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# The Influence of Firm Size, Leverage, Liquidity, Transfer Pricing, and Capital Intensity on Tax Planning in Transportation & Logistics Sector Companies Listed on the Indonesia Stock Exchange (IDX) for the 2021–2025 Period

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***ABSTRACT***

*This study examines the effects of firm size, leverage, liquidity, transfer pricing, and capital intensity on tax planning among transportation and logistics companies listed on the Indonesia Stock Exchange (IDX) during the 2021–2025 period. Using a quantitative associative approach, the sample was selected through purposive sampling, yielding 40 initial observations, which were reduced to 39 final observations after outlier removal. The data were analyzed using multiple linear regression with SPSS. The findings confirm that all independent variables simultaneously have a statistically significant effect on tax planning. However, the partial analysis reveals that only firm size has a statistically significant individual effect. In contrast, leverage, liquidity, transfer pricing, and capital intensity do not demonstrate statistically significant individual effects. With an Adjusted $R^2$ value of 0.486, the regression model explains 48.6% of the variation in tax planning, while the remaining 51.4% is attributable to other internal and external factors not included in the model. These findings highlight the importance of examining the collective influence of the independent variables when analyzing corporate tax planning.*

*Keywords: Tax Planning; Tax Retention Rate; Firm Size; Leverage; Liquidity; Transfer Pricing; Capital Intensity*

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## INTRODUCTION

Taxation plays a crucial role as a primary pillar of national financing, particularly in developing countries such as Indonesia, which rely on the tax sector to fund public expenditure and accelerate infrastructure development (A. S. Putri & Nurdin, 2023) Beyond serving as a source of government revenue, taxation also functions as a strategic instrument for maintaining macroeconomic stability and enhancing global competitiveness in support of national development (Yahya et al., 2022). To maximize tax revenue, fiscal authorities continue to improve tax administration and governance, one of which is reflected in the modernization of the Core

Tax Administration System (Coretax) by the Directorate General of Taxes (Fitriya, 2025). Despite strengthened monitoring and supervision measures, the government continues to face challenges in optimizing tax revenue, particularly from corporate taxpayers. This challenge is reflected in the slowdown in the growth rate of national tax revenue realization over the 2021–2025 period, although its nominal value has continued to increase. One issue frequently emerging in this context is tax planning, which refers to corporate strategies for managing tax liabilities systematically to achieve tax efficiency without violating applicable legal provisions (Mamun et al., 2025).

The transportation and logistics industry represents an interesting research setting due to its high investment intensity in fixed assets and substantial capital requirements. These characteristics provide business entities with opportunities to achieve tax efficiency by utilizing depreciation expenses and loan interest costs as tax-deductible components in determining taxable income. The complexity of business operations in this sector is also reflected in the emergence of tax disputes involving freight forwarding service providers, as well as the corporate action undertaken by PT Samudera Indonesia Tbk through the issuance of Sukuk Ijarah Berkelanjutan III amounting to IDR 700 billion (Ramdhani Pratama et al., 2026). Such financing arrangements may generate financing costs that can potentially reduce the taxable income base.

The conceptual framework underlying this study is based on two principal theories: *Agency Theory* and *Positive Accounting Theory* (PAT). Agency Theory explains the dynamics of the relationship between management (the agent), which is responsible for conducting business operations, and shareholders (the principal), who seek to maximize firm value (Nainggolan & Karunia, 2022). Meanwhile, PAT emphasizes that management may utilize the flexibility of accounting policies to pursue its own interests based on future expectations and estimations (Fadhila & Andayani, 2022), including when making tax planning decisions. In this study, *tax planning* is measured using the *Tax Retention Rate* (TRR), a financial ratio that compares net income after tax with income before tax. Based on the data presented in Table 1, the average TRR of transportation and logistics companies listed on the stock exchange fluctuated considerably throughout the 2021–2025 period. These fluctuations indicate that the implementation of tax planning practices within this sector has not yet demonstrated a consistent pattern.

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**Table 1.** Average Tax Retention Rate (TRR) of the Transportation and Logistics Sector, 2021–2025

| Year | 2021 | 2022 | 2023 | 2024 | 2025 |
|---|---|---|---|---|---|
| Average TRR | 0,748 | 0,787 | 0,760 | 0,810 | 0,823 |
| Growth (%) | - | 5,21 | -3,43 | 6,58 | 1,60 |

**Source:** **Indonesia Stock Exchange (IDX) data, processed by the researcher (2026).**

Variations in the TRR ratio are presumed to arise from differences in internal corporate characteristics, including firm size, *leverage*, liquidity, *transfer pricing*, and *capital intensity*. Firm size is believed to influence tax efficiency because substantial asset ownership increases the allocation of depreciation expenses, which are tax-deductible (Malik et al., 2022). However, previous empirical studies have reported inconsistent findings. (Saragih et al., 2023) demonstrated that firm size has a significant effect on tax planning, whereas (Sembiring & Sa'adah, 2021) found the opposite. In addition to firm size, *leverage* may also reduce tax liabilities through the recognition of interest expenses arising from financial borrowings. Nevertheless, a study conducted by (Evita Sysmantia & Einde Evana, 2023) found that the debt ratio (*leverage*) does not have a significant effect on tax planning practices, indicating the need for further examination of the relationship between these variables.

Liquidity is also considered a determinant of managerial flexibility in tax management, as it reflects a company's ability to meet its short-term obligations using available current assets (Febrilyantri, 2022). However, empirical findings remain divided. (Mariani, 2021) confirmed a significant effect of liquidity on tax planning, whereas (Tania & Limajatini, 2024) found no such relationship. Another critical issue concerns *transfer pricing*, which is frequently associated with the shifting of profit bases to affiliated entities located in jurisdictions with lower tax rates (N. P. W. A. Putri et al., 2022). Research conducted by (Evita Sysmantia & Einde Evana, 2023) indicates that *transfer pricing* has a significant influence on tax efficiency strategies, although several previous studies have reported contradictory findings. Meanwhile, *capital intensity* is presumed to reduce corporate tax burdens through depreciation expense allocations resulting from a high proportion of fixed assets. However, (Tania, 2024) reported that this variable has no significant effect on tax planning.

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The existence of research gaps and inconsistent findings across previous studies highlights the importance of conducting further empirical investigations. Accordingly, this study aims to examine both the partial and simultaneous effects of firm size, *leverage*, liquidity, *transfer pricing*, and *capital intensity* on *tax planning* among transportation and logistics companies listed on the Indonesia Stock Exchange (IDX) during the 2021–2025 period.

## LITERATURE REVIEW

### Agency Theory and Positive Accounting Theory

Agency Theory provides a fundamental explanation of the relationship between principals, as shareholders, and agents, who are responsible for managing the company. According to (Wardhani et al., 2021), differences in the interests and orientations of these two parties often lead to conflicts, as principals seek to maximize shareholder equity, whereas agents may prioritize their own interests. Another theoretical foundation supporting this study is Positive Accounting Theory (PAT), which examines how managers select particular accounting procedures to secure their own benefits based on the company's contractual arrangements (Sinatraz & Suhartono, 2021). In this regard, two PAT propositions are particularly relevant: the debt covenant hypothesis and the political cost hypothesis. The first proposition suggests that high levels of debt encourage companies to adopt accounting methods that increase reported earnings to avoid violating debt covenant restrictions (R. Agustina & Mukhibad, 2021). Meanwhile, the second proposition explains that larger companies tend to face greater political costs and external scrutiny, particularly concerning their fiscal contribution obligations (R. Agustina & Mukhibad, 2021).

### Firm Size

Firm size reflects the total assets controlled by an entity, whereby depreciation of these assets is periodically recognized as an expense that reduces income before tax (Rachayu, Fitriyanti et al., 2022). From an agency theory perspective, the operational complexity and substantial asset ownership of large companies encourage management to implement tax planning strategies to improve financial efficiency and meet shareholders' expectations (Indradi & Sulistyowati, 2024). Meanwhile, from the perspective of the political cost hypothesis, large companies face greater

political visibility and external scrutiny, which may encourage specific considerations in managing their fiscal burdens through tax planning. Previous empirical findings on this subject remain inconsistent. A study by (Batmomolin, 2018), as cited in (Rachayu, Fitriyanti et al., 2022), confirmed that firm size has a significant effect on tax planning, whereas (Sembiring & Sa'adah, 2021) reported contradictory findings. This research gap highlights the need for further empirical investigation. Accordingly, the hypothesis proposed in this study is:

**H1: Firm size is hypothesized to have an effect on tax planning.**

**Leverage**

Leverage is an indicator used to measure the extent to which a company relies on debt-based financing. An increase in the debt ratio leads to higher interest expenses, which are tax-deductible and consequently reduce the company's taxable income and overall tax liability (Waryono, Dwi et al., 2022). From an agency theory perspective, management, acting as the agent, is responsible for managing business operations efficiently to enhance shareholder value, with shareholders serving as the principals. Furthermore, within the framework of Positive Accounting Theory, particularly the debt covenant hypothesis, companies with substantial debt dependence are encouraged to select accounting policies that enable them to manage financial expenses effectively while reducing their tax liabilities. Empirical evidence from (Mamun et al., 2025) supports this argument by demonstrating that leverage has a significant contribution to the formulation of tax planning strategies. Based on this line of reasoning, the hypothesis proposed in this study is:

**H2: Leverage is hypothesized to have an effect on tax planning.**

**Liquidity**

Liquidity reflects a company's ability to meet its current liabilities using available current assets. A strong liquidity position indicates financial stability, which may encourage management to exercise greater discipline and compliance in fulfilling the company's tax obligations. From an agency theory perspective, the liquidity resources managed by management can be utilized to improve cash flow efficiency, including through the implementation of tax planning strategies. However, empirical evidence regarding this relationship remains varied. (Kariimah & Septiowati, 2019) confirmed that liquidity has a significant effect on tax planning, whereas (Tania

& Limajatini, 2024) reported contradictory findings. Based on the preceding discussion, the hypothesis proposed in this study is:

**H3: Liquidity is hypothesized to have an effect on tax planning.**

**Transfer Pricing**

Pricing in transactions between entities with special relationships does not always reflect the arm's-length prices prevailing in an independent market (Suwandi & Syarifudin, 2024). This situation may create opportunities for companies to shift their profit bases to jurisdictions or business units with lower tax burdens (Latipah et al., 2024). From an agency theory perspective, management may utilize transactions between affiliated entities as a strategy to achieve greater fiscal efficiency. Previous empirical findings have demonstrated divergent results. (Wiguna & Sinarwati, 2025) found that transfer pricing has a significant effect on the implementation of tax planning, whereas (Latipah et al., 2024) reported contradictory findings. Considering the variations and inconsistencies in previous research findings, the hypothesis proposed in this study is:

**H4: Transfer pricing is hypothesized to have an effect on tax planning.**

**Capital Intensity**

Capital intensity reflects the proportion of a company's investment allocated to fixed assets, which generates depreciation and amortization expenses. These expenses are generally tax-deductible and reduce income before tax (Utomo & Fitria, 2020); (Wanti & Irawati, 2024). From the perspective of the political cost hypothesis, substantial asset ownership may increase a company's political visibility and public scrutiny, subsequently influencing management's considerations in allocating depreciation expenses as part of its tax efficiency strategies. However, empirical evidence regarding the effect of this variable remains inconsistent. (Serena & Nuswantara, 2024) demonstrated that capital intensity has a significant effect on tax planning, whereas (Leyloh, 2025) found no significant effect. Based on the preceding theoretical and empirical considerations, the hypothesis proposed in this study is:

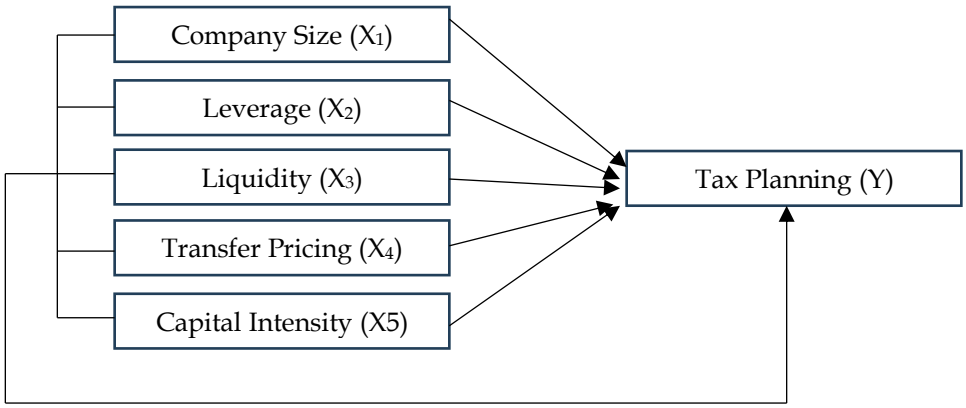
**H5: Capital intensity is hypothesized to have an effect on tax planning.**

**The Simultaneous Effect of Firm Size, Leverage, Liquidity, Transfer Pricing, and Capital Intensity on Tax Planning**

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Firm size, leverage, liquidity, transfer pricing, and capital intensity are collectively hypothesized to influence tax planning. The integration of these five factors provides a comprehensive understanding of various corporate operational dimensions that may constrain or expand management's decision-making scope in fiscal management. Based on the perspective of Positive Accounting Theory, corporate decision-makers tend to adopt accounting policies that maximize firm value while simultaneously considering various economic incentives and institutional factors. Drawing on the theoretical and empirical discussions presented above, the hypothesis proposed in this study is formulated as follows:

**H6: Firm size, leverage, liquidity, transfer pricing, and capital intensity simultaneously have an effect on tax planning.**




Source: Data processed in 2026
Figure 1. Conceptual Framework

## METHOD

This study adopts a quantitative approach with a causal research design, aiming to analyze the cause-and-effect relationships between independent and dependent variables. The data used in this study consist of secondary data in the form of annual financial statements of companies operating in the transportation and logistics industry. These data were obtained from the official website of the Indonesia Stock Exchange (IDX) (www.idx.co.id), the official websites of the sampled companies, and other supporting publications. Data processing was systematically conducted using statistical software, encompassing descriptive statistical analysis,

classical assumption tests, and multiple linear regression analysis, with the following regression equation:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + e$$

Hypothesis testing in this study was conducted using the t-test to examine the partial effects of the independent variables and the F-test to assess their simultaneous effects, complemented by the coefficient of determination analysis (*adjusted R-squared*). The study population comprises all companies in the transportation and logistics sector listed on the Indonesia Stock Exchange (IDX) during the 2021–2025 period, totaling 40 companies. The sample was selected using the *purposive sampling* method, based on predetermined criteria. The selection criteria and the resulting sample composition are presented as follows:

**Table 2.** Research Sample Selection

| No. | Research Sample Criteria | Number of Companies |
|---|---|---|
| 1 | Transportation and logistics companies listed on the Indonesia Stock Exchange (IDX) during the research period | 40 |
| 2 | Companies that consistently published complete annual financial statements (annual reports) throughout the research period | 32 |
| 3 | Companies that presented their financial statements in Indonesian Rupiah (IDR) | 31 |
| 4 | Companies with complete financial indicators corresponding to the operational variables of this study | 22 |
| 5 | Companies that consistently recorded positive earnings (did not report losses) throughout the research period | 8 |
| Total Number of Sample Companies | | 8 |
| Number of Research Periods | | 5 |
| Total Number of Observations | | 40 |

**Operational definitions and measurement of research variables**

**Tabel 3.** Operationalization and measurement of research variables

| Research Variables | Operational Definitions | Measurement Formula | Scale |
|---|---|---|---|
| *Tax Planning* (Y) | A legal tax burden efficiency strategy that utilizes the flexibility of fiscal regulations (Darmansyah, 2022). | TRR: $\frac{\text{Net Income}}{\text{Income before tax}}$ Source: (Putra et al., 2021) | Ratio |

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| | | | |
|---|---|---|---|
| Firm Size ($X_1$) | An indicator of a company's capacity and financial stability in supporting its business operations (Apriliani & Wulandari, 2023). | $LN$(Total Assets) Source: (Tania, 2024) | Ratio |
| *Leverage* ($X_2$) | The proportion of loans or financial obligations used to finance a company's total assets (Waryono, Dwi et al., 2022). | DER: $\frac{\text{Total Debt}}{\text{Total Equity}}$ Source: (Tania, 2024) | Ratio |
| Liquidity ($X_3$) | The readiness and ability of a business entity to meet its current obligations using available current assets (Nursasi et al., 2023). | CR: $\frac{\text{Current Asset}}{\textit{Current Liabilities}}$ Source: (Tania, 2024) | Ratio |
| *Transfer pricing* ($X_4$) | The practice of determining prices for financial transactions with related parties, proxied by the proportion of related-party receivables (Apriani, 2025). | $RPT$: $\frac{\text{Total Related Party Receivables}}{\text{Total Receivables}}$ Source: (Evita Sysmantia & Einde Evana, 2023) | Ratio |
| *Capital Intensity* ($X_5$) | The proportion of a company's investment allocated to fixed assets to support its revenue-generating activities (Ihsan et al., 2023) | $\frac{\text{Fixed Assets}}{\text{Total Assets}}$ Source: (Prabowo, 2025) | Ratio |

Source: data processed by the researcher, 2026

## RESULT AND DISCUSSION

### Descriptive Statistics

The results of the descriptive statistical analysis indicate considerable variability in the characteristics of all observational units. The tax planning variable, proxied by the Tax Retention Rate (TRR), recorded an average value of 0.786. This figure indicates that, on average, the sampled companies retained approximately 78.6% of their total earnings after deducting tax expenses.

The descriptive statistical results should be examined by taking into account the characteristics of each company throughout the observation period. Differences in capital structures, the ability to meet short-term obligations, the intensity of related-party transactions, and the composition of fixed assets may result in variations in financial ratios across companies. These conditions may explain why a variable has a theoretically established relationship with tax planning but does not necessarily demonstrate a statistically significant effect when tested simultaneously with other independent variables. Therefore, statistically insignificant results should be interpreted by considering the characteristics of the data and the operational conditions of companies in the transportation and logistics sector.

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**Normality Test**

The normality assessment of the 40 observations yielded a significance value of ( ), indicating that the residual distribution did not satisfy the normality assumption. To address this issue, an examination of extreme residual values was conducted using the *casewise diagnostics* technique, following the methodological guidelines proposed by (Ghozali, 2018). The detection results confirmed the presence of one observation with a *standardized residual* exceeding the threshold of 3, thereby classifying it as an outlier or extreme value (Asqalany & Dewi, 2024). After excluding this extreme observation from the model, the final number of observations included in the subsequent data analysis was reduced to 39.

**Table 4.** Normality Test After Outlier Removal

**One-Sample Kolmogorov-Smirnov Test**

| | | Unstandardized Residual |
|---|---|---|
| N | | 39 |
| Normal Parameters[a,b] | Mean | .0000000 |
| | Std. Deviation | .09421342 |
| Most Extreme Differences | Absolute | .121 |
| | Positive | .073 |
| | Negative | -.121 |
| Test Statistic | | .121 |
| Asymp. Sig. (2-tailed) | | .156[c] |

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.

Source: Data processed using SPSS, 2026

After removing the outlier, the repeated normality assessment of the residual values yielded a significance level of 0.156 ($p > 0.05$). This finding indicates that the residual data distribution satisfies the normality assumption.

**Multicollinearity Test**

The results of the multicollinearity test indicate that all independent variables have *tolerance* values greater than 0.10 and *Variance Inflation Factor* (VIF) values below 10.0. These findings confirm that the regression model is free from multicollinearity problems.

**Heteroscedasticity Test**

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Based on the results of the Glejser test, the significance values of all independent variables exceed the threshold of 0.05. Therefore, it can be concluded that the regression model does not exhibit heteroscedasticity, indicating that it is suitable for further statistical analysis.

**Autocorrelation Test and Coefficient of Determination ($R^2$)**

The Durbin–Watson statistic was recorded at 1.682, which falls between the lower bound (dL = 1.218) and the upper bound (dU = 1.789). This result places the decision within the inconclusive region (Suci & Arnova, 2019). To further confirm the findings, an additional diagnostic test was conducted using the *runs test*, which produced a *Sig. (2-tailed)* value of 0.332. Since this value exceeds the significance threshold of 0.05, the residuals can be considered randomly distributed. Furthermore, the coefficient of determination (*Adjusted* $R^2$) of 0.486 indicates that 48.6% of the variation in the dependent variable can be explained by the independent variables included in the model. The remaining 51.4% is attributable to other factors beyond the scope of this research model.

**Multiple Linear Regression Analysis**

**Table 5.** Multiple Linear Regression Analysis and t-Test

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | | |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | t | Sig. |
| 1 | (Constant) | .969 | .148 | | 6.567 | .000 |
| | Ukuran Perusahaan | -.009 | .004 | -.406 | -2.481 | .018 |
| | Leverage | -.016 | .030 | -.106 | -.524 | .604 |
| | Likuiditas | .024 | .012 | .295 | 1.897 | .067 |
| | Transfer Pricing | .167 | .094 | .284 | 1.789 | .083 |
| | Capital Intensity | -.029 | .147 | -.030 | -.199 | .844 |

a. Dependent Variable: Tax Planning

Source: Data processed using SPSS, 2026

Based on the magnitude of the unstandardized coefficients presented in Table 3, the constant value was obtained at [value]. This indicates that when all independent variables are assumed to be zero, the estimated value of tax planning (TRR) is [value]. Meanwhile, firm size, leverage, and capital intensity exhibit negative regression coefficients. Conversely, liquidity and transfer pricing demonstrate positive regression coefficients in relation to the level of tax planning.

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**Partial t-Test**

The partial hypothesis testing was conducted using the t-test to determine the individual effect of each independent variable on the dependent variable (Ghozali, 2018). The basis for decision-making in this test relies on comparing the calculated t-value with the critical t-value, using a significance level and a specified degree of freedom. Based on the data presented in Table 10, the statistical test results with a degree of freedom (df) of 33 yielded a critical t-value of 2.035. The analysis indicates that firm size is the only variable that has a statistically significant effect on tax planning, thereby supporting the first hypothesis (H1). Conversely, leverage, liquidity, transfer pricing, and capital intensity do not exhibit statistically significant effects, as their significance values exceed 0.05 and their absolute calculated t-values do not exceed 2.035. Consequently, hypotheses H2 through H5 are rejected.

**F-Test (Simultaneous Test)**

**Table 6.** F Test

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | .418 | 5 | .084 | 8.182 | .000[b] |
| | Residual | .337 | 33 | .010 | | |
| | Total | .755 | 38 | | | |

a. Dependent Variable: Tax Planning
b. Predictors: (Constant), Capital Intensity, Ukuran Perusahaan, Transfer Pricing, Likuiditas, Leverage

Source: Data processed using SPSS, 2026

Based on the results of the simultaneous statistical analysis using the F-test, the calculated F-value was 8.182, with a significance value of 0.000. Since the significance value is lower than 0.05 (0.000 < 0.05), it can be concluded that firm size, leverage, liquidity, transfer pricing, and capital intensity jointly have a statistically significant effect on tax planning.

The simultaneous significance of the five independent variables does not necessarily indicate that each variable has a statistically significant individual effect on tax planning. The F-test evaluates the collective contribution of all independent variables to the regression model, whereas the t-test examines the individual contribution of each variable while controlling for the other independent variables. Therefore, the significant F-test result (8.182; p = 0.000) alongside the insignificant partial results for leverage, liquidity, transfer pricing, and capital intensity does

not represent a statistical contradiction. Rather, these findings indicate that the explanatory contribution of each corporate characteristic differs when assessed individually within the regression model.

## Discussion

### The Effect of Firm Size on Tax Planning

The empirical analysis demonstrates that firm size has a significant effect on tax planning practices. In this study, entities with larger asset bases recorded lower TRR values than smaller entities, indicating a tendency among management to exercise greater caution when formulating tax efficiency strategies. This finding supports the political cost hypothesis within the framework of Positive Accounting Theory (PAT), which postulates that large corporations are subject to greater public scrutiny and regulatory burdens, including those related to taxation (Oktavianie, 2021). These conditions encourage decision-makers to adopt more conservative tax reporting strategies to minimize risks that could potentially damage the entity's reputation. This study confirms the findings of (Saragih et al., 2023) and (Rachayu, Fitriyanti et al., 2022), who reported a significant effect of firm size on tax planning. However, this result contradicts the findings of (Sembiring & Sa'adah, 2021), who found no significant effect. These differences suggest that the relationship between these variables is strongly influenced by industry sector characteristics and the observation period.

### The Effect of Leverage on Tax Planning

The inferential analysis demonstrates that leverage does not have a significant effect on tax planning. This finding indicates that the use of debt structures by publicly listed companies in the transportation and logistics sector is not a primary strategy for reducing tax liabilities. From the perspective of Positive Accounting Theory, particularly the debt covenant hypothesis, business entities with high debt proportions are constrained by commitments and restrictive requirements imposed by creditors (Widyari & Rasmini, 2019). These creditor-imposed restrictions limit managerial flexibility, preventing interest expenses from being aggressively utilized as a means of achieving tax savings. This finding is consistent with the empirical evidence reported by (Nosalira, 2020) and Evita (Evita Sysmantia & Einde Evana, 2023), who concluded

that leverage has no significant effect on tax planning. However, it contradicts the findings of (Rachayu, Fitriyanti et al., 2022). This inconsistency reinforces the argument that the effectiveness of leverage in tax planning is contextual and depends on the specific characteristics of the industry under investigation.

The t-test results indicate that the significance value of leverage is 0.604, which is greater than 0.05. This finding suggests that leverage does not individually explain variations in tax planning among the companies included in the research sample. This condition may be related to the use of debt, which is more oriented toward meeting operational and investment needs rather than serving as an instrument for tax savings. In transportation and logistics companies, debt financing may be used to support fleet procurement, vehicle maintenance, warehouse facility development, and other operational infrastructure requirements. The use of debt for these purposes does not automatically indicate the implementation of tax planning strategies through interest expenses. These findings suggest that the presence of debt in a company's capital structure is not necessarily a primary factor determining its tax planning policies.

**The Effect of Liquidity on Tax Planning**

The liquidity variable is found to have no significant effect on tax planning. This phenomenon is attributable to the declining liquidity ratios among the sampled companies during the observation period, reflecting the prioritization of current assets to meet daily operational requirements rather than utilizing them as a basis for formulating tax strategies. From the perspective of agency theory, management is more inclined to maintain short-term cash flow stability to preserve its credibility in the eyes of suppliers and lenders (Yudiastuti & Wirasedana, 2018). Consequently, the formulation of tax planning policies is more strongly determined by other structural factors beyond the company's current liability position. This finding is consistent with the results of (Tania, 2024), who reported that liquidity levels do not have a significant effect on tax planning.

The test results indicate that liquidity has a significance value of 0.067. Although this value does not meet the 0.05 significance threshold, it is relatively close to the significance level. This finding suggests that liquidity may have an association with tax planning, although the statistical evidence in this study is insufficient to establish a partial effect. The characteristics of

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transportation and logistics companies, which require sufficient cash availability to finance ongoing operational activities, may partly explain this condition. Current assets are primarily needed to ensure the smooth payment of short-term obligations, operating expenses, and working capital requirements. Consequently, changes in a company's liquidity position are not necessarily accompanied by changes in its tax planning policies. These findings indicate that liquidity management among the sampled companies tends to be more closely associated with maintaining operational stability than with directly determining tax planning strategies.

**The Effect of Transfer Pricing on Tax Planning**

The statistical analysis confirms that transfer pricing does not have a significant effect on tax planning practices. This finding indicates that transactions conducted with affiliated parties by the sampled companies are not necessarily intended to optimize tax payment efficiency. This phenomenon is presumably attributable to the increasingly extensive supervision and regulatory oversight imposed by tax authorities on transfer pricing practices, requiring corporations to exercise greater care and caution when structuring affiliated-party transactions (Pradhana & Nugrahanto, 2021). From the perspective of agency theory, management can essentially utilize transfer pricing to optimize operational performance. However, the increasingly stringent tax regulatory framework constrains such practices, making transfer pricing a non-dominant determinant of tax planning among the observed publicly listed companies. This finding is consistent with the results reported by (Latipah et al., 2024) and (Evita Sysmantia & Einde Evana, 2023).

The transfer pricing test results show a significance value of 0.083, indicating that this variable does not have a statistically significant effect on tax planning at the 5% significance level. This value is also relatively close to the significance threshold, suggesting that the relationship between related-party transactions and tax planning remains worthy of further investigation. One aspect that needs to be considered is the use of the related-party receivables ratio as a proxy for transfer pricing. This ratio reflects the proportion of receivable transactions with related parties but does not fully capture the overall transfer pricing activities that a company may undertake. Related-party transactions may occur to meet business needs, such as service provision, operational management, and financing arrangements between entities with special

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relationships. Therefore, a high volume of related-party transactions does not directly indicate the existence of pricing arrangements intended to reduce tax liabilities. The limitations of this proxy may be one of the factors explaining why the effect of transfer pricing on tax planning has not been statistically established in this study.

**The Effect of Capital Intensity on Tax Planning**

The capital intensity variable is found to have no significant effect on tax planning. This finding is highly relevant to the characteristics of publicly listed companies in the transportation and logistics sector, which are fundamentally classified as capital-intensive industries. This is reflected in the average capital intensity ratio of the sampled companies, which remained relatively high and consistently ranged between [value] and [value] throughout the observation period. Furthermore, from the perspective of the political cost hypothesis within Positive Accounting Theory, substantial asset ownership places corporations under greater public visibility and scrutiny, thereby encouraging management to exercise greater caution in utilizing fixed asset depreciation expenses as a tax planning strategy (Pradhana & Nugrahanto, 2021). This finding is consistent with previous research conducted by (Tania & Limajatini, 2024), which confirmed that capital intensity has no significant effect on tax planning.

The test results indicate that capital intensity has a significance value of 0.844, suggesting that it does not have a statistically significant effect on tax planning. This condition may be associated with the characteristics of transportation and logistics companies, which generally require substantial fixed assets to support their operational activities. The ownership of vehicles, transportation equipment, storage facilities, and supporting infrastructure is an essential component of their core business operations. The use of these assets is primarily intended to maintain business continuity and enhance operational capacity rather than to serve as an instrument for tax planning. Although fixed assets generate depreciation expenses that can be deducted in determining taxable income in accordance with applicable tax regulations, a high level of fixed asset ownership does not automatically indicate that a company engages in tax planning through its depreciation policies. This condition may explain why capital intensity does not have sufficient explanatory power to account for variations in tax planning individually among the sampled companies.

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**The Simultaneous Effect of Firm Size, Leverage, Liquidity, Transfer Pricing, and Capital Intensity on Tax Planning**

The combination of all independent variables is collectively found to have a significant effect on tax planning practices. This finding confirms that the implementation of tax planning does not depend on a single financial variable but rather represents a comprehensive assessment of the interaction among various internal corporate factors, including firm size, financing structure, liquidity position, affiliated-party transaction arrangements, and asset composition. Referring to Positive Accounting Theory, these combined factors establish a framework for managerial discretion in managing corporate tax liabilities. Accordingly, the formulation of tax planning strategies in the transportation and logistics industry is determined by the corporation's overall financial condition, with firm size emerging as the most dominant predictor influencing the direction of corporate tax policies.

## CONCLUSSION

The results indicate that firm size has a significant effect on tax planning, suggesting that larger companies tend to adopt more moderate tax planning practices, consistent with the *political cost hypothesis*. Meanwhile, leverage, liquidity, transfer pricing, and capital intensity do not have significant partial effects. However, the significance values of liquidity (0.067) and transfer pricing (0.083), which are relatively close to the 0.05 threshold, indicate the need for further investigation. Simultaneously, all five independent variables have a significant effect on tax planning, with an explanatory power of 48.6%.

This study has several limitations. First, the sample consists of only eight companies, with 39 final observations over the 2021–2025 period, limiting the generalizability of the findings to the entire transportation and logistics sector. Second, the use of the Tax Retention Rate (TRR) and related-party receivables as proxies has limitations in capturing corporate tax planning and transfer pricing practices comprehensively. Third, the study focuses exclusively on one industrial sector.

Companies are encouraged to improve the effectiveness of their tax management by considering factors that influence tax planning policies. Investors may use these findings to assess

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companies' tax management practices, while tax authorities are expected to strengthen supervision of complex transactions and financing structures. Future research is recommended to expand the observation period and research scope, including the manufacturing sector, apply panel data analysis, and incorporate additional variables such as profitability, corporate governance, deferred taxes, sales growth, and institutional ownership.

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