International Journal of Management and Business Intelligence (IJBMI)
Vol. 4 No. 5, 2026: 1683-1692

The Effect of Thin Capitalization on Tax Aggressiveness with Profitability, Company Size, Foreign Ownership as Moderation Variables (In Real Estate Companies Listed on The IDX in 2021 – 2023)

Lucky Adrian Sudrajat[1*], Hetti Herawati[2], Rima Dwijayanty[3]
Universitas Sangga Buana
Corresponding Author: Lucky Adrian Sudrajat luckyadrian1999@gmail.com

A R T I C L E I N F O
Keywords: Thin Capitalization, Tax Aggressiveness, Profitability, Company Size, Foreign Ownership

Received : 27, August
Revised : 28, September
Accepted: 30, October

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A B S T R A C T
Taxes are a major source of state revenue used to finance national development. However, Indonesia's relatively low tax ratio indicates persistent challenges in tax collection, one of which involves tax avoidance practices through thin capitalization strategies. This practice is commonly associated with companies in the property and real estate sectors. Although these sectors make substantial contributions to Indonesia's Gross Domestic Product (GDP), their tax contributions remain relatively low. This study aims to examine whether profitability, company size, and foreign ownership moderate the effect of thin capitalization on tax aggressiveness. This research employs a quantitative method with a descriptive approach. The results indicate that thin capitalization has no significant effect on tax aggressiveness. Profitability, however, significantly moderates the relationship between thin capitalization and tax aggressiveness. Meanwhile, company size and foreign ownership do not moderate the effect of thin capitalization on tax aggressiveness.

DOI: https://doi.org/10.59890/ijmbi.v4i5.70
ISSN-E: 3025-5589
https://journalijmbi.my.id/index.php/ijmbi

INTRODUCTION

Taxes are a major source of state revenue and play a crucial role in financing various development programs and providing public facilities, such as infrastructure, education, healthcare, and social welfare services. Therefore, optimal tax revenue is essential to supporting sustainable economic development. One indicator used to measure the effectiveness of a country's tax system is the *tax ratio*, which represents the proportion of total tax revenue to Gross Domestic Product (GDP). A higher tax ratio generally indicates a greater contribution of the tax sector to national revenue (Erion et al., 2021).

However, Indonesia's tax ratio has fluctuated significantly over the years and remains relatively low compared with that of several ASEAN countries, including Thailand (17.18%), Vietnam (16.21%), and Singapore (12.96%). Indonesia's relatively low tax ratio indicates that tax compliance among both individuals and business entities still needs to be improved (Sekilas APBN, 2023). One factor contributing to low tax revenue is the practice of tax avoidance, which companies may undertake through various tax aggressiveness strategies (Frank et al., 2009).

Tax aggressiveness refers to corporate efforts to reduce tax liabilities through various tax planning strategies, ranging from legal practices, commonly known as *tax avoidance*, to illegal practices referred to as *tax evasion*. One strategy associated with tax aggressiveness is *thin capitalization*, a corporate financing strategy that relies more heavily on debt than equity. Through this strategy, companies can reduce their tax liabilities because interest expenses on debt may be deducted from taxable income, subject to applicable tax regulations. Although debt financing is legally permitted, excessive use of debt may reduce the amount of tax revenue received by the government (Utami & Irawan, 2022; Curry & Fikri, 2023).

In Indonesia, the manufacturing sector is the largest contributor to tax revenue, accounting for approximately 25.3%, whereas the property and real estate sector contributes only around 4.7% (Ministry of Finance, 2023). Nevertheless, the property and real estate sectors make substantial contributions to the national economy. In the second quarter of 2023, the construction sector contributed 9.43% to GDP, while the real estate sector contributed 2.40%. The disparity between these sectors' economic contributions and their tax contributions raises concerns regarding potential tax aggressiveness practices, including the use of thin capitalization strategies (Kurniawati & Mukti, 2023).

In this context, several factors may influence the relationship between thin capitalization and tax aggressiveness, including profitability, company size, and foreign ownership. Companies with high profitability may be less inclined to engage in tax avoidance because they have a greater capacity to meet their tax obligations. Conversely, companies with lower profitability may be more likely to use debt financing to obtain tax deductions through interest expenses (Ruslim, 2023). Furthermore, company size reflects the scale and complexity of business operations, which may create opportunities for

companies to implement tax avoidance strategies (Brigham & Houston, 2013). Foreign ownership may also play an important role, as multinational companies may take advantage of differences in tax regulations across countries through strategies such as transfer pricing (Sismi & Martani, 2022).

This study aims to analyze the effect of thin capitalization on tax aggressiveness by examining the moderating roles of profitability, company size, and foreign ownership. The study focuses on property and real estate companies listed on the Indonesia Stock Exchange (IDX) during the 2021–2023 period. The findings are expected to provide theoretical and practical contributions to understanding tax avoidance practices in sectors that make substantial contributions to GDP but have relatively low tax contributions.

In addition to extending previous research, which primarily focused on the manufacturing sector (Curry & Fikri, 2023; Gouwvara & Susanty, 2023), this study incorporates moderating variables that have received limited attention in previous studies. It also seeks to provide policy recommendations for fiscal authorities to improve tax compliance and strengthen the national tax system. Through this approach, the study is expected to contribute to efforts to curb tax avoidance practices in the property and real estate sectors and support increased state revenue in the long term (Najwa et al., 2024).

LITERATURE REVIEW

Agency Theory

Agency Theory explains the relationship between a principal and an agent, in which one or more individuals (principals) engage another individual (agent) to perform services on their behalf and delegate certain decision-making authority to the agent (Jensen & Meckling, 1976). In the context of taxation, a conflict of interest may arise between corporate management (agents), which seeks to optimize tax expenses to maximize net profits, and the government (principal), which aims to maximize tax revenue. This divergence of interests may incentivize managers to adopt aggressive tax strategies, including debt-intensive capital structures through thin capitalization, to reduce corporate tax liabilities (Jensen & Meckling, 1976).

Trade-Off Theory

Trade-Off Theory posits that firms determine their optimal capital structure by balancing the tax benefits of debt financing, particularly interest tax shields, against the potential costs of financial distress and agency costs (Kraus & Litzenberger, 1973). Since interest payments on debt are generally tax-deductible expenses, companies have a financial incentive to use a higher proportion of debt in their capital structures. This practice, commonly associated with thin capitalization, may reduce taxable income and, consequently, the company's tax burden (Kraus & Litzenberger, 1973).

Political Cost Theory

Political Cost Theory suggests that larger corporations tend to attract greater public attention and government scrutiny, exposing them to higher political costs, including stricter tax compliance monitoring and enforcement by fiscal authorities (Watts & Zimmerman, 1986). Large and highly profitable companies may face greater pressure to maintain tax compliance to protect their public reputations and avoid regulatory intervention. Consequently, profitability and company size may influence the extent to which firms use debt financing strategies that affect their tax aggressiveness (Watts & Zimmerman, 1986).

Signaling Theory

Signaling Theory suggests that corporate financial decisions and reporting practices serve as signals to external stakeholders and investors regarding a company's financial condition and overall performance (Spence, 1973). High profitability signals operational efficiency and financial stability to the market. Highly profitable companies may also have greater financial flexibility to manage tax risks efficiently without resorting to illegal or excessively risky tax avoidance schemes (Spence, 1973).

International Business Theory (Internalization Theory)

International Business Theory, particularly Internalization Theory, explains how multinational companies utilize cross-border corporate structures and international networks to internalize transactions and optimize their overall tax positions (Buckley & Casson, 1976). Foreign ownership within a company's shareholding structure may create opportunities to conduct transactions with affiliated entities across national borders and implement various debt financing strategies. These arrangements may influence how thin capitalization is implemented as part of corporate tax planning strategies (Buckley & Casson, 1976).

METHODOLOGY

Research Design and Sample Selection

This study examines property and real estate companies listed on the Indonesia Stock Exchange (IDX) during the 2021–2023 period. It employs a quantitative approach with a descriptive research method. The data were obtained from companies' annual financial statements published on the IDX's official website and analyzed using EViews software.

The sample was selected using a purposive sampling technique based on predetermined criteria. The following table presents the sample selection process.

Table 1. Purposive Sampling Results

No.	Sample Selection Criteria	Number of Companies
1	Property and real estate companies listed on the	93

	Indonesia Stock Exchange (IDX) during the 2021–2023 period	
2	Companies that did not publish financial statements for the 2021–2023 period	(10)
3	Companies that did not have total assets exceeding IDR 1 trillion during the 2021–2023 period	(52)
4	Companies that experienced losses throughout the 2021–2023 period	(9)
	Companies meeting all selection criteria	**22**
	Observation period	**3 years**
	Total observations	**66**

Source: Data processed by the authors (2024).

This study consists of one independent variable, namely thin capitalization; one dependent variable, namely tax aggressiveness; and three moderating variables, namely profitability, company size, and foreign ownership.

Thin Capitalization

Thin capitalization refers to a condition in which a company finances its operations or business activities primarily through debt rather than equity. This financing strategy may be used to reduce tax liabilities because interest expenses on debt can generally be deducted from taxable income, subject to applicable tax regulations (Utami & Irawan, 2022).

Thin capitalization is measured using the following formula:

$$Debt\ To\ Equity\ Ratio = \frac{Total\ Debt}{Total\ Asset}$$

Tax Aggressiveness

Tax aggressiveness refers to corporate efforts to minimize tax liabilities through various tax planning strategies, including legal practices known as tax avoidance and illegal practices known as tax evasion. Tax aggressiveness is measured using the following formula (Najwa et al., 2024):

$$Tax\ Aggresiveness = \frac{Tax\ Expense}{Profit\ Before\ Tax}$$

Profitability

Profitability refers to a company's ability to generate profits through its business activities and the utilization of its assets and equity. Profitability is measured using Return on Assets (ROA), calculated as follows:

$$Return\ on\ Asset = \frac{Net\ Income}{Total\ Asset}$$

Company Size

Company size refers to an indicator of the scale of a company's operations, which can be measured through several financial indicators, including total assets, sales, and profits (Brigham & Houston, 2013).
The measurement of company size in this study is expressed as follows:

$$Firm\ Size = Total\ Asset$$

Foreign Ownership

Foreign ownership refers to the proportion of a company's shares held by foreign parties, including foreign individuals, foreign companies, and foreign governments investing in companies operating in Indonesia.
Foreign ownership is measured using the following formula:

$$Firm\ Size = Persentage\ of\ Shares$$

Data Analysis Technique

The data analysis was conducted using panel data regression with three estimation approaches: the Common Effect Model, Fixed Effect Model, and Random Effect Model. The selection of the most appropriate model was determined through the Chow test, Hausman test, and Lagrange Multiplier test.

Subsequently, classical assumption tests were conducted, including the normality test, heteroscedasticity test, multicollinearity test, and autocorrelation test. Hypothesis testing was performed using the t-test to examine the partial effects of each independent variable on the dependent variable. Meanwhile, moderation analysis was conducted by incorporating interaction terms between the independent variable and each moderating variable into the regression model.

RESULTS AND DISCUSSION

Descriptive Statistics

Descriptive statistics are used in this study to briefly explain the research variables. The following table shows the descriptive statistics of the research variables.

Table 1. Descriptive Statistics

	Thin Capitalization	**Agresivitas Pajak**	**Profitabilitas**	**Ukuran Perusahaan**	**Kepemilikan Asing**
Mean	-0.096667	0.052424	0.033636	29.19788	0.117227
Median	0.520000	0.010000	0.020000	29.11000	0.000000
Maximum	24.36000	0.760000	0.180000	31.83000	0.966200
Minimum	-76.75000	-0.470000	-0.080000	27.61000	0.000000
Std. Dev.	10.04755	0.147357	0.046991	1.048160	0.239554
Observations	66	66	66	66	66

The table above shows that this study involves 66 observations from the financial statements of property and real estate companies on the Indonesia

Stock Exchange (IDX) for the period 2021–2023. Descriptive statistics show that the average Thin Capitalization value is -0.07, with a standard deviation of 10.05, showing that the data is quite variable. The tax aggressiveness average value is 0.05, with a standard deviation of 0.15, showing significant variation between companies. The average profitability is 0.03, with a standard deviation of 0.047, showing diversity between companies. The size of the company has an average value of 29.20 and a standard deviation of 1.05, with a relatively small variation. The average foreign ownership is 11.7%, with a standard deviation of 0.24, showing a significant difference between companies.

Classical Assumption Test

The Classical Assumption Test was carried out to see whether this linear regression model of panel data passed the classical assumption test or not.

Normality Test

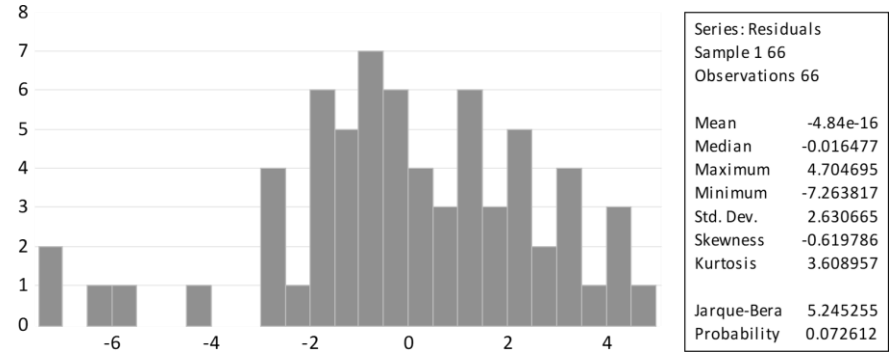


Figure 1. Normality Test

The results of the normality test of this study are normally distributed data with p = 0.0726.

Heteroscedasticity Test

Heteroskedasticity Test: Breusch-Pagan-Godfrey

Table 2. Null hypothesis: Homoskedasticity

Test	**Value**	**Probability**
F-statistic	0.400617	0.5290
Obs*R-squared	0.410566	0.5217
Scaled Explained SS	0.503607	0.4779

This study did not occur heteroscedasticity because p = 0.5217.

Autocorrelation

Table. 3 Autocorrelation

Variable	Coefficient	Std.) (Error	t-Statistic	Prob.
X	0.031311	0.032728	0.956710	0.3423
C	-2.984987	0.326348	-9.146644	0.0000

R-squared	0.014100	Mean dependent var	-2.988014
Adjusted R-squared	-0.001305	S.D. dependent var	2.649409
S.E. of regression	2.651137	Akaike info criterion	4.817689
Sum squared resid	449.8258	Schwarz criterion	4.884042
Log likelihood	-156.9837	Hannan-Quinn criter.	4.843908
F-statistic	0.915294	Durbin-Watson stat	1.171375
Prob(F-statistic)	0.342314		

And no autocorrelation with Durbin-Watson (= 1.17) was found. The regression analysis of panel data was carried out using three model approaches, namely Common Effect, Fixed Effect, and Random Effect. Based on the Chow Test, Hausman Test, and Lagrange Multiplier Test, the Random Effect Model (REM) was chosen as the best model.

Random Effect Model

Table 4. Weighted Statistics

Statistical Measures	**Value**
R-squared	0.037838
Adjusted R-squared	0.022804
S.E. of regression	1.628175
Sum squared resid	169.6610
F-statistic	2.516844
Prob(F-statistic)	0.117565
Mean dependent var	-1.200219
S.D. dependent var	1.647063
Durbin-Watson stat	1.814073

The R-Squared value of the main model is 3.78%, showing that the Thin Capitalization variable only explains a small part of the variation in Tax Aggressiveness.

T Test

Table 5. T-Test

Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
X?	0.033641	0.021368	1.574332	0.1203
C	-2.984758	0.502790	-5.936389	0.0000

The results of the hypothesis test showed that Thin Capitalization did not have a significant effect on tax aggressiveness because p = 0.1203 > 0.05.

Moderation Test

Table 6. Profitability

Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
X	0.048573	0.035173	1.380970	0.1722

Z1	-13.99646	7.890689	-1.773795	0.0810
XZ1	3.198248	1.543961	2.071456	0.0425
C	-2.502377	0.412548	-6.065658	0.0000

Then, the results of the moderation test show that profitability plays a significant moderator with p = 0.0425 (less than 0.05), meaning that it strengthens the relationship between Thin Capitalization and Tax Aggressiveness.

Table 7. Company Size

Variable	Coefficient	Std. Error	t-Statistic	Prob.
X	-7.892896	6.312566	-1.250347	0.2159
Z2	-0.715466	0.379818	-1.883707	0.0643
XZ2	0.282671	0.225455	1.253782	0.2146
C	17.71063	10.99594	1.610652	0.1123

Table 8. Foreign Ownership

Variable	Coefficient	Std. Error	t-Statistic	Prob.
X	-0.971401	5.187245	-0.187267	0.8521
Z3	2.217515	1.360763	1.629612	0.1083
XZ3	0.035261	0.185205	0.190388	0.8496
C	-3.250660	0.387170	-8.395941	0.0000

While Company Size and Foreign Ownership do not act as moderators because p > 0.05, respectively.

CONCLUSION AND RECOMMENDATION

Based on the above research, it can be concluded that Thin Capitalization has no effect on tax aggressiveness. This shows that the high debt-based financing structure does not directly encourage aggressive tax avoidance practices among the companies studied. Profitability has a role as a moderation variable in the relationship between Thin Capitalization and Tax Aggressiveness. These findings indicate that companies with high levels of profitability tend to be more able to utilize capital structures for tax efficiency purposes.

Company size does not affect the moderation of the Thin Capitalization relationship with Tax Aggressiveness, which means the scale of the company does not affect the relationship. Foreign ownership does not have a moderation effect on the relationship between Thin Capitalization and Tax Aggressiveness, so the existence of foreign shareholders does not significantly change the influence of capital structure on the company's tax strategy.

Based on the above research, companies need to pay more attention to the capital structure and tax policies implemented, although in this study no significant influence of Thin Capitalization on tax aggressiveness was found. With the increasing supervision of tax authorities, companies are required to

ensure that the tax strategies implemented remain within the corridor of applicable regulations.

The following recommendations should be made for future researchers: further research is recommended to involve a larger sample size and cover various industry sectors in order to obtain more generalist results and strengthen the external validity of the research. The observation period should also be extended beyond three years so that the long-term effect of Thin Capitalization on Tax Aggressiveness can be clearly identified. Furthermore, researchers should consider adding variables that have the potential to affect the relationship between Thin Capitalization and Tax Aggressiveness.

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