The Influence of Sales Growth and Capital Intensity on Tax Aggressiveness

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Abstract

This research scrutinizes the behavior of tax aggressiveness exhibited by manufacturing companies listed on the IDX over a five-year period (2016-2020), by using two independent variables as a primary factors sales growth and capital intensity and using Effective Tax Rate (ETR) as the measurement. While previous studies offer conflicting evidence, this paper provides clarity by employing robust empirical analysis. Findings reveal that capital intensity significantly and positively impacts tax aggressiveness, as firms utilize asset depreciation to reduce taxable income. Conversely, sales growth shows no significant effect on tax aggressiveness, suggesting that revenue fluctuations do not necessarily correlate with strategic tax planning. These results underscore the nuanced nature of corporate tax behavior and offer insights for investors, policymakers, and academics to better understand and regulate tax optimization practices. The study contributes to the broader discourse on balancing profit maximization and tax compliance in the corporate sector.

***Keywords**: Tax Aggressiveness, Capital Intensity, Effective Tax Rate (ETR).*

A. INTRODUCTION

In the intricate realm of corporate finance, companies are perpetually challenged to maintain a delicate equilibrium between their tax obligations and the optimization of profits. The concept of utility maximization, which is a principle that is deeply entrenched in economic theory, is at the core of this challenge. This principle motivates businesses to pursue the highest possible level of satisfaction from their economic decisions.

For businesses, taxes are a substantial source of conflict. While governments regard taxation as an essential source of revenue for public services, businesses perceive taxes as a direct depletion of their economic potential. Companies devise sophisticated strategies to minimize their tax burden, a practice known as tax aggressiveness, as a result of this fundamental conflict.

Tax aggressiveness is a complex strategy that can take on a variety of forms, from entirely legal tax planning to more controversial methods that circumvent regulatory compliance. In order to mitigate their tax liabilities, organizations implement numerous strategies, including strategic investments in fixed assets and the utilization of sales growth patterns. For example, capital intensity enables businesses to generate depreciation expenses that can significantly reduce their taxable income.

PT Adaro Energy is a prime example of this practice in the coal mining industry. The company is purportedly guilty of employing intricate transfer pricing schemes through a Singapore subsidiary to reduce tax payments to the Indonesian government and redirect profits. The company may have reduced its tax bill by millions of dollars between 2009 and 2017, as indicated by reports. This underscores the sophisticated methods that companies can employ to optimize their financial strategies.

The research on tax aggressiveness reveals a multifaceted landscape. The impact of factors such as capital intensity and sales growth on a company's tax strategies has been the subject of conflicting findings in various studies. The complex nature of corporate taxation and the ongoing strategic negotiations between businesses and tax authorities are underscored by this ongoing debate.

In the final analysis, the pursuance of tax aggressiveness is indicative of a more comprehensive corporate philosophy that prioritizes economic efficiency. Companies regard tax reduction as a legitimate strategy for ensuring long-term financial sustainability and maintaining a competitive advantage, rather than a corrupt practice. Nevertheless, this method continues to be a contentious issue, as it requires a delicate balance between the potential for economic exploitation and the optimization of legal taxes.

Researchers, investors, and company executives must comprehend tax aggressiveness in the complex world of corporate financial plans. The study investigates two key company tax behavior questions: How do sales growth and capital intensity affect tax aggressiveness?

The first study topic examines sales growth and tax aggression. Researchers want to know if sales volume increases tax planning aggressiveness. This study is essential to understanding how firms use financial success to optimize taxes. The study examines the complex relationship between sales dynamics and tax behavior to reveal corporations' tax management strategies.

The research also examines capital intensity as a tax aggression driver. The analysis will examine if a company's fixed asset investment significantly affects tax optimization. This intriguing research question examines how corporations might leverage asset investments to decrease their taxable income through depreciation and other financial methods.

This inquiry goes beyond academic curiosity. The report helps investors evaluate business financial plans. Investors can better assess a company's tax management risks and possibilities by understanding tax aggressiveness variables. The findings will help organizations understand tax planning's complexities. It covers how to strategically leverage sales growth and capital intensity under tax regulations. Business tax management can become more sophisticated and compliant with this knowledge.

Future scholars will profit much from this study. The research provides a solid framework for understanding tax aggression, opening new paths for study and laying the groundwork for company financial strategy research. The research tries to bridge theoretical understanding with actual tax strategy application. It simplifies the complex relationship between financial performance indicators and tax optimization to show how organizations balance profit maximization and tax compliance.

The comprehensive, sophisticated investigation will use empirical methodologies to draw conclusions from financial data. The research seeks to improve business financial decision-making by examining sales growth, capital intensity, and tax aggression.

B. LITERATURE REVIEW

1. Agency Theory Overview

Agency theory examines the dynamics between shareholders, who own the company, and the management team that runs it. It acknowledges the possibility that managers might prioritize their own goals, which could potentially conflict with the interests of the shareholders. This theory highlights the potential for conflicts which caused by information asymmetry, necessitating corporate governance mechanisms to align managerial actions with shareholder expectations.

2. Tax Aggressiveness Defined

Tax aggressiveness represents a strategic approach to minimizing tax liabilities through various methods. It encompasses a spectrum of practices, ranging from legal tax planning to potentially illegal tax evasion. The key distinction lies in how companies manipulate taxable income to reduce their tax burden while navigating regulatory boundaries. Two primary forms of tax aggressiveness exist:

a. Tax Avoidance: Legal strategies that exploit loopholes in tax regulations to minimize tax payments
b. Tax Evasion: Illegal methods of deliberately avoiding tax liabilities, often involving complex transaction schemes

3. Sales Growth Dynamics

Sales growth is a critical financial indicator that reflects a company's operational capacity and potential profitability. It represents the year-to-year change in sales volume and can influence a company's tax strategy. Higher sales growth can provide more opportunities for tax optimization and potentially increase the motivation for tax reduction strategies.

4. Capital Intensity Concept

Capital intensity describes how much a company invests in long-term assets like machinery and buildings. This investment is crucial for tax planning because depreciation of these assets allows companies to reduce their taxable income. Essentially, the more a company spends on these fixed assets, the greater the opportunity to lower their tax bill through depreciation deductions.

5. Relevant Literature Regarding the Variables Studied

The exploration of sales growth's impact on tax strategies reveals a multifaceted narrative. While early research by Swingly and Sukartha (2015) found no significant effect, subsequent studies by Fauzan et al. (2019) and others discovered varying relationships. Research, such as that conducted by Nugraha and Mulyani (2019), has shown a link between company growth and increased tax avoidance. This suggests that as companies expand, they develop more sophisticated tax planning strategies. Studies by Budhi et al. (2017) and Natalya (2018) have found that companies with substantial investments in fixed assets may have greater opportunities to minimize their tax liabilities. However, contradictory findings by Sinaga and Suardhika (2019) and Rahma et al. (2022) highlighted the nuanced nature of these relationships.

The diversity of research outcomes underscores a critical insight: corporate tax strategies are not simplistic or uniform. They are dynamic approaches influenced by multiple internal and external factors. Researchers like Andhari and Sukarta (2017) and Lestari et al. (2019) demonstrated that capital intensity can both positively and negatively impact tax aggressiveness, depending on various contextual elements.

These studies reveal that understanding tax strategies requires a holistic approach. They suggest that sales growth and capital intensity are not straightforward predictors of tax behavior, but rather complex indicators that interact with a company's unique financial landscape, strategic objectives, and operational complexities.

For corporate strategists and researchers, the key takeaway is clear: tax aggressiveness is a multidimensional phenomenon that defies simple categorization. It demands a nuanced understanding that goes beyond traditional financial metrics, recognizing the intricate interplay of strategic intent, regulatory environments, and corporate financial management.

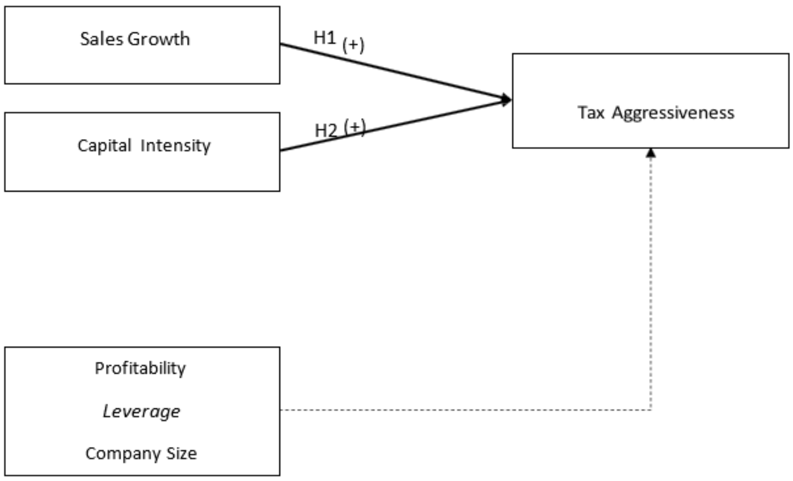

Figure 1 Research Framework

The image illustrates the conceptual framework or research model that depicts the relationship between the independent variables, namely Sales Growth and Capital Intensity, and the dependent variable, Tax Aggressiveness. The first hypothesis (H1) proposes a positive relationship between Sales Growth and Tax Aggressiveness, while the second hypothesis (H2) suggests a positive relationship between Capital Intensity and Tax Aggressiveness. Additionally, there are control variables, such as Profitability, Leverage, and Company Size, which indirectly influence the relationship between the independent and dependent variables. The arrows in the diagram represent the hypothesized causal relationships within the study.

6. Sales Growth Against Tax Aggressiveness

Sales growth plays a critical role in effective working capital management (Nugraha & Mulyani, 2019). By analyzing past sales data, companies can optimize the utilization of their available resources (Fauzan et al., 2019). Higher sales growth often correlates with improved tax avoidance strategies, suggesting strong tax management capabilities. Ultimately, profit after tax is widely considered a key indicator of successful company management (Marfiana et al., 2021). Several studies, including those by Nugraha and Mulyani (2019), Dewinta and Setiawan (2016), Wulandari and Purnomo (2021), and Marfiana and Putra (2021), have found a positive relationship between sales growth and tax avoidance. Based on these findings, the following hypothesis is proposed: H_1: Sales growth has a positive effect on tax aggressiveness.

7. Capital intensity against tax aggressiveness

Managers invest in fixed assets, such as machinery and buildings, to increase company profitability (Nugraha & Mulyani, 2019). This strategy, known as capital intensity, often involves legal tax avoidance. Companies with high capital intensity can reduce their tax liability by claiming depreciation expenses on their fixed assets. Depreciation directly impacts taxable profits, lowering the overall tax burden (Sonia & Suparmun, 2019).

Several studies, including those by Natalya (2018), Nugraha and Mulyani (2019), and Marfiana and Putra (2021), have found a positive relationship between capital intensity and tax avoidance. Based on these findings, the following hypothesis is proposed: H_2: Capital intensity has a positive effect on tax aggressiveness.

C. METHOD

The population, as defined by Sugiyono (2019) and Supangat (2017), refers to all the data that have a particular attribute that has been determined beforehand. Manufacturing companies that listed in IDX for a four-year (2016 – 2020) is the population. A sample, according to Supangat (2017) and Sugiyono (2019), is a subset of the population. To ensure representativeness, this study employs purposive sampling, a method that selects specific samples based on predefined criteria. The criteria must fulfilled by the population as a sample are:

1. Manufacturing sector companies listed on the IDX in 2016-2020.
2. Published annual reports in 2016 – 2020.
3. Have a complete data disclose several factors in the financial statements, including total debt, equity, net profit after tax, and total assets.

4. Companies that have positive profits. Companies with negative profits do not pay income tax, which will cause bias in the calculation of tax aggressiveness. Calculating tax aggressiveness involves the tax burden with the profit before tax. If the tax burden is 0 (due to negative profits), the result is 0. The result is biased because there is no tax calculation.

The source of this research data is secondary data derived from the financial statements for 2016-2020 published on IDX's website and those published by the company through the company's website and the S&P Capital IQ database.

The empirical model used in this study is a regression analysis used to determine the relationship between dependent variables that are quantitative and other independent variables that are qualitative and quantitative. Control variables are used in the study to minimize bias. Based on the hypothesis previously built and the variables that have been described, the author proposes the following research model:

$$TAG = a0it + \beta_{1SGROWTHi,t} + \beta 2CAPINTi,t + \beta_{3ROA\,i,t} + \beta 4LEV_{i,t} + \beta 5SIZEi,t + \varepsilon_{i,t}$$

Information:

TAG	: Corporate tax aggressiveness in year t (stated in ETR)
$\beta_{1SGROWTHi,t}$	: The company's sales growth in the year t
β2CAPINTi, t	: The company's capital intensity in the year t
β3ROA i,t	: Company ROA in year t
β4LEV i,t	: Leverage Company in Year T
β5SIZE i,t	: Company size in year t
ε i,t	: Error
α0it	: Constant

The dependent variable, tax aggressiveness, is the central focus of this study (Sekaran & Bougie, 2013). Tax aggressiveness, as defined by Bird & Davis-Nozemack (2018), involves pursuing tax reduction strategies that may not fully align with the government's intended tax policy. This aligns with Frank et al. (2009), who describe tax aggressiveness as management's efforts to minimize taxable income through various tax planning activities.

This study measures tax aggressiveness using Effective Tax Rate (ETR) as a proxy (Laguir, et al., 2015). ETR, a common metric in academic research, reflects the actual tax burden relative to the ideal tax rate (Wulandari & Purnomo, 2021). It is deliberated as the ratio of income tax expense to profit before tax. This approach is chosen due to its frequent use in recent empirical tax research and its established role in capturing tax aggressiveness. According to Sangata et al (2020), ETR can be formulated as follows:

$$ETR = \frac{Income\ tax\ burden}{Profit/income\ before\ tax}$$

Independent variables can affect the results of bound variables (Sekaran & Bougie, 2013). These influences can be positive or negative. In this study, there are two independent variables, namely sales growth and capital intensity.

Sales growth is a primary measure of a company's performance, reflecting its past investment success and predicting future prospects. It signifies the company's demand and competitive position within its industry. Sales growth is typically calculated as the percentage change in sales between two periods that the mechanism of calculation same with the research of Kim & Im (2016) and Hdayat (2018).. Sales growth can be formulated as follows:

$$ETR = \frac{(Salest - Salest - 1)}{Salest - 1}$$

Information:
Sales : Sales growth
Salest : Sales growth in year t
Salest-1 : Sales growth in Q1

D. RESULTS AND DISCUSSION

1. Descriptive Statistical Analysis

Descriptive statistical analysis seeks to elucidate a quantitative summary that characterizes the statistical outcomes of each variable employed in the research model. Descriptive statistical analysis presents each tested variable's mean, standard deviation (Std. Dev), minimum, and maximum values. The dependent variable is tax aggressiveness (ETR), while the independent variables include sales growth (SGROWTH) and capital intensity (CAPINT), as illustrated in tables 1. and 2.

Table 1. Results of Descriptive Statistical Analysis

Variable	Obs	Mean	Std. Dev.	Min	Max
ETR	125	29.09205	14.79447	2.6206	93.5892
sgrowth	125	.0884817	.1407256	-.3195407	.5040262
capint	125	.4438639	.1622107	.128888	.7965606
roa	125	.0912621	.0611755	.0046107	.2720374
lev	125	.1391254	.1323582	.0001739	.5252368
Size	125	15.46583	1.419989	13.04611	18.9101

Source: STATA Data Processing Results Ver. 16

The STATA program analysis presents a summary of descriptive statistics for the dependent variable, ETR. The average value is 29.09205, with a std. dev of 14.79447, a min value of 2.6206, and a max value of 93.5892. The minimum effective tax rate (ETR) of 2.6206 was recorded for PT Fajar Surya Wisesa Tbk in 2020. In contrast, the maximum ETR of 93.5892 was observed for PT Gema Grahasarana Tbk in the same year. Std. dev quantifies the dispersion of data within a sample, indicating the proximity of data points to the mean value. The ETR's std. dev is less than the mean, indicating that the sample can effectively represent the overall data of the ETR variables.

The SGROWTH result an indicating an average value of 0.0884817 and a std. dev of 0.1407256. This result shows that a std. dev > the average refers to indicates an uneven data distribution, as the differences among the data points are more significant than the average value. The minimum value of -0.3195407 was recorded for PT Jasuindo Tiga Perkasa Tbk in 2020, while the maximum value of 0.5040262 was observed for PT Sekar Bumi Tbk in the same year. The CAPINT result an average value of 0.4438639 and a std. dev of 0.1622107. The average proportion of net fixed assets in manufacturing sector companies relative to their total assets is 44.39%. The minimum value of 0.128888 was recorded for PT Indofood CBP Sukses Makmur Tbk in 2020, while the maximum value of 0.7965606 was observed for PT Semen Baturaja (Persero) Tbk in 2016.

The analysis reveals an average ROA of 0.0912621 with a atd. dev of 0.0611775. The lowest ROA (0.0046107) was observed for PT Sekar Bumi Tbk in 2019, while the highest (0.2720374) was recorded for PT Selamat Sempurna Tbk in 2017.

The analysis shows an average LEV of 0.1391254 with a std. dev of 0.1323582. The lowest LEV (0.0001739) was recorded for PT Sekar Bumi Tbk in 2020, whereas the highest (0.5252368) was observed for PT Sawit Sumbermas Sarana Tbk in 2019.

The SIZE has an average value of 15.46583 and a std.dev of 1.419989. The minimum value of 13.04611 was recorded for PT Sariguna Primatirta Tbk in 2016, while the maximum value of 18.9101 was observed for PT Indofood Sukses Makmur Tbk in 2020.

Table 2. Results of Descriptive Statistical Analysis After Treatment

Variable	Obs	Mean	Std. Dev.	Min	Max
ETR	125	3.258917	.503116	.9634033	4.538915
sgrowth	125	.2603635	.1268646	-7.44e-15	.6007944
capint	125	-.8790193	.3707622	-2.048811	-.227452
roa	125	-2.649713	.7873526	-5.379384	-1.301816
lev	125	-2.686565	1.503962	-8.656857	-.6439062
size	125	15.46583	1.419989	13.04611	18.9101

Source: STATA Data Processing Results Ver. 16

Descriptive statistics generated by STATA software provide insights into the key variables for dependent variable –The average ETR is 3.258917, with a std. dev of 0.503116. The lowest ETR (0.9634033) was observed for PT Fajar Surya Wisesa Tbk in 2020, while the highest (4.538915) was recorded for PT Gema Grahasarana Tbk in the same year.

The average SGROWTH is 0.2603635, with a std. dev of 0.1268646. The lowest SGROWTH (-7.44e-15) was observed for PT Semen Indonesia (Persero) Tbk in 2019, while the highest (0.6007944) was recorded for PT Jasuindo Tiga Perkasa Tbk in 2020.

The average CAPINT is 0.8790193, with a std. dev of 0.3707622. The lowest CAPINT (-2.048811) was observed for PT Indofood CBP Sukses Makmur Tbk in 2020, while the highest (-0.227452) was recorded for PT Semen Baturaja (Persero) Tbk in 2016. As a control variable, ROA has an average value of -2.649713 and a std. dev of 0.7873526. The lowest ROA (-5.379384) was observed for PT Sekar Bumi Tbk in 2019, while the highest (-1.301816) was recorded for PT Selamat Sempurna Tbk in 2017. LEV as a control variable has an average value of -2.686565 and a std. dev of 1.503962. The lowest LEV (-8.656857) was observed for PT Sekar Bumi Tbk in 2020, while the highest (-0.6439062) was recorded for PT Sawit Sumbermas Sarana Tbk in 2019. The average value of SIZE as a control variable is 15.46583 and a std. dev of 1.419989. The lowest

SIZE (13.04611) was observed for PT Sariguna Primatirta Tbk in 2016, while the highest (18.9101) was recorded for PT Indofood Sukses Makmur Tbk in 2020.

2. Correlation Analysis

Correlation analysis is a statistical method used to investigate the relationship between two variables. The value of this analysis is denoted by 'r' and has a range from -1 to 1 that determines the direction and strength of the correlation. An r value approaching -1 or 1 signifies a robust correlation between the two variables, whereas a r value around 0 denotes a lack of correlation between them. This study uses pairwise correlation for correlation analysis.

Table 3. Results of Correlation Analysis

	ETR	Sgrowth	capint	Roa	Lev	size
etr	1.0000					
sgrowth	-0.0805	1.0000				
	0.3720					
capint	-0.1151	-0.0215	1.0000			
	0.2011	0.8118				
roa	-0.3069*	0.0441	-0.3280*	1.0000		
	0.0005	0.6256	0.0002			
lev	0.2348*	0.08844	0.1903*	-0.3664*	1.0000	
	0.0084	0.3267	0.0335	0.0000		
size	0.0175	-0.0393	-0.0792	0.0806	0.3713*	1.0000
	0.8460	0.6636	0.3797	0.3714	0.0000	

Source: STATA Data Processing Results Ver. 16

The correlation analysis results marked with an asterisk (*) indicate a significant association between variables at the 5% level. The correlation analysis results indicate that several variables correlate with the ETR dependent variable, notably the control variable ROA, which has a coefficient of -0.3069 (negative), and LEV, with a coefficient of 0.2348 (positive), both demonstrating a significant correlation with the ETR variable.

SGROWTH had a coefficient of -0.0805, and CAPINT, with a coefficient of -0.1151, demonstrating no significant link with the dependent variable ETR. Another control variable in this study is SIZE, which has a correlation coefficient of 0.0175 (positive), indicating an insignificant association with the dependent variable.

Table 4. Results of Correlation Analysis After Treatment

	ETR	Sgrowth	capint	Roa	Lev	size
etr	1.0000					
sgrowth	-0.0969	1.0000				

	0.2824					
capint	-0.2103*	-0.0066	1.0000			
	0.0186	0.9420				
roa	-0.2514*	-0.0796	-0.2659*	1.0000		
	0.0047	0.3776	0.0027			
lev	0.0092	-0.0070	0.3260*	-0.2290*	1.0000	
	0.9187	0.9384	0.0002	0.0102		
size	0.0203	0.0540	-0.1235	0.1037	0.3663*	1.0000
	0.8221	0.5495	0.1699	0.2498	0.0000	

Source: STATA Data Processing Results Ver. 16

The correlation analysis results indicate several variables correlate with the ETR dependent variable. Notably, the CAPINT independent variable exhibits a coefficient of -0.2103, while the ROA control variable shows a coefficient of -0.2514, indicating a significant negative correlation with the ETR variable. Other independent variables, specifically SGROWTH with a coefficient of -0.0969 (negative), along with control variables LEV with a coefficient of 0.0092 (positive) and SIZE with a correlation coefficient of 0.0175 (positive), indicate no significant correlation with the dependent variables.

3. Classical Assumption

The conduction of a series of classical assumption tests is crucial for ensuring the reliability and accuracy of the equation. These tests help confirm that the model's results are unbiased, consistent, and efficient (meeting the BLUE criteria). Specifically, we tested for normality of residuals, the presence of multicollinearity, heteroscedasticity, and autocorrelation within the data.

a. Normality Test

To minimize the risk of biased results, it assessed whether the research data follows a normal distribution. Several tests were employed to check for normality, including the Shapiro-Wilk test, the Shapiro-Francia test, and the Skewness/Kurtosis test. In this study, primarily utilized the Shapiro-Wilk test, and the results are as follows:

Table 5. Normality Test Results

Variable	Obs	W	V	z	Prob>z
ETR	125	0.73828	26.069	7.321	0
sgrowth	125	0.99024	0.972	-0.064	0.52543
capint	125	0.93383	6.591	4.234	0.00001
Roa	125	0.91657	8.311	4.755	0
lev	125	0.8782	12.133	5.604	0
size	125	0.96384	3.602	2.877	0.002

Source: STATA Data Processing Results Ver. 16

Table 5. demonstrates that most variables deviate from a normal distribution, as indicated by probability values below 0.05, with the exception of SGROWTH. Data that deviates from a normal distribution can be addressed effectively. This study employed a treatment method involving transformation by applying natural logarithms. The treatment results are presented in Table 6., indicating no change in the data's normal distribution.

Table 6. Results of the Normality Test After Treatment

Variable	Obs	W	V	z	Prob>z
ETR	125	0.80468	19.456	6.664	0.00000
sgrowth	125	0.97566	2.425	1.989	0.02335
capint	125	0.96820	3.168	2.589	0.00482
Roa	125	0.95854	4.130	3.185	0.00072
lev	125	0.91914	8.054	4.684	0.00000
size	125	0.96384	3.602	2.877	0.00200

Source: STATA Data Processing Results Ver. 16

The analysis of Table 6, which presents the results of the Shapiro-Wilk normality test, indicates that the data does not follow a normal distribution. This is evidenced by a probability of less than 0.05 for each variable, except the SGROWTH variable. The findings are consistent with those reported in Table 4.6. This study presents the results of tests conducted before and after treatment, indicating that the data was not normally distributed. The justification for this conclusion is supported by regression testing, which demonstrated improved outcomes in significance. Furthermore, according to the Central Limit Theorem, observation data exceeding 30 can be considered to follow a normal distribution. This study meets the criteria, utilizing a dataset comprising 125 observations.

b. Multicollinearity Test

This test assesses the presence of high or perfect correlations among the independent variables in an equation. This test ensures that the model is not affected by multicollinearity, which occurs when independent variables are highly correlated with each other. The test utilizes the Variance Inflation Factor (VIF) or Tolerance (TOL) to identify multicollinearity. A VIF value greater than 10 or a TOL value less than 0.1 typically indicates the presence of multicollinearity.

Table 7. Multicollinearity Test Results

Variable	VIF	1/VIF
lev	1.47	0.679437
roa	1.33	0.752439
size	1.26	0.790927
capint	1.14	0.877091
sgrowth	1.03	0.974395
Mean VIF	1.25	

Source: STATA Data Processing Results Ver. 16

Table 8 Multicollinearity Test Results After Treatment

Variable	VIF	1/VIF
lev	1.44	0.692188
size	1.29	0.774875
capint	1.24	0.804378
roa	1.14	0.875209
sgrowth	1.01	0.986615
Mean VIF	1.23	

Source: STATA Data Processing Results Ver. 16

The analysis shows that the average Variance Inflation Factor (VIF) is 1.25 in Table 7, using data before treatment, and 1.23 in Table 8, using data after treatment. These low VIF values indicate a lack of significant correlation between the independent variables, suggesting that the model is free from the issue of multicollinearity.

c. Heteroscedasticity Test

This test aims to detect imbalance in the variation of residuals or **e**rror**s** in the research data within the equation model. The Breusch-Pagan/Cook-Weisberg test used in this study by detecting the heteroscedasticity from the value of Pob > $chi^2 <$ 0.05.

Table 9. Breusch-Pagan/Cook-Weisberg Test Results

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho	: Constant variance
Variables	: fitted values of etr
chi2 (1)	= 56.21
Prob > chi2	= 0.0000

Source: STATA Data Processing Results Ver. 16

Table 10. Results of Breusch-Pagan/Cook-Weisberg Test after Treatment

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho	: Constant variance
Variables	: fitted values of etr
chi2 (1)	= 0.01
Prob > chi2	= 0.9305

Source: STATA Data Processing Results Ver. 16

The test showed a Prob>chi2 value in table 4.10 of 0.0000, while table 4.11 showed a value of 0.9305. The test results in Table 4.9 meet the criteria of this study with a significance level of 5%, so it can be stated that no heteroscedasticity in the regression model. Therefore, the researcher used research data that had been treated, where the value of Prob>chi2 > 0.05.

4. Multiple Linear Regression Analysis

This analysis is employed to test the research hypotheses. Following the verification of classical assumptions, the regression model is estimated. The statistical significance of the relationship between the independent variables and the dependent variable is sought to be determined by this analysis. Based on the regression analysis conducted using the STATA program, the results in Table 11 and Table 12. are obtained as follows:

Table 11. Regression Test Results

Source	SS	df	MS
Model	4854.37	5	970.874
Residual	22286.31	119	187.2799
Total	27140.68	124	218.8764

Number of obs	=	125
F (5, 119)	=	5.18
Prob > F	=	0.0002
R-squared	=	0.1789
Adj R-squared	=	0.1444
Root MSE	=	13.685

ETR	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
sgrowth	-9.70176	8.84696	-1.10	0.275	-27.21962	7.816103
capint	-23.85111	8.089708	-2.95	0.004	-39.86954	-7.832677
roa	-75.22614	23.15834	218.8764	0.002	-121.082	-29.37031
lev	22.29178	11.26443	1.98	0.05	-0.012925	44.59648
size	-0.58115	0.973154	-0.6	0.552	-2.508089	1.345794
_cons	53.28899	15.20615	3.5	0.001	23.1793	83.39868

Source: STATA Data Processing Results Ver. 16

Table 12. Regression Test Results After

Source	SS	Df	MS
Type	5.108134	5	1.021627
Residual	26.27945	119	.220836
Total	31.38759	124	.253126

Number of obs	=	125
F (5, 119)	=	4.63
Prob > F	=	0.0007
R-squared	=	0.1627
Adj R-squared	=	0.1276
Root MSE	=	.46993

ETR	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
sgrowth	-0.50172	0.334896	-1.5	0.137	-1.164851	0.1614037
capint	-0.41767	0.126911	-3.29	0.001	-0.6689626	-0.1663709
roa	-0.21662	0.057293	-3.78	0.000	-0.3300605	-0.1031703
lev	0.008552	0.033727	0.25	0.800	-0.0582306	0.0753342
size	0.005285	0.033762	0.16	0.876	-0.0615668	0.0721358
_cons	2.389687	0.600236	3.98	0.000	1.201161	3.578214

Source: STATA Data Processing Results Ver. 16

5. **Hypothesis Test**

The coefficient of determination (R^2) test assesses how much the model accounts for the variation in dependent variables. The coefficient of determination ranges from 0 to 1. A low R^2 value indicates that independent factors cannot account for the variation in dependent variables (Meilina & Sugiyarti, 2017). If the determination coefficient test yields an R^2 value approaching 1, the independent variable can supply the necessary information for predicting the dependent variable.

According to Table 4.13, the overall R2 value for the regression model is 0.1627. The independent factors, GROWTH and CAPINT, account for 16.27% of the variance in the dependent variable, ETR. The remaining 83.73% can be attributed to variables not encompassed in this research methodology.

This test assesses the combined influence of GROWTH and CAPINT on ETR. The F-test statistic, with a value of 4.63 and a significance level of 0.0007 in Table 4.13, is statistically significant at the 5% level. This indicates that both GROWTH and CAPINT, as a group, have a significant impact on an ETR.

This test employs a significance level of 0.05 (α = 0.05) to statistically evaluate the hypothesis. The findings presented in Table 4.13 lead to the following conclusions:

The t-test results presented in Table 4.13 indicate that the regression coefficient of GROWTH is -0.5017234, with a significance value of 0.137, which exceeds the threshold of 0.05. The coefficient indicates that a 1 unit increase in the company's sales growth results in a decrease of 0.5017234 units in the ETR, assuming other variables remain constant. The significance level of the SGROWTH variable exceeds the threshold established in the study, indicating that SGROWTH does not significantly influence tax aggressiveness. Consequently, sales growth does not influence tax aggressiveness, leading to rejecting H1.

The t-test results in table 4.13 indicate that the regression coefficient for CAPINT is -0.4176667, with a significance value of 0.001, which is less than 0.05. The coefficient indicates that a 1 unit increase in the company's sales growth results in a decrease of 0.4176667 units in the ETR, assuming other variables remain constant. The measurement of dependent variables through ETR indicates that the ETR value is inversely related to tax aggressiveness. A decrease in the value of the ETR indicates an increase in the company's tax aggressiveness. The results of this test are interpreted from the data. Thus, a higher capital intensity correlates with a lower effective tax rate (ETR), enhancing tax aggressiveness. In conclusion, capital intensity positively influences tax aggressiveness, leading to the acceptance of H2.

The initial analysis found no evidence that sales expansion significantly impacts a company's tax aggressiveness. This suggests that fluctuations in sales growth among the companies we studied do not consistently lead to more or less aggressive tax behavior. Consequently, we reject the hypothesis that sales growth positively influences tax aggressiveness. Swingly & Sukartha (2015), Oktaviyani & Munandar (2017), Permata et al. (2018), and Aprianto & Dwimulyani (2019) result there is no any attachment that can be provided by sales growth and tax aggressiveness.

Sales growth indicates the progression of sales figures annually. Enhanced expansion enables organizations to augment their operational capability (Budiman & Setiyono, 2012). Increased sales growth of a corporation correlates with higher earnings. It is presumed that companies with substantial profits do not partake in tax aggression.

Because the corporation can effectively oversee its profits and expenses, including the requisite income tax obligations, firms exhibiting substantial sales growth remain obligated to remit taxes (Oktaviyani & Munandar, 2017). The study's findings indicate that sales growth does not influence tax aggressiveness, suggesting that it is not a significant determinant in identifying tax aggressiveness. Variations in sample types may account for discrepancies in test findings observed in prior research. Furthermore, the early 2020 pandemic significantly affected all corporate sectors, prompting companies to receive tax incentives to bolster sustainability efforts.

The findings from the second hypothesis test indicate that capital intensity exerts a positive influence on tax aggressiveness. This indicates that the effective tax rate (ETR) tends to decrease as capital intensity increases, thereby enhancing tax aggressiveness. Consequently, any rise in capital intensity will markedly enhance the tax aggressiveness exhibited by companies, thereby validating the second hypothesis (H2), which posits that capital intensity positively influences tax aggressiveness. The findings of this examination align with the scholarly work of Andhari & Sukartha (2017), Budhi et al. (2017), Natalya (2018), Nugraha & Mulyani (2019); Dwiyanti & Jati (2019); Marfiana et al. (2021); and Rahma et al. (2022), which posits that capital intensity positively influences tax aggressiveness.

The organization's allocation of resources towards fixed assets will result in a depreciation encumbrance associated with the invested fixed assets. The amount of depreciation expense that a company can deduct for tax purposes in Indonesia depends on how the specific fixed asset is categorized under Indonesian tax regulations. Organizations tend to allocate resources towards assets, resulting in a significant depreciation burden. This burden subsequently diminishes the company's profit, influencing its tax responsibilities (Andhari & Sukartha, 2017). This compels the organization to demonstrate its capacity for consistent profitability. Organizations will engage in tax planning by augmenting their asset investments to mitigate the tax liabilities incurred, thereby enhancing the net profits realized (Windaswari & Merkusiwati, 2018).

E. CONCLUSION

The findings of this study reveal important insights into the factors influencing tax aggressiveness. Firstly, the analysis shows that sales growth does not significantly affect tax aggressiveness. This suggests that fluctuations in a company’s revenue generation do not play a substantial role in shaping its tax strategies. Companies may prioritize other factors over sales performance when making decisions about tax planning. Secondly, the study establishes a positive relationship between capital intensity and tax aggressiveness. Firms with higher investments in fixed assets tend to engage more actively in tax planning strategies. This may be due to the increased opportunities for tax deductions or incentives associated with capital-intensive operations. These conclusions contribute to a deeper understanding of the determinants of tax aggressiveness and offer valuable insights for policymakers and corporate decision-makers in addressing and regulating corporate tax practices effectively.

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