International Journal of Economics, Business and Innovation Research
https://e-journal.citakonsultindo.or.id/index.php/IJEBIR
E-ISSN : 2964-0865
IJEBIR

The Effect Of Tax Planning And Deferred Tax Expense On Earnings Management With Firm Size As A Moderating Variable In Mining Companies Listed On The Indonesia Stock Exchange

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Abstract

This study examines the effects of tax planning and deferred tax expense on earnings management and the moderating role of firm size in mining companies listed on the Indonesia Stock Exchange during 2021–2025. It addresses inconsistent findings in earlier research by considering firm size within the mining sector. A quantitative associative approach uses secondary data from audited annual financial statements. Purposive sampling selects 24 companies from a population of 52, producing 120 observations in a balanced panel. Data are analyzed using random-effects panel regression and Moderated Regression Analysis with EViews 12. Earnings management is measured using discretionary accruals from the modified Jones model. The results show a positive and significant tax-planning coefficient and a negative and significant deferred-tax-expense coefficient. Firm size does not significantly moderate the effect of tax planning, but strengthens the deferred-tax-expense relationship under the study's hypothesis-testing criterion. The reported adjusted R-squared is 0.522181, corresponding to 52.2181% of earnings-management variation. These findings contribute empirical evidence on the different roles of firm size in tax-related earnings management and emphasize the relevance of temporary differences and transaction complexity in mining companies.

Keywords:Tax Planning, Deferred Tax Expense, Earnings Management, Firm Size, Moderation.

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INTRODUCTION

The mining sector is one of the strategic sectors in Indonesia that is highly influenced by global commodity price dynamics determined by international demand and supply mechanisms (World Bank, 2024). The characteristics of the mining sector, which require large capital investment, have long operational periods, and are exposed to commodity price fluctuations, cause mining companies to face uncertainty in maintaining financial performance stability. Financial statements become an important source of information for investors, creditors, and other stakeholders in assessing company performance and making economic decisions. Therefore, the quality of reported earnings becomes an important concern because earnings information reflects the company's financial condition and performance.

The financial performance of mining companies shows significant fluctuations during the research period. PT Timah Tbk experienced a decline in profitability, where the company recorded a net profit of Rp1.30 trillion in 2021, decreased to Rp1.04 trillion in 2022, and recorded a loss of Rp450 billion in 2023 due to declining tin selling prices (Kompas.com, 2024). In addition, PT Bukit Asam Tbk experienced a decrease in net profit of 50.75% in 2023, reaching Rp6.29 trillion, which was influenced by weakening coal prices and increasing cost of goods sold (CNBC Indonesia, 2024). These conditions indicate that fluctuations in commodity prices can create pressure for mining companies to maintain financial performance and present favorable financial reports.

Pressure to maintain earnings performance may influence managerial decisions in preparing financial statements. Managers have discretion in selecting accounting methods and making reporting decisions within applicable accounting standards. This condition is related to earnings management, which refers to managerial efforts to influence reported earnings through accounting choices or certain decisions (Josepha & Mutmainah, 2024). Based on agency theory, information asymmetry between managers and shareholders may create differences in interests that encourage managers to take actions affecting financial reporting outcomes (Jensen & Meckling, 1976).

One factor associated with earnings management is tax-related decision making, particularly tax planning and deferred tax expense. Tax planning reflects management efforts to manage tax obligations efficiently while complying with applicable tax regulations (Nofrivul et al., 2022). However, differences between accounting standards and taxation regulations create temporary differences that may affect reported earnings. Deferred tax expense arises from temporary differences between accounting profit and taxable profit, which can influence reported earnings through managerial judgment

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(Rachmany & Tajudin, 2022). The recognition of deferred tax items is regulated under PSAK 212 regarding Income Taxes, which recognizes temporary differences as deferred tax assets or liabilities (Ikatan Akuntan Indonesia, 2024).

Previous studies have examined the relationship between tax planning, deferred tax expense, and earnings management; however, empirical findings remain inconsistent. Gulo and Mappadang (2022) found that tax planning and deferred tax expense did not significantly affect earnings management. Devitasari (2023) found that tax planning had a negative significant effect, while deferred tax expense had a positive significant effect on earnings management. Meanwhile, Gultom and Marpaung (2025) found that tax planning affected earnings management, whereas deferred tax expense was insignificant. These differences indicate that the relationship between tax-related factors and earnings management remains inconclusive and may depend on research context, measurement methods, and company characteristics.

Firm size is considered an important factor that may influence the relationship between tax-related factors and earnings management. Companies with larger assets generally have more complex operational activities, greater resources, and different levels of external supervision compared with smaller companies (Matalauni et al., 2024). These differences may influence managerial decisions regarding tax strategies and financial reporting practices. Previous studies have also shown different findings regarding the moderating role of firm size, where firm size may strengthen or weaken the relationship between tax-related factors and earnings management (Utami & Ambarita, 2023; Suphira et al., 2025).

Based on these conditions, this study aims to analyze the effect of tax planning and deferred tax expense on earnings management and examine the moderating role of firm size in mining companies listed on the Indonesia Stock Exchange during the 2021–2025 period. This study contributes to accounting literature by providing empirical evidence regarding the role of firm characteristics in explaining the relationship between tax-related factors and earnings management. The novelty of this study lies in examining the moderating role of firm size on two tax-related factors simultaneously within the context of Indonesian mining companies.

LITERATURE REVIEW

Tax planning and earnings management

Recent research links tax planning to managerial decisions concerning tax obligations and reported earnings. Ramadhani and Haryati (2023) discuss the discretion

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available to managers in financial reporting, while Nofrivul et al. (2023) examine how tax planning and deferred tax expense relate to earnings management. Tax planning is commonly examined as a factor associated with earnings management because tax-related decisions may influence reported earnings through differences between accounting and taxation rules. In this study, tax planning is proxied by the tax retention rate (TRR), which reflects the proportion of net income retained from pretax income.

Empirical findings do not point uniformly in one direction. Gultom and Marpaung (2025) report a positive tax-planning effect, whereas Devitasari (2022) and Sholikah et al. (2024) report a negative effect. Gulo and Mappadang (2022) and Aguarelia et al. (2023) find no significant tax-planning effect. These differences show that the reporting implications of tax planning may vary with the sector, observation period, and characteristics of the sampled companies. The present study follows the positive prediction in its research framework because tax planning may provide management with greater scope to influence after-tax earnings.

H1: Tax planning has a positive effect on earnings management.

Deferred tax expense and earnings management

Deferred tax expense arises when accounting and taxation recognize income or expenses in different periods. Its measurement involves temporary differences and the related future tax consequences. Simanjuntak and Hutabarat (2022) examine deferred tax assets and liabilities in relation to earnings management, while Görlitz and Dobler (2023) review the information conveyed by deferred tax accounting. These studies make deferred tax information relevant to the assessment of accounting judgments and accrual-based reporting.

The central empirical debate concerns the direction and significance of the deferred-tax relationship. Devitasari (2022) and Aguarelia et al. (2023) find a positive effect, consistent with the argument that deferred tax components may reflect managerial judgment arising from temporary differences between accounting recognition and taxation recognition. In contrast, Sholikah et al. (2024) and Nurulita and Utami (2024) report a negative effect, while Gulo and Mappadang (2022) and Gultom and Marpaung (2025) find no significant effect. The mixed evidence means that a larger deferred tax amount cannot be assumed to have the same reporting implication in every setting. The research framework nevertheless proposes the following positive direction for testing in mining companies.

H2: Deferred tax expense has a positive effect on earnings management.

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Firm size and the tax planning relationship

Firm size represents the scale of a company's resources and operating activities. A larger asset base can be associated with more extensive operations and more complex transactions, increasing the resources available for tax planning and financial reporting (Leba et al., 2024). From the agency perspective, this complexity may affect information asymmetry and managerial discretion. However, larger firms can also face more intensive external scrutiny, making the role of size an empirical question.

Utami and Ambarita (2023) find that firm size moderates the effect of tax planning on earnings management. Firdaus and Maryanti (2024), by contrast, find that firm size is unable to moderate this relationship. The disagreement indicates that total assets do not necessarily reflect the same reporting opportunities across companies. In the present framework, these differences provide a basis for examining whether firm size changes the relationship between tax planning and earnings management.

H3: Firm size strengthens the effect of tax planning on earnings management.

Firm size and the deferred tax expense relationship

Larger mining companies may undertake more activities involving long-lived assets and accounting estimates. Differences in the timing of recognition can generate temporary differences and affect deferred tax expense. As operating and transaction complexity increases, more reporting decisions may require management judgment. The literature on firm size and earnings management therefore provides a basis for considering size as a conditioning variable rather than solely as an independent predictor (Leba et al., 2024; Wati et al., 2023).

Sitorus and Machdar (2025) find that firm size strengthens the effect of deferred tax expense on earnings management in property and real estate companies. Their finding provides empirical support for the proposed moderating mechanism, although its applicability to mining companies requires testing. This study positions itself within that debate by examining both tax-related relationships in the same mining-company panel for 2021–2025. The combination of sector, observation period, and the two size interactions distinguishes its empirical setting from the prior studies reviewed.

H4: Firm size strengthens the effect of deferred tax expense on earnings management.

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Overall, previous studies provide inconsistent evidence regarding the relationship between tax planning, deferred tax expense, and earnings management. Existing research has primarily focused on direct relationships between tax-related factors and earnings management, while the role of firm characteristics as moderating factors remains less explored. This study extends previous literature by simultaneously examining tax planning and deferred tax expense with firm size as a moderating variable in Indonesian mining companies during the 2021–2025 period. The mining sector provides a relevant research context because companies in this sector have high asset intensity, complex operational activities, and exposure to commodity price fluctuations.

RESEARCH METHOD

This study uses a quantitative approach and an associative research design to examine the relationship among research variables. The quantitative approach is used to test the formulated hypotheses through numerical data and statistical analysis, while the associative design examines the relationships among the research variables (Sugiyono, 2023). The independent variables are tax planning and deferred tax expense, the dependent variable is earnings management, and the moderating variable is firm size. Agency theory and positive accounting theory provide the framework for examining tax-related managerial decisions and the role of company scale in financial reporting (Jensen & Meckling, 1976; Watts & Zimmerman, 1986).

The population comprises 52 mining companies listed on the Indonesia Stock Exchange during the research period. Purposive sampling applies three criteria: companies must be listed consecutively throughout 2021–2025, publish audited annual financial statements for the observation period, and provide complete data for all research variables. From the initial population, 11 companies are excluded because they were not listed consecutively, four because audited annual financial statements were unavailable, and 13 because the required variable data were incomplete. The final sample consists of 24 companies observed for five years, producing 120 company-year observations. Each company contributes the same number of annual observations, forming a balanced panel.

The research uses secondary data obtained from annual financial statements and annual reports through the official Indonesia Stock Exchange website and the official websites of the sampled companies. Data collection was conducted using documentation techniques, while literature review was used to support the theoretical framework and hypothesis development. Documentation involves downloading and

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examining the reports, then tabulating net income, pretax income, deferred tax expense, operating cash flow, revenue, trade receivables, property, plant and equipment, and total assets. The literature study reviews relevant academic articles, books, previous research, and accounting standards to support the framework, hypotheses, and analytical method. The data tabulations serve as the working instrument for measuring the variables. The use of audited reports and identifiable official sources provides the documented basis for data credibility.

Tax planning is measured using the tax retention rate (TRR), calculated as net income divided by pretax income. The ratio indicates the proportion of pretax income retained after tax and is used as the tax-planning proxy (Simbolon & Sudjiman, 2022). Deferred tax expense (DTE) is measured as deferred tax expense divided by total assets at the end of the preceding year, following Phillips et al. (2003). Firm size (SIZE) is measured as the natural logarithm of total assets, consistent with Utami and Ambarita (2023). All three variables are measured on a ratio scale. Their operational formulas are:

$$TRR_{it} = \text{Net income} / \text{Pretax income}$$

$$DTE_{it} = \text{Deferred tax expense} / \text{Total assets}_{i,t-1}$$

$$SIZE_{it} = \ln(\text{Total assets}_{it})$$

Earnings management is measured using discretionary accruals under the modified Jones model (Dechow et al., 1995). First, scaled total accruals are calculated as net income less operating cash flow, divided by prior-year total assets. Ordinary Least Squares is then used to estimate the coefficients of the normal accrual component, using inverse prior-year assets, changes in revenue scaled by prior-year assets, and property, plant and equipment scaled by prior-year assets. Non-discretionary accruals are calculated using the estimated coefficients and revenue changes adjusted for changes in trade receivables. Discretionary accruals are obtained by subtracting non-discretionary accruals from scaled total accruals:

$$TACC_{it} = (NI_{it} - CFO_{it}) / A_{i,t-1}$$

$$NDA_{it} = \beta_1(1 / A_{i,t-1}) + \beta_2[(\Delta REV_{it} - \Delta REC_{it}) / A_{i,t-1}] + \beta_3(PPE_{it} / A_{i,t-1})$$

$$DA_{it} = TACC_{it} - NDA_{it}$$

In these formulas, NI is net income, CFO is operating cash flow, A is total assets, ΔREV is the annual change in revenue, ΔREC is the annual change in trade receivables, and PPE is property, plant and equipment. TACC represents scaled total accruals, NDA represents non-discretionary accruals, and DA represents discretionary accruals. Positive DA values indicate accruals above the estimated normal level, while negative

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values indicate accruals below that level. The subscripts i and t identify the company and year.

Data analysis is conducted using EViews 12. The procedure begins with descriptive statistics to summarize the mean, minimum, maximum, and standard deviation of each variable. Panel regression is then estimated using the Common Effect Model, Fixed Effect Model, and Random Effect Model. Model selection uses the Chow test to compare common and fixed effects, the Hausman test to compare fixed and random effects, and the Breusch–Pagan Lagrange Multiplier test to compare common and random effects (Basuki, 2021; Ghozali & Ratmono, 2017). The selected specification is subsequently used for the moderation analysis.

Classical assumption tests are applied to examine the baseline regression model. Residual normality is examined using the Jarque–Bera test, multicollinearity using centered variance inflation factors and tolerance, heteroskedasticity using the Glejser test, and autocorrelation using the Durbin–Watson statistic. The study uses a 5% significance level, VIF values below 10, and tolerance values above 0.1. Moderated Regression Analysis then adds the products of tax planning and firm size and of deferred tax expense and firm size to test the moderating relationships (Rahadi & Farid, 2021). The specification is:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 Z + \beta_4 (X_1 \times Z) + \beta_5 (X_2 \times Z) + \varepsilon$$

Here, Y is earnings management, X1 is tax planning, X2 is deferred tax expense, and Z is firm size. The interaction terms X1 × Z and X2 × Z test H3 and H4, respectively. The model is estimated using the selected panel specification. Partial hypothesis tests use the coefficients and probability values in the MRA output. A hypothesis is supported when the coefficient is statistically significant at the 5% level and the direction is consistent with the proposed hypothesis. Adjusted R-squared from the weighted statistics is used to describe the explanatory ability of the random-effects moderation model, taking into account the number of predictors and observations.

RESULTS

Descriptive statistics

The research data consist of 120 observations from 24 mining companies during 2021–2025. Table 1 presents the descriptive statistics for earnings management, tax planning, deferred tax expense, and firm size.

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Table 1. Descriptive statistics

Variable	Mean	Maximum	Minimum	SD	N
DA	0.006361	0.278364	−0.175674	0.089859	120
TRR	0.708499	2.265948	−0.061068	0.270008	120
DTE	−0.000142	0.028458	−0.075266	0.010242	120
SIZE	30.44189	32.75780	27.63896	1.359195	120

Source: Research data processed using EViews 12, 2026. SD = standard deviation.

Earnings management has a mean of 0.006361 and a standard deviation of 0.089859. Its minimum of −0.175674 and maximum of 0.278364 show that discretionary accruals take both negative and positive values. Tax planning has a mean of 0.708499 and ranges from −0.061068 to 2.265948, reflecting variation in the ratio of net income to pretax income. Values above one indicate that net income exceeds pretax income due to specific accounting or tax-related conditions and should be interpreted within the context of financial reporting. Deferred tax expense has a mean of −0.000142 and ranges from −0.075266 to 0.028458. Negative DTE values represent deferred tax benefits, while positive values represent deferred tax expenses. Firm size ranges from 27.63896 to 32.75780, with a mean of 30.44189, indicating differences in the asset scale of the sampled companies.

Panel model selection

The Chow, Hausman, and Lagrange Multiplier tests determine the panel specification used in the study. Their reported results are summarized in Table 2.

Table 2. Panel model selection tests

Test	Statistic	p-value	Selected model
Chow: cross-section F	2.263518	0.0032	Fixed effects
Chow: cross-section chi-square	53.346517	0.0003	Fixed effects
Hausman: cross-section random	6.739018	0.0807	Random effects

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Test	Statistic	p-value	Selected model
Breusch–Pagan LM: cross-section	5.183973	0.0228	Random effects

Source: Research data processed using EViews 12, 2026.

The Chow test probabilities are below 0.05, favoring fixed effects over common effects. The Hausman probability is 0.0807, which is above 0.05 and leads to the selection of random effects. The cross-section Breusch–Pagan probability of 0.0228 supports random effects over common effects. Although the Chow test indicates a fixed-effect preference over the common-effect model, the Hausman test does not support the fixed-effect specification, and the LM test indicates that the random-effect model is preferable to the common-effect model. Therefore, the Random Effect Model is selected.

Classical assumption tests

The baseline model is examined using normality, multicollinearity, heteroskedasticity, and autocorrelation tests. Table 3 summarizes the values reported in the research output.

Table 3. Baseline diagnostic results

Test	Variable or measure	Reported value
Jarque–Bera	Statistic; probability	5.603018; 0.060718
Multicollinearity	TRR: VIF; tolerance	1.009540; 0.990550
Multicollinearity	DTE: VIF; tolerance	1.017667; 0.982640
Multicollinearity	SIZE: VIF; tolerance	1.024067; 0.976499
Glejser p-values	TRR; DTE; SIZE	0.1994; 0.1982; 0.8259
Durbin–Watson	Statistic	1.743609

Source: Research data processed using EViews 12, 2026.

The Jarque–Bera probability exceeds 0.05, indicating that the residuals are normally distributed. All centered VIF values are below 10 and all tolerance values exceed 0.1, meeting the study's multicollinearity criteria. The Glejser probabilities for TRR, DTE, and SIZE also exceed 0.05, indicating no detected heteroskedasticity under

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that test. The Durbin–Watson statistic is 1.743609; using the criterion applied in the study, its proximity to two is interpreted as showing no indication of autocorrelation. These checks concern the baseline specification preceding MRA.

Moderated Regression Analysis and hypothesis tests

Table 4 presents the random-effects MRA estimates. The hypothesis decisions use these coefficients and probability values, with a significance level of 0.05.

Table 4. Random-effects Moderated Regression Analysis

Variable	Coefficient	SE	t-statistic	p-value
Constant	−0.615493	0.464216	−1.325877	0.1875
TRR (X1)	1.151804	0.580218	1.985122	0.0495
DTE (X2)	−27.58065	13.77777	−2.001823	0.0477
SIZE (Z)	0.017649	0.014988	1.177535	0.2414
TRR × SIZE	−0.033765	0.018555	−1.819757	0.0714
DTE × SIZE	0.897121	0.444544	2.018068	0.0459

Source: Research data processed using EViews 12, 2026. SE = standard error.

The estimated equation is:

$$Y = -0.615493 + 1.151804X_1 - 27.58065X_2 + 0.017649Z - 0.033765(X_1 \times Z) + 0.897121(X_2 \times Z) + \varepsilon$$

Tax planning has a positive coefficient of 1.151804 with p = 0.0495; H1 is supported. Deferred tax expense has a negative coefficient of −27.58065 with p = 0.0477. Although statistically significant, the negative coefficient is inconsistent with the proposed positive hypothesis; therefore, H2 is not supported. The tax-planning interaction has a coefficient of −0.033765 with p = 0.0714, so H3 is rejected. The deferred-tax interaction has a positive coefficient of 0.897121 with p = 0.0459, indicating that firm size significantly changes the relationship between deferred tax expense and earnings management. Therefore, H4 is supported. The main firm-size coefficient is not significant, with p = 0.2414.

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Coefficient of determination

Table 5 reproduces the weighted model statistics reported for the random-effects moderation model. Adjusted R-squared is the measure used in the study to interpret its explanatory ability.

Table 5. Weighted statistics of the moderation model

Statistic	Value	Statistic	Value
R-squared	0.542257	Mean dependent variable	0.004457
Adjusted R-squared	0.522181	SD dependent variable	0.081902
SE of regression	0.078465	Sum of squared residuals	0.701867
F-statistic	27.01005	Durbin–Watson statistic	1.803260
Prob(F-statistic)	0.000000	—	—

Source: Research data processed using EViews 12, 2026.

The reported adjusted R-squared is 0.522181, or 52.2181%. The study interprets this value as showing that tax planning, deferred tax expense, firm size, and their interaction terms explain 52.2181% of the variation in earnings management. The remaining 47.7819% is not explained by the model. Factors beyond the included variables may involve leverage, bonus compensation, profitability, ownership structure, corporate governance, and commodity-price changes.

DISCUSSION

H1 The effect of tax planning on earnings management

The MRA output shows a positive and significant tax-planning coefficient of 1.151804 with a probability of 0.0495. This result is consistent with the positive direction formulated in H1, so H1 is supported. The finding indicates that tax planning is statistically associated with earnings management in the sampled mining companies. A higher tax retention rate indicates a larger proportion of pretax income retained as net income, linking tax-related decisions to the profit presented in financial statements.

Agency theory explains this relationship through the information advantage held by management. Managers have greater knowledge of company transactions and can select policies that affect reported earnings, while shareholders rely on the financial

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statements to assess performance (Jensen & Meckling, 1976). Tax planning can form part of those decisions because it concerns both tax obligations and net income. Ramadhani and Haryati (2023) similarly discuss managerial discretion in financial reporting. In mining companies, volatile earnings and substantial operating costs make the management of after-tax profit an important consideration.

The positive result agrees with Gultom and Marpaung (2025), who find that tax planning positively affects earnings management. It differs from the insignificant result reported by Gulo and Mappadang (2022) and the negative result reported by Devitasari (2022). These comparisons show that the tax-planning relationship is not uniform across research settings. Within the present study, the finding is interpreted as consistent with reporting choices directed toward increasing earnings, while the contribution is evidence from the mining sector during 2021–2025.

H2 The effect of deferred tax expense on earnings management

Deferred tax expense has a significant negative coefficient of −27.58065 with a probability of 0.0477. H2 predicts a positive effect; consequently, it is not supported because the coefficient direction is inconsistent with the proposed hypothesis. This distinction is necessary because significance alone does not establish support for a directional hypothesis. The negative coefficient indicates that higher deferred tax expense is associated with lower discretionary accrual values in the sample. This result does not necessarily indicate intentional income reduction, but reflects the statistical relationship between deferred tax expense and earnings management measurement.

The result can be understood through the accounting treatment of deferred tax. When deferred tax is recognized as an expense, it adds to the tax charge and may reduce after-tax profit. Its amount can arise from temporary differences and changes in deferred tax assets and liabilities. Mining activities involve substantial assets, operating expenditure, and transactions whose accounting and tax recognition may occur at different times. Accordingly, a change in deferred tax expense does not necessarily represent a managerial effort to increase reported income.

Positive accounting theory provides a framework for examining choices that affect income recognition and accounting estimates (Watts & Zimmerman, 1990). Agency theory also explains why management's information advantage is relevant to these judgments. The negative finding agrees with Sholikah et al. (2024) and Nurulita and Utami (2024), but differs from the positive results of Devitasari (2022) and Aguarelia et al. (2023). The study therefore adds mining-sector evidence to the literature showing

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that the direction of the deferred-tax relationship can differ across samples and reporting contexts.

H3 Firm size as a moderator of the tax planning relationship

The interaction between tax planning and firm size has a coefficient of −0.033765 and a probability of 0.0714. Because the probability exceeds 0.05, H3 is not supported. Firm size is not shown to strengthen or weaken the tax-planning relationship significantly in this sample. The asset scale of a company therefore does not, by itself, establish a different role for tax planning in the management of reported earnings.

Total assets indicate company scale but do not directly measure the extent to which management uses tax planning to influence financial reporting. Larger companies may have more complex transactions and greater planning resources, yet they can also face closer monitoring by investors and other external parties. These conditions can limit the discretion available to management. In mining companies, differences in operating activities, transaction structures, and tax treatment may also produce different planning practices without following a simple pattern based on asset size.

The finding agrees with Firdaus and Maryanti (2024), who conclude that firm size does not moderate the tax-planning relationship. It differs from Utami and Ambarita (2023), who identify a moderating effect. The comparison reinforces the study's position that the role of size depends on the characteristics of the companies and the setting examined. For the sampled mining companies, the reported evidence does not support firm size as a moderator of tax planning and earnings management.

H4 Firm size as a moderator of the deferred tax expense relationship

The interaction between deferred tax expense and firm size has a positive coefficient of 0.897121 and a p-value of 0.0459, indicating a statistically significant moderating effect. Based on the hypothesis-testing criterion adopted in this study, H4 is supported. The positive interaction coefficient indicates that the estimated relationship between deferred tax expense and earnings management shifts in a more positive direction as firm size increases.

The proposed explanation concerns the complexity of the activities and transactions undertaken by larger companies. Mining companies with greater asset holdings can have wider operating activities and more transactions requiring accounting estimates. Recognition of income and expenses, depreciation, provisions, and other timing differences may affect deferred tax expense and reported profit. Leba et al. (2024)

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discuss firm size in relation to earnings management, while positive accounting theory explains how managers select accounting policies in response to the incentives they face (Watts & Zimmerman, 1990). Greater transaction complexity makes those judgments more relevant to the reporting process.

This result is consistent with Sitorus and Machdar (2025), who find that firm size strengthens the deferred-tax-expense relationship. Wati et al. (2023) also identify the relevance of deferred tax expense and firm size to earnings management. The contribution of the present study is that the moderating role of size appears in the deferred-tax relationship while the tax-planning interaction is not significant. For mining companies, this finding directs attention to the recognition and disclosure of temporary differences, particularly when business activities and accounting estimates become more complex.

This study contributes to previous literature by showing that firm size does not uniformly moderate all tax-related factors; instead, its moderating role appears in the deferred tax expense relationship within the mining sector.

CONCLUSION

This study examines the effects of tax planning and deferred tax expense on earnings management, with firm size as a moderator, in 24 mining companies listed on the Indonesia Stock Exchange during 2021–2025. Based on the random-effects MRA results and the hypothesis criteria used in the study, tax planning has a positive and significant coefficient, supporting H1. Deferred tax expense has a negative and significant coefficient, contrary to the positive prediction, so H2 is rejected. Firm size does not significantly moderate the tax-planning relationship, leading to rejection of H3. The deferred-tax-by-size interaction is positive and significant, supporting H4 under the study's strengthening criterion. The reported adjusted R-squared is 0.522181.

The findings indicate the relevance of tax planning and deferred tax recognition to the reporting of mining-company earnings, with different moderating results for firm size. The findings suggest that companies need to pay attention to the transparency of tax-related information and deferred tax disclosures, particularly when operational complexity increases. Attention to temporary differences is particularly relevant for larger companies with more complex operations. The scope of the findings is limited to the selected mining companies, the 2021–2025 period, and the variables and accounting proxies used. Further research can include leverage, bonus compensation, profitability,

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ownership, governance, operating cash flow, and commodity prices; distinguish the components of deferred tax changes; and examine alternative proxies or moderators.

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