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Research Paper

Transfer Pricing and Tax Avoidance: The Moderating Role of Thin Capitalization

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Abstract

Indonesia's relatively low tax ratio compared to other countries indicated the persistent issue of corporate tax avoidance. This study aimed to examine the effect of transfer pricing on tax avoidance and to assess whether thin capitalization moderated this relationship. The sample consisted of mining companies listed on the Indonesia Stock Exchange from 2021 to 2023. Panel data regression with multiple linear analysis was employed to test the hypotheses. Tax avoidance was proxied by the negative value of the Effective Tax Rate (ETR), while thin capitalization was measured using the Maximum Allowable Debt (MAD) ratio. The results showed that transfer pricing had a significant positive effect on tax avoidance, supporting agency theory. However, thin capitalization weakened the impact of transfer pricing, indicating that companies tended to adopt either strategy to reduce tax risks. These findings provided practical implications for Indonesia's tax governance, particularly in enhancing transfer pricing oversight and reinforcing thin capitalization regulations.

Keywords: *transfer pricing; thin capitalization; tax avoidance*

INTRODUCTION

Taxes are central in financing government operations worldwide, including in Indonesia, where they constitute the most significant component of state revenue (Laksono & Firmansyah, 2020). Tax revenues support vital public services such as infrastructure, education, healthcare, and social welfare programs. However, Indonesia's tax performance remains a persistent concern. For over a decade, the national tax ratio has stagnated between 10% and 11%, significantly lower than the OECD average of over 30% (OECD, 2024). This situation highlights weaknesses in Indonesia's tax collection system, particularly regarding detecting and controlling corporate tax avoidance. Empirical evidence from Fasita et al. (2022) highlights that many multinational corporations (MNCs) operating in Indonesia reported continuous financial losses over multiple years yet continued to expand their operations. This anomaly raises concerns about the potential use of tax avoidance mechanisms, such as transfer pricing and thin capitalization, that allow firms to report low taxable income despite operational growth. These patterns suggest the existence of structural weaknesses in tax enforcement and underscore the need for deeper academic inquiry into how such practices persist within the current regulatory framework.

From a corporate perspective, taxes are often perceived as a cost that reduces net profitability. In line with agency theory, managers are incentivized to adopt strategies that maximize after-tax income, including tax avoidance (Desai & Dharmapala, 2006). Although legally distinct from tax evasion, tax avoidance leverages loopholes and regulatory ambiguities to minimize tax liabilities (Dyreng et al., 2008). One of the most widely used tax avoidance techniques is transfer pricing, where companies manipulate the prices of intercompany transactions to shift profits from high-tax to low-tax jurisdictions (Jacob, 1996). In Indonesia, the complexity of related-

party transactions and limitations in monitoring capacity has made enforcement of the arm's length principle challenging. A well-known example is the alleged underpricing by PT Adaro Energy through its Singapore-based affiliate (Deviansyah et al., 2024), which raised concerns about the effectiveness of existing regulations.

Given this context, it becomes imperative to understand how transfer pricing contributes to tax avoidance. Several empirical studies, such as those by Amidu et al. (2019), Asalam and Tazkiyaturohmah (2023), Deviansyah et al. (2024), Gunawan and Surjandari (2022), Maulana et al. (2018), and Ramdhani et al. (2022), consistently find a significant positive relationship between transfer pricing and tax avoidance, where firms engaging in high volumes of related-party transactions tend to report lower effective tax rates. However, not all studies reach the same conclusion. For instance, Irawan et al. (2020) and Rini et al. (2022) report a negative relationship, suggesting that increasing regulatory enforcement may limit the room for aggressive tax planning. Meanwhile, other studies find no significant effect (Indrastuti & Apriliawati, 2023; Oktania & Putra, 2023; Putri & Evana, 2024), highlighting the potential influence of contextual variables such as industry characteristics, firm size, and governance structures.

This inconsistency in prior findings raises an important issue: the relationship between transfer pricing and tax avoidance is likely more complex than previously assumed. Therefore, this study aims to investigate the effect of transfer pricing on tax avoidance more thoroughly and to assess whether thin capitalization acts as a moderating variable that strengthens or weakens this relationship. Thin capitalization, a financing strategy involving a high proportion of debt relative to equity, enables companies to deduct interest payments from taxable income, lowering their overall tax liability (Hananto et al., 2021). In Indonesia, the Ministry of Finance issued Regulation No. 169/PMK.010/2015 to restrict excessive interest deductions, but recent research suggests that enforcement remains inconsistent (Anindita et al., 2022). Studies by Putri and Evana (2024), Taylor and Richardson (2013), and Waluyo and Doktoralina (2018) have shown that thin capitalization not only contributes directly to tax avoidance but also interacts with other strategies such as transfer pricing, making it theoretically and practically relevant as a moderating variable.

This study differs from previous research in two important ways. First, unlike most studies that examine the impact of transfer pricing or thin capitalization independently, this study explicitly investigates their interaction within the same analytical framework. Second, while many existing studies use broad samples across multiple industries, this study focuses specifically on mining companies listed on the Indonesia Stock Exchange from 2021 to 2023, a sector known for its capital intensity, high dependency on cross-border transactions, and elevated tax exposure—making it an ideal context for testing strategic tax behaviour.

This study's contribution to the academic literature lies in its integrative approach, combining agency theory and capital structure logic to explain how firms orchestrate multiple tax strategies. Furthermore, the findings are expected to offer practical insights for Indonesia's tax authorities, particularly in identifying high-risk firms exploiting transfer pricing and debt-based tax shields. By enhancing understanding of these mechanisms and their interaction, the study aims to support more targeted regulatory responses and improve the overall effectiveness of corporate tax governance in Indonesia.

LITERATURE REVIEW

Agency theory is the main theoretical framework for understanding corporate tax behaviour, including the relationship between transfer pricing and tax avoidance. Jensen and Meckling (1976) argue that agency relationships arise when the owner (principal) delegates authority to the manager (agent) to run the business in their interest. However, this separation of ownership and control creates potential agency conflicts, where managers may act opportunistically to pursue

strategies that enhance short-term performance and satisfy shareholder expectations. One such strategy is tax avoidance, often viewed by managers as a rational means to improve reported earnings by reducing tax-related costs.

Within this context, transfer pricing has emerged as one of the most widely used corporate tax planning mechanisms, particularly among multinational enterprises. Transfer pricing refers to the pricing arrangements applied to transactions between entities within the same corporate group (OECD, 2022). While legally permitted, it becomes controversial when shifting profits from high-tax to low-tax jurisdictions, thereby minimizing the firm's overall tax burden (OECD, 2022). From an agency theory standpoint, managers may exploit regulatory disparities and the complexity of international taxation to reallocate income in ways that legally reduce tax liabilities and simultaneously increase firm value.

Empirical evidence supports the hypothesis that transfer pricing positively influences tax avoidance. Numerous studies have found that firms engaging in extensive related-party transactions tend to report lower effective tax rates, indicating the use of transfer pricing to minimize tax obligations. These findings are consistent with research by Amidu et al. (2019), Asalam and Tazkiyaturohmah (2023), Deviansyah et al. (2024), Gunawan and Surjandari (2022), Maulana et al. (2018), and Ramdhani et al. (2022). These studies collectively confirm that transfer pricing significantly enables companies to manage their tax exposure while remaining strategically within legal boundaries.

Based on the theoretical explanation and supporting empirical evidence, this study concludes that transfer pricing is not merely a pricing policy but a deliberate tax minimization strategy managers employ to fulfill their agency's role in maximizing shareholder value. The strategic use of transfer pricing reflects managerial discretion in optimizing tax positions, which aligns with agency theory's assumptions about opportunistic behaviour.

H1: Transfer pricing has a positive effect on tax avoidance.

Agency theory also offers a relevant lens for understanding how thin capitalization interacts with corporate tax avoidance strategies. According to Jensen and Meckling (1976), managers acting on behalf of shareholders are incentivized to maximize firm value, which often includes minimizing tax obligations. One common approach to reducing tax liabilities is through the strategic use of debt financing, particularly in thin capitalization, where firms rely heavily on debt rather than equity to fund their operations. This structure is attractive because interest payments on debt are tax-deductible, reducing taxable income and lowering the effective tax rate.

Thin capitalization arises when a company's capital structure is dominated by debt, allowing firms to benefit from interest tax shields (OECD, 2022). The foundational work of Modigliani and Miller (1963) suggests that firms may prefer debt over equity due to these tax benefits. However, from an agency perspective, excessive debt can also be seen as a strategic tool managers exploit to maximize after-tax profits despite the risk of financial distress, especially when combined with other tax planning mechanisms.

Empirical studies have consistently shown a positive relationship between thin capitalization and tax avoidance, indicating that firms with higher leverage levels tend to engage more aggressively in interest-based tax deductions. Putri and Evana (2024), Taylor and Richardson (2013), and Waluyo and Doktoralina (2018) have confirmed this relationship. These findings support the notion that thin capitalization is a company's deliberate strategy to reduce taxable profits through deductible financing costs.

Beyond its direct impact, thin capitalization is a complementary strategy to transfer pricing, particularly in intra-group financing. Multinational firms engaging in transfer pricing may structure related-party loans to artificially allocate interest expenses to subsidiaries in high-tax jurisdictions, thus enhancing their overall tax planning efficiency (OECD, 2022). This interaction allows firms to

simultaneously shift profits and inflate deductible expenses, thereby maximizing tax savings in a more integrated and strategic manner.

Based on agency theory and supporting empirical evidence, this study concludes that thin capitalization strengthens the effectiveness of transfer pricing in minimizing tax burdens. When used together, these strategies reflect a sophisticated tax planning approach in which managers leverage multiple financial instruments to maximize shareholder wealth.

H2: Thin capitalization strengthens the positive effect of transfer pricing on tax avoidance

RESEARCH METHOD

The data used in this study are secondary. The data collection method in this study was carried out using documentation from the Indonesian Stock Exchange. The analysis was carried out on the Annual and Financial Reports of companies listed on the Indonesia Stock Exchange from 2021-2023. The list of companies and Annual and Financial Reports listed on the IDX in 2021-2023 was obtained through the Indonesia Stock Exchange website, namely www.idx.co.id. Furthermore, the data was processed using e-Views software. This study also declares compliance with the ethical use of secondary data, as all data were obtained from the publicly accessible IDX platform and used solely for academic purposes following the official IDX data usage policy.

The population in this study consists of mining companies listed on the Indonesia Stock Exchange (IDX) from 2021 to 2023. The mining sector was selected due to its capital-intensive nature and potential for high leverage, which exposes firms to greater tax risks, making it particularly relevant for studies on transfer pricing and thin capitalization (Anindita et al., 2022). The following are the characteristics of the sample:

Table 1. Sampling Procedure

Criteria	Total
Companies operating in the Mining sector listed on the IDX for the period 2021 to 2023	85
Companies operating in the Mining sector that did not publish financial reports consecutively for the period 2021 to 2023	(20)
Companies operating in the Mining sector that have losses before tax in the period 2021 to 2023	(19)
Companies operating in the mining sector whose financial reports cannot be accessed or have not published financial reports for 2021 to 2023.	(4)
Companies operating in the mining sector whose financial reports use USD currency for the period 2021 to 2023	(31)
Number of companies sampled each year	11
Number of years of research	3
Total sample	33

Source: Processed Data (2024)

This study uses the dependent variable, tax avoidance. Tax avoidance can be measured using the Effective Tax Rate (ETR). How to calculate ETR, according to Yorke et al. (2016), is corporate income tax minus deferred tax divided by net profit before tax. Then, the ETR result is multiplied by -1 so that the inversely proportional nature changes to directly proportional to the value of the independent variable.

$$ETR = \frac{\text{Income Tax Expenses} - \text{Deferred Tax}}{\text{Income Before Tax}}$$

Thin Capitalization is measured by the method used by Taylor and Richardson (2013),

namely calculating the maximum allowable debt (MAD) ratio, which is done by calculating SHDA by averaging total assets minus interest-free liabilities (non-IBL) and multiplying by 80%, then calculating the MAD ratio, the average amount of debt divided by SHDA. According to Taylor and Richardson (2013), the greater the MAD ratio, the more the company relies on debt for its financing, which indicates the use of thin capitalization practices.

$$\text{mad ratio} = \frac{\text{average debt}}{\text{SHDA}}$$

$$\text{SHDA} = (\text{Average Total Assets} - \text{non IBL}) \times 80\%$$

Profitability and firm size are included as control variables because they are empirically proven to influence the extent to which firms engage in tax avoidance (Gunawan & Surjandari, 2022; Putri & Evana, 2024). Return on Assets (ROA) – reflects company profitability, influencing the incentive to minimize tax burdens (Gunawan & Surjandari, 2022).

$$\text{ROA} = \frac{\text{Net Income}}{\text{Total Assets}}$$

Firm Size (SIZE) is defined as a proxy for organizational scale and complexity, which affect tax planning capabilities (Putri & Evana, 2024).

$$\text{SIZE} = \ln \ln (Total\ Assets)$$

The classical assumption test determines whether the test model has met the statistical requirements in multiple linear analyses. The classical assumption tests conducted include normality, multicollinearity, heteroscedasticity, and autocorrelation tests to ensure the model's validity. To test the hypothesis, this study uses panel data regression analysis. The following equation shows panel data regression analysis:

$$\text{TAXAVOID}_{it} = \beta + \beta_1 \text{TP}_{it} + \beta_2 \text{THC}_{it} + \beta_3 \text{TP}_{it}*\text{THC}_{it} + \beta_4 \text{ROA}_{it} + \beta_5 \text{SIZE}_{it} + \text{Ɛ}$$

Where TAXAVOID represents tax avoidance, TP denotes transfer pricing, THC refers to thin capitalization, ROA is return on assets, SIZE indicates firm size, β represents the regression coefficients, and ε is the error term.

FINDINGS AND DISCUSSION

Descriptive statistics are used to describe or illustrate data for analysis purposes. The descriptive statistical analysis results for each research variable are presented in the following table.

Table 2. Descriptive Statistics

	TAXAVOID	TP	THC	ROA	SIZE
Mean	-0.2570	0.7272	1.7746	0.1063	7.8411
Median	-0.2156	1.0000	0.9079	0.0756	7.2019
Maximum	-0.0054	1.0000	25.1046	0.3063	10.722
Minimum	-0.8158	0.0000	0.1872	0.0024	4.9344
Std. Dev.	0.2229	0.3084	4.2780	0.0915	1.5207
Observations	33	33	33	33	33

Source: Processed Data (2024)

The descriptive statistics in Table 2 provide insights into the key variables used in this study. The dependent variable, tax avoidance (TAXAVOID), has an average value of -0.2570, suggesting that most companies in the sample exhibit negative effective tax rates, indicating tax avoidance practices. The median value of -0.2156 implies that half of the companies have effective tax rates below this level, reinforcing that tax avoidance is prevalent among the sample firms. The maximum value of -0.0054, close to zero, indicates that some firms engage in minimal or no tax avoidance. In contrast, the minimum value of -0.8158 reflects that certain firms significantly reduce their tax burden. The standard deviation of 0.2229 suggests moderate variation in tax avoidance practices across the companies.

Transfer pricing (TP) shows a relatively high average value of 0.7272, indicating that most firms in the sample engage in transfer pricing strategies to a considerable extent. The median value of 1.0000 suggests that at least half of the companies fully implement transfer pricing, which further supports the prevalence of this practice. The maximum value of 1.0000 shows that some firms apply transfer pricing at the highest possible level, whereas the minimum value of 0.0000 indicates that some firms do not engage in transfer pricing. The standard deviation of 0.3084 highlights the variation in transfer pricing activities among companies.

Thin capitalization (THC) presents a mean value of 1.7746, signifying that, on average, firms in the sample rely more on debt financing than equity. The median value of 0.9079 indicates that half of the firms exhibit a lower, thin capitalization ratio, suggesting diversity in financing structures. The maximum value of 25.1046 points to certain firms being highly leveraged, while the minimum value of 0.1872 represents firms with relatively low debt levels. The standard deviation of 4.2780 is notably high, reflecting significant variation in how firms structure their financing.

Return on assets (ROA) has an average value of 0.1063, meaning that firms generate an average of approximately 10.63% return on their assets. The median value of 0.0756 shows that half of the firms report lower profitability than this threshold, while the maximum value of 0.3063 suggests that some firms achieve high returns. Conversely, the minimum value 0.0024 highlights firms operating with very low returns. The standard deviation of 0.0915 indicates moderate variability in ROA among the firms.

Firm size (SIZE) exhibits a mean value of 7.8411, suggesting that the firms in the sample are relatively large. The median value of 7.2019 implies that half of the companies have a size measure below this level. The maximum value of 10.722 indicates the presence of significantly larger firms, while the minimum value of 4.9344 represents the smallest firms in the sample. The standard deviation of 1.5207 shows considerable variation in firm size, confirming that the sample includes both small and large companies.

Thus, the descriptive statistics highlight that tax avoidance practices vary among firms, with some engaging in aggressive strategies while others maintain relatively higher effective tax rates. Transfer pricing is commonly used, with considerable differences in its application across firms. Thin capitalization strategies show substantial variation, with some firms heavily reliant on debt while others maintain lower leverage. Return on assets indicates moderate profitability differences, while firm size varies significantly, reflecting a diverse sample composition.

Table 3. Chow Test

Chow Test	Value	Results
H0: Common Effect Model (CEM) > 0.05		
Ha: Fixed Effect Model (FEM) < 0.05	0.0000	FEM

Source: Processed Data (2024)

The Chow Test is utilized as a statistical method to determine whether there is a significant distinction between two regression models, specifically the Common Effects Model (CEM) and the Fixed Effects Model (FEM). The test results indicate a p-value of 0.0000 below the 0.05 significance level. Consequently, the null hypothesis (H0), which assumes that the Common Effects Model (CEM) is appropriate, is rejected in favour of the alternative hypothesis (Ha), which supports the use of the Fixed Effects Model (FEM) as the more suitable model.

Additionally, the Hausman Test is employed in panel data analysis to determine whether the Random Effects Model (REM) or the Fixed Effects Model (FEM) is more appropriate. The results reveal a p-value of 0.0006 below 0.05, leading to the rejection of the null hypothesis (H0) that assumes the Random Effects Model (REM) is appropriate. Instead, the alternative hypothesis (Ha) is accepted, confirming that the Fixed Effects Model (FEM) is the more suitable choice.

Table 4. Hausman Test

Hausman Test	Value	Results
H0: Random Effect Model (CEM) > 0.05	0.0006	FEM
Ha: Fixed Effect Model (FEM) < 0.05		

Sumber: Processed Data (2024)

Based on the findings of both the Chow Test and the Hausman Test, it is concluded that the Fixed Effects Model (FEM) is the most appropriate model for analyzing the relationship between the independent and dependent variables in this study. Therefore, the FEM approach is used in the subsequent panel data regression analysis.

Table 5. Regression Test Result

Variable	Coeff.	t-Statistic.	Prob.	Explanation
C	-5.0278	-5.6141	0.0000	
TP	0.2546	2.1301	0.0240	H_1 accepted
THC	0.2879	5.6496	0.0000	
TP*THC	-0.5548	-5.5989	0.0000	H_2 rejected
ROA	-0.1981	-0.3037	0.3825	
SIZE	0.6000	5.1058	0.0005	
R2		0.9182		
Adj. R2		0.8460		
F-stat		12.7273		
Prob (F-stat)		0.0000		

Source: Processed Data (2024)

Discussion

The empirical findings indicate that the coefficient of transfer pricing is positive and statistically significant, with a probability value of 0.0240, below the 0.05 significance level. This result provides strong evidence that transfer pricing has a significant positive effect on tax avoidance, meaning that companies with a higher intensity of related-party transactions tend to reduce their tax burden through profit-shifting mechanisms. As the volume of transfer pricing practices increases, so does the company's tendency to minimize its tax liabilities. Therefore, Hypothesis 1 (H1), which states that transfer pricing positively affects tax avoidance, is empirically supported.

These findings are consistent with previous research by Amidu et al. (2019), Asalam and Tazkiyaturohmah (2023), Deviansyah et al. (2024), Gunawan and Surjandari (2022), Maulana et al. (2018), and Ramdhani et al. (2022). Although these studies applied different proxies to measure

transfer pricing—such as dummy variables for the existence of related-party transactions, the ratio of affiliated sales or receivables to total sales or assets—their findings consistently support the view that transfer pricing is widely used as a strategic instrument for minimizing corporate tax obligations within legal limits.

The positive relationship between transfer pricing and tax avoidance can be explained through agency theory (Jensen & Meckling, 1976). Assert that agency conflicts arise when managers (agents), in pursuing shareholder value, act opportunistically to serve their interests. Within this framework, taxes are viewed as costs that reduce reported earnings. Managers may, therefore, implement tax planning strategies that legally lower tax liabilities to improve financial performance and, in turn, enhance shareholder satisfaction. Transfer pricing is among the most effective tools available for this purpose, particularly in multinational and resource-based firms, as it allows companies to reallocate profits from high-tax jurisdictions to lower-tax ones without violating formal legal constraints.

The dominance of transfer pricing practices in mining companies during 2021–2023 can be attributed to the industry's structural characteristics. The mining sector is capital-intensive, exposed to global commodity markets, and often operates through cross-border supply chains and affiliated entities. This provides a sample opportunity for intra-group transactions that can be used for profit shifting. Additionally, the fluctuating nature of commodity prices contributes to revenue instability, encouraging firms to manage earnings and tax burdens across different fiscal periods strategically. The economic uncertainty triggered by the COVID-19 pandemic further intensified the need for tax planning to maintain financial resilience. These factors explain why mining firms are more likely to engage in transfer pricing as a tax avoidance mechanism during the observed period.

This study also examined whether thin capitalization moderates the relationship between transfer pricing and tax avoidance. The regression results indicate that the interaction term between transfer pricing and thin capitalization has a negative and statistically significant coefficient (p-value = 0.0000). This suggests that thin capitalization weakens the positive effect of transfer pricing on tax avoidance, contrary to the initial hypothesis. As a result, Hypothesis 2 (H2), which predicted that thin capitalization would strengthen the relationship, is rejected.

Notably, the coefficient of transfer pricing decreased from 0.2546 to -0.5548 after introducing the interaction with thin capitalization, indicating that firms with high levels of debt financing are less likely to rely on transfer pricing as a tax avoidance mechanism. This finding aligns with the notion that companies often do not employ both strategies simultaneously, but instead use them as substitutes depending on their financial structure and regulatory exposure.

From the agency theory perspective, this result highlights the trade-offs managers face when engaging in tax planning. While both transfer pricing and thin capitalization are legal strategies for minimizing tax liabilities, using them concurrently may increase the risk of detection and penalties. Managers acting in the best interest of shareholders may opt to prioritize one strategy over another to avoid heightened scrutiny from tax authorities.

In firms with high leverage, the tax shield from interest expense already substantially reduces taxable income (Taylor & Richardson, 2013). Thus, the marginal benefit of implementing additional strategies like transfer pricing may be reduced. This is especially relevant in Indonesia, where thin capitalization regulations are clearly defined and easily enforced, such as the Minister of Finance Regulation No. 169/PMK.010/2015, which limits the debt-to-equity ratio to 4:1. The clarity and measurability of this threshold make companies with excessive debt easier to monitor and audit.

Furthermore, Fasita et al. (2022) found that firms avoid combining thin capitalization and transfer pricing due to the higher audit risk and the increased complexity of managing both

strategies under regulatory oversight. Similarly, the OECD Transfer Pricing Guidelines (2022) encourage tax authorities to enhance enforcement against such layered strategies, particularly when used to erode the tax base across jurisdictions (OECD, 2022).

In the mining sector, these dynamics are even more pronounced. Mining companies are inherently capital-intensive, often operating across multiple jurisdictions and relying heavily on debt to finance exploration and infrastructure projects. While this provides a natural incentive for interest-based tax deductions, these firms are also under closer regulatory scrutiny. Tax authorities focus on high-revenue sectors with complex cross-border activities, making mining firms cautious about adding further risk by layering aggressive transfer pricing strategies on top of high leverage.

Financial stability considerations may discourage heavily indebted firms from pursuing aggressive transfer pricing. Although debt reduces tax liabilities through interest deductions, it also constrains cash flow and increases financial risk. Firms facing high debt burdens may prioritize liquidity and operational resilience over further tax minimization, particularly in volatile industries like mining, where commodity prices and investment cycles can be unpredictable.

Thus, rejecting H2 does not imply the absence of moderation, but rather confirms that thin capitalization acts as a negative moderator, weakening the influence of transfer pricing on tax avoidance. This indicates that firms strategically select tax planning tools, often choosing between transfer pricing and thin capitalization instead of combining them. The finding contributes to the literature by highlighting the substitution effect between two commonly used tax avoidance strategies, particularly in highly regulated and capital-intensive sectors.

CONCLUSIONS

This study provides empirical support for agency theory in the context of tax planning among Indonesian mining companies. The findings reveal that transfer pricing significantly affects tax avoidance, affirming its role as a strategic mechanism firms use to reduce tax burdens. However, the study also finds that thin capitalization negatively moderates this relationship, weakening the influence of transfer pricing on tax avoidance. This suggests that firms tend to be selective in using tax avoidance strategies, choosing either transfer pricing or thin capitalization rather than both, likely due to regulatory scrutiny and the increased risk of tax audits when multiple strategies are combined.

These results offer important implications for Indonesian tax policy. Given the difficulty in detecting transfer pricing schemes, the Directorate General of Taxes (DGT) should consider strengthening oversight through more robust documentation requirements and inter-jurisdictional cooperation, particularly for sectors with high exposure to international transactions. At the same time, the government may revisit thin capitalization rules, ensuring effective enforcement of the maximum 4:1 debt-to-equity ratio. By enhancing the credibility of both regulatory tools, tax authorities can better safeguard national tax revenues and reduce opportunities for aggressive tax planning.

LIMITATION & FURTHER RESEARCH

This study is subject to several limitations. First, it focuses exclusively on mining companies listed on the Indonesia Stock Exchange between 2021 and 2023, which limits the generalizability of findings to other industries. The geographic and sector-specific context, particularly the capital-intensive nature, exposure to commodity price volatility, and cross-border financing structures, may lead to tax avoidance behaviours that do not reflect firms in other sectors, such as manufacturing or technology.

Second, the study uses a quantitative approach with panel data regression, which, while effective for identifying relationships among variables, may not fully capture the behavioural and

institutional dynamics that influence tax planning decisions. Important factors such as political connections, earnings management, or internal governance quality were not included, and institutional variables like audit intensity, regulatory unpredictability, or macroeconomic shifts were also beyond the scope of this analysis.

Future research could address these limitations by including a broader sample across multiple industries or conducting cross-country comparative studies to test the consistency of results in different regulatory environments. Qualitative or mixed-method studies could also help uncover the managerial rationale and perceptions underlying the choice of tax strategies. Additionally, investigating the impact of new international tax standards, such as the OECD's Pillar Two rules and global minimum tax frameworks, may provide deeper insights into how multinational firms adapt their transfer pricing and capital structure decisions in response to evolving global tax governance.

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