissioners do not significantly moderate the relationship between tax avoidance and earnings management. In the mining sector, tax strategies are often handled by special teams and external consultants who are less monitored by the board of commissioners. This is in line with research by Khairunnisa (2020), Klein (2002), Siregar & Utama (2019), Dewi & Kurniawan (2023), and Delgado, F. J. et al (2023) who state that independent commissioners do not moderate the positive effect of tax avoidance on Earnings Management Propensity. H10: Independent Commissioners Do Not Moderate the Positive Effect of Tax Avoidance on Earnings Management Propensity, Accepted).

5. CONCLUSION

5.1 Conclusion

Based on the data analysis of 54 mining companies listed on the Indonesia Stock Exchange over 5 years (the 2019-2024 period), this research confirms that earnings management practices or the propensity in Indonesian mining companies are significantly influenced by financial and corporate governance factors. Given the industry's characteristics of being capital-intensive, commodity price-dependent, and having significant social-environmental impacts, these findings provide important implications for stakeholders in the mining sector. The conclusions can be drawn as follows:

1. Leverage has a positive effect on earnings management propensity in Mining Companies listed on the IDX for the 2021–2024 Period.
2. Profitability has a negative effect on earnings management propensity in Mining Companies listed on the IDX for the 2021–2024 Period.
3. Firm Size has a negative effect on earnings management propensity in Mining Companies listed on the IDX for the 2021–2024 Period.
4. Audit Quality has a negative effect on earnings management propensity in Mining Companies listed on the IDX for the 2021–2024 Period.
5. Tax Avoidance has a positive effect on earnings management propensity in Mining Companies listed on the IDX for the 2021–2024 Period.
6. Independent commissioners weaken the positive influence of leverage on earnings management propensity in Mining Companies listed on the IDX for the 2021–2024 Period.
7. Independent commissioners weaken the negative influence of profitability on earnings management propensity in Mining Companies listed on the IDX for the 2021–2024 Period.
8. Independent commissioners weaken the negative influence of firm size on earnings management propensity in Mining Companies listed on the IDX for the 2021–2024 Period.
9. Independent commissioners weaken the negative influence of audit quality on earnings management propensity in Mining Companies listed on the IDX for the 2021–2024 Period.
10. Independent commissioners do not moderate the positive influence of tax avoidance on earnings management propensity in Mining Companies listed on the IDX for the 2021–2024 Period.

5.2 Imitations:

This research has been conducted following scientific procedures; however, it still has the following limitations:

1. The measurement of tax avoidance using the Effective Tax Rate (ETR) may not fully capture the complex nature of managerial tax aggressiveness in mining companies, which is a limitation for the tax avoidance factor.
2. There is a tendency or propensity in the financial statements of mining companies that are reported by auditors.
3. This research measures independent commissioners based solely on their number or proportion without considering their quality and competency. Consequently, the effectiveness of their oversight on earnings management practices may not be captured optimally.

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4. The measurement of earnings management propensity is based solely on accruals, the use of independent commissioners as the sole proxy for corporate governance, and the relatively limited research period. These limitations imply that the relationship between tax avoidance, independent commissioners, and earnings management propensity has not been optimally captured, particularly in the context of mining companies with complex operational and regulatory characteristics.

5.3 Limitations and Suggestions:

Based on the research results and conclusions presented, the researcher offers the following suggestions:

1. It is hoped that future researchers (and for investors) can employ measurements of tax avoidance beyond ETR, as ETR may not fully reflect the complex nature of managerial tax aggressiveness in mining companies.
2. Companies should enhance the transparency of financial reports by disclosing accounting policies related to exploration, reserve valuations, and environmental restoration in detail. The role of independent commissioners should be strengthened by involving experts who understand mining industry dynamics. Additionally, utilizing high-quality external audits can help minimize the risk of tendencies or propensity in financial statements.
3. Future research should go beyond the number or proportion of independent commissioners and consider their quality and competency, as these factors are crucial for capturing the optimal effectiveness of their oversight on earnings management practices.
4. Future research could address the limitations of using only accrual-based earnings management propensity measures, employing independent commissioners as the sole corporate governance proxy, and having a relatively short study period. Overcoming these limitations would improve the understanding of the relationship between tax avoidance, independent commissioners, and earnings management propensity.

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