


The Effect of Thin Capitalization, Return on Assets, Capital Intensity, and Audit Fees on Tax Aggressiveness

Putri Puji Lukmawati¹, Irena Mei Darnis Halawa², Sri Agustina³, Linawati⁴, Husnul Khotimah⁵

Fakultas Ekonomi dan Bisnis, Universitas Pamulang

Jl. Raya Puspitek, Buaran, Kec. Pamulang, Kota Tangerang Selatan, Banten 15310

Article Info	ABSTRACT
<p>Keywords: Thin Capitalization, Return On Assets, Capital Intensity, Audit Fees, Tax Aggressiveness</p>	<p>This study aims to analyze and provide empirical evidence regarding the effects of thin capitalization, return on assets, capital intensity, and audit fees on tax aggressiveness. This is a quantitative study utilizing secondary data obtained from the Indonesia Stock Exchange (IDX) website, specifically from the official websites of listed companies. The population in this study comprises banking companies listed on the IDX from 2019 to 2023. The sample was selected using a purposive sampling method, resulting in 95 firm-year observations that met the research criteria. The results of the study indicate that return on assets has a significant effect on tax aggressiveness, and capital intensity also significantly influences tax aggressiveness. However, thin capitalization and audit fees do not have a significant effect on tax aggressiveness.</p>
<p>This is an open access article under the CC BY-NC license</p> 	<p>Corresponding Author: Putri Puji Lukmawati Fakultas Ekonomi dan Bisnis, Universitas Pamulang Jl. Raya Puspitek, Buaran, Kec. Pamulang, Kota Tangerang Selatan, Banten 15310 putripujilukmawati@gmail.com</p>

INTRODUCTION

Taxes are one of the main sources of government revenue, functioning to finance public expenditures aimed at improving societal welfare. However, on the other hand, business entities often attempt to minimize their tax burden in order to increase post-tax profits. One strategy employed is tax aggressiveness, which involves aggressive tax planning efforts to reduce tax obligations, either through legal means (tax avoidance) or actions that fall within legal grey areas.

Tax aggressiveness has become a critical issue, as it can significantly reduce the government's potential tax revenue. In the context of a developing country like Indonesia, where the tax-to-GDP ratio remains relatively low compared to other countries, tax aggressiveness poses a major challenge in optimizing national income. This phenomenon also reflects a gap between formal compliance and substantive compliance with tax obligations. Companies often appear to follow regulations administratively, yet in substance continue to exploit legal loopholes to reduce their tax payments. This raises ethical concerns regarding corporate social responsibility and their accountability to the state.

Thin capitalization refers to a company's capital structure being heavily financed by debt rather than equity. This practice exploits the different tax treatments of interest (as a deductible expense) and dividends (which are not deductible) in the calculation of taxable

income. Interest payments reduce taxable income, while dividends do not. Through thin capitalization, often involving a holding company in a low-tax jurisdiction, taxable profits that should be recognized in one country can be shifted to another. Typically, a holding company funds its subsidiaries through loans rather than equity, benefiting from interest deductibility.

Previous studies on thin capitalization and tax aggressiveness have yielded mixed results. Ismi & Linda (2016) found that thin capitalization has no significant effect on tax avoidance. Meanwhile, Setiawan & Agustina (2018) and Taylor & Richardson (2012) found a positive and significant effect. In contrast, Zaina (2017) reported a negative and significant relationship. Additionally, Khomsatun & Martani (2015) showed that companies listed in the Indonesia Sharia Stock Index may reduce the positive relationship between total debt and asset mix on tax avoidance, suggesting that thin capitalization can reduce tax avoidance through debt-bearing interest mechanisms.

Based on the above background, the researcher is interested in conducting a study entitled “The Effect of Thin Capitalization, Return on Assets, Capital Intensity, and Audit Fees on Tax Aggressiveness (An Empirical Study on Banking Sector Companies Listed on the Indonesia Stock Exchange for the Period 2019–2023)”

METHODS

This research adopts a quantitative method, where data is expressed in numerical form to allow for statistical analysis. According to Sugiyono, quantitative data refers to information presented in numerical or measurable form, which enables the researcher to reveal current problem-solving strategies based on actual data. In this study, quantitative data includes figures related to the number of employees at PT Foods Beverages Indonesia, QBig BSD City Branch, Tangerang. Additionally, qualitative data is also referenced, as it involves non-numerical information such as words, diagrams, or images that support the interpretation of results.

This study employs a quantitative research design. According to Sugiyono (2017), quantitative research is based on the philosophy of positivism and is used to examine specific populations or samples. Data collection is conducted using research instruments, and the analysis involves quantitative or statistical techniques, aiming to test predefined hypotheses. The type of data used in this research is secondary data, which refers to information not obtained directly by the researcher, but through third parties or existing documents.

The hypothesis testing in this study is conducted to examine the effects of thin capitalization, return on assets, capital intensity, and audit fees on tax aggressiveness. The analytical methods employed include descriptive statistics, panel data regression analysis, coefficient of determination (R^2), simultaneous test (F-test), and partial test (t-test). The data were processed using EViews version 12. The regression model used in this study is as follows:

$$\text{Equation 1: } Y = \alpha + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \varepsilon$$

Where:

Y: Tax Aggressiveness

α : Constant (intercept)

X₁: Thin Capitalization

X₂: Return on Assets (ROA)

X₃: Capital Intensity

X₄: Audit Fee

β₁ – β₄: Regression Coefficients

ε: Error term, representing the estimation error in the model

The population in this study consists of banking companies listed on the Indonesia Stock Exchange (IDX) during the period 2019–2023, with a total of 95 firm-year observations. The sampling technique used is purposive sampling, resulting in a final sample of 19 companies and 95 data points used in the analysis.

Table 1. Measurement of Variables

Variable	Definition	Formula	Scale
Variable Dependent			
Tax Aggressiveness	Khuruna & Moser (2009) stated that tax aggressiveness is tax planning for companies with tax avoidance actions.	$ETR = \frac{\text{Income Tax Expense}}{\text{Income Before Tax}}$	Rasio
Variable Independent			
Thin capitalization	Thin capitalization is known as a system of formation in a company's capital structure where the composition of debt ownership is greater than capital ownership (Taylor & Richardson, 2012)	$DER = \frac{\text{Total Debt}}{\text{Equity}} \times 100$	Rasio
ROA	According to Brigham & Houston (2014), ROA measures a company's performance in using assets to generate net profit regardless of how the company finances the acquisition of those assets.	$ROA = \frac{\text{Net Profit}}{\text{Total Asset}} \times 100$	Rasio
Capital Intensity	According to Nugraha & Mulyani (2019) capital intensity is defined as investment activities in fixed assets run by the company. Capital intensity, which is defined as the level of capital intensity, is a financial decision taken by company management to increase profitability.	$\frac{\text{Total Net Fixed Assets}}{\text{Total Assets}}$	Rasio
Audit Fee	According to Elder, Beasley, and Arens (2011), audit fees are compensation received by auditors as payment for	$LNFEF = \ln(\text{audit services/fees})$	Nominal

Variable	Definition	Formula	Scale
	professional services in auditing financial statements, where the amount is determined based on working time, level of expertise, and complexity of the client.		

RESULTS AND DISCUSSION

Descriptive Statistical

In the descriptive statistical test results, the minimum, maximum, mean and standard deviation values are displayed.

Table 2. Descriptive Statistical Test Results

	AP	TC	ROA	CI	AF
Mean	0.242051	5.854316	0.027779	0.190158	11.91844
Median	0.228000	5.350000	0.009000	0.164000	11.43365
Maximum	0.901000	16.08000	0.801000	0.670000	22.87312
Minimum	0.000280	0.310000	0.000100	0.055000	5.096715
Std. Dev.	0.157966	2.970225	0.089446	0.107002	3.605930
Skewness	1.227351	1.046733	7.333497	2.319168	1.752592
Kurtosis	6.551061	4.848210	61.36617	9.454257	6.113994
Jarque-Bera Probability	73.76591 0.000000	30.86899 0.000000	14336.02 0.000000	250.0542 0.000000	87.01716 0.000000
Sum	22.99488	556.1600	2.639000	18.06500	1132.252
Sum Sq. Dev.	2.345619	829.2903	0.752048	1.076241	1222.256
Observations	95	95	95	95	95

Model selection test and classical assumption test

To determine the most appropriate model from three types of models, namely the common effect model, the fixed effect model, or the random effect model. Each model is tested using the Chow test, the Hausman test, and the Lagrange multiplie test. The test results can be seen in table 2, table 3, and table 4

Table 3. Chow Test

Redundant Fixed Effects Tests			
Equation: Untitled			
Test cross-section fixed effects			
Effects Test	Statistic	d.f.	Prob.
Cross-section F	3.257145	(18,72)	0.0002
Cross-section Chi-square	56.590757	18	0.0000

Source: Processed by Eviews 12 (2025)

Table 4. Hausman test

Correlated Random Effects - Hausman Test			
Equation: Untitled			
Test cross-section random effects			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	2.353077	4	0.6711

Source: Processed by Eviews 12 (2025)

Table 5. Lagrange Multiplier test

Lagrange Multiplier Tests for Random Effects			
Null hypotheses: No effects			
Alternative hypotheses: Two-sided (Breusch-Pagan) and one-sided (all others) alternatives			
	Test Hypothesis		
	Cross-section	Time	Both
Breusch-Pagan	15.19764 (0.0001)	0.202700 (0.6526)	15.40034 (0.0001)
Honda	3.898415 (0.0000)	-0.450222 (0.6737)	2.438240 (0.0074)
King-Wu	3.898415 (0.0000)	-0.450222 (0.6737)	1.255048 (0.1047)
Standardized Honda	4.779890 (0.0000)	-0.184802 (0.5733)	-0.642065 (0.7396)
Standardized King-Wu	4.779890 (0.0000)	-0.184802 (0.5733)	-1.351314 (0.9117)
Gourieroux, et al.	--	--	15.19764 (0.0002)

Source: Processed by Eviews 12 (2025)

Tabel 6. Results of the Best Panel Data Regression Model

No	Method	Testing	Result
1	“Chow-Test”	Common Effect Model vs Fixed Effect Model	Fixed Effect Model
2	“Hausman Test”	Fixed Effect vs Random Effect	Random Effect Model
3	“LM Test”	Common Effect Model vs Random Effect Model	Random Effect Model

Source: Processed by Eviews 12 (2025)

This study has successfully passed the classical assumption tests. Therefore, the next step is to conduct hypothesis testing to evaluate the proposed research hypotheses. The results of the hypothesis testing are presented as follows:

Tabel 7. Uji F

R-squared	0.117189	Mean dependent var	0.122589
Adjusted R-squared	0.077953	S.D. dependent var	0.129925
S.E. of regression	0.124759	Sum squared resid	1.400822
F-statistic	2.986767	Durbin-Watson stat	2.068804
Prob(F-statistic)	0.022991		
Unweighted Statistics			
R-squared	0.104137	Mean dependent var	0.242051
Sum squared resid	2.101352	Durbin-Watson stat	1.379124

Tabel 8. Uji T

Dependent Variable: AP				
Method: Panel EGLS (Cross-section random effects)				
Date: 05/25/25 Time: 22:19				
Sample: 2019 2023				
Periods included: 5				
Cross-sections included: 19				
Total panel (balanced) observations: 95				
Swamy and Arora estimator of component variances				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.131186	0.107448	1.220923	0.2253
TC	0.011021	0.007721	1.427310	0.1570
ROA	-0.562330	0.180579	-3.114039	0.0025
CI	0.208341	0.201862	1.032095	0.0379
AF	0.001875	0.006501	0.288443	0.7737

Discussion

The Effect of Thin Capitalization on Tax Aggressiveness

Based on the results of data analysis, the thin capitalization variable has no significant effect on tax aggressiveness. The t-test shows a probability (significance) value of 0.1570 > 0.05, indicating that thin capitalization does not influence tax aggressiveness. Therefore, Hypothesis H1 is rejected, meaning the first hypothesis is not supported. This finding differs from previous research conducted by Kezia Natasha Septiani and Suryadi Winata (2022), which indicated a significant relationship. The insignificance of thin capitalization in this study suggests that companies may prefer to adopt other, more complex or concealed strategies to reduce their tax burden.

The Effect of ROA on Tax Aggressiveness

The results of data analysis show that ROA has a significant effect on tax aggressiveness. The t-test yields a probability (significance) value of 0.0025 < 0.05, indicating

a statistically significant relationship. Hence, Hypothesis H2 is accepted, confirming the second hypothesis. This finding contradicts the research of Rahmadi and Sarpingah (2022), who found that ROA has no effect on tax aggressiveness. According to their study, lower ROA results in lower ETR values, indicating that companies with higher ROA may have more opportunities to engage in aggressive tax strategies.

The Effect of Capital Intensity on Tax Aggressiveness

The data analysis indicates that capital intensity has a significant effect on tax aggressiveness. The t-test yields a probability value of $0.03 < 0.05$, suggesting a statistically significant relationship. Thus, Hypothesis H3 is accepted, meaning the third hypothesis is supported. This result contrasts with the study conducted by R. Neneng Rina Andriani and Adil Ridlo Fb (2019), which found no significant relationship. They argued that the capital intensity ratio (CIR) is not the only factor influencing tax aggressiveness.

The Effect of Audit Fee on Tax Aggressiveness

The results show that audit fee has no significant effect on tax aggressiveness. The t-test indicates a significance value of $0.77 > 0.05$, meaning that audit fee does not influence tax aggressiveness. Therefore, Hypothesis H4 is rejected, implying that the fourth hypothesis is not supported.

This finding differs from the study conducted by Rivan Andi Ghifary, Munawar Muchlish, Mazda Eko Sri Tjahjono, and Fery Citra Febrianto (2022), which reported a negative relationship. They suggested that higher audit fees reflect the complexity of audit tasks, which may lead to stricter monitoring and lower levels of tax aggressiveness.

CONCLUSION

Based on the results of the analysis, this study concludes that return on assets (ROA) and capital intensity have a significant effect on tax aggressiveness, indicating that companies with higher profitability and investment in fixed assets are more likely to engage in aggressive tax strategies. In contrast, thin capitalization and audit fees do not significantly influence tax aggressiveness, suggesting that debt structure and audit costs are not primary considerations in tax planning strategies among the sampled banking companies. These findings contribute to the understanding that specific financial and operational characteristics drive tax aggressiveness more than external monitoring or leverage practices.

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