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The effect of profitability, leverage, and capital intensity on tax avoidance (Empirical study of food and beverage companies listed on the IDX for the period 2022-2024)

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Abstract
This study aims to analyze the factors that influence tax avoidance in food and beverage companies listed on the Indonesia Stock Exchange (IDX) for the 2022-2024 period. The independent variables used in this study are profitability, leverage, and capital intensity, while the dependent variable used is tax avoidance. This study uses agency theory and trade-off theory to generate testable hypotheses and derive empirical findings from hypothesis testing.
The population in this study consists of food and beverage companies listed on the IDX for the 2022-2024 period. The sample was determined using the purposive sampling method, resulting in a total of 130 observations eligible for testing. The multiple linear regression analysis method was used to analyze the data.
The results of the study indicate that profitability and leverage have a positive and significant effect on tax avoidance, while capital intensity has no effect on tax avoidance.

Keywords: Profitability, leverage, capital Intensity and tax avoidance

Introduction

Essentially, making a profit is the main objective of companies in the business world (Moeljono, 2020) [19]. In general, companies generate profits for various purposes, such as improving the welfare of the company and paying the company's expenses. One of the expenses that companies must pay is tax.
Legally, Article 1 paragraph 1 of Law Number 28 of 2007 concerning General Provisions and Tax Procedures explains that taxes are mandatory contributions that must be paid by individuals and entities to the state, are compulsory based on the provisions of laws and regulations, are not accompanied by direct compensation received by the payer, and is allocated to finance the needs of the state in order to achieve widespread prosperity for the people. Through the optimization of tax revenue, the state can carry out the function of income redistribution, encourage economic growth, and finance various development programs oriented towards the public interest (Syafila *et al*., 2025) [34].
Taxes have a vital function in national affairs, especially in facilitating development because of their position as the main source of government revenue that funds all state activities (Syaiful *et al*., 2024) [35]. This shows that taxes perform a budgetary function, namely as the main instrument for filling the state coffers, which is crucial for financing government operations and national development in order to realize the welfare of the people. In addition, taxes are also related to the regulatory function, where taxes serve as a policy instrument to control economic growth and achieve certain strategic objectives, both in the economic and non-economic sectors, through the application of fiscal regulations to the private sector (Ginting & Irawan, 2022) [11].
Indonesia's state revenue is still highly dependent on the taxation sector. According to GoodStats (2025), during the 2020-2024 period, the contribution of tax revenue to state revenue will be in the range of 61.50% to 67.98%, with Indonesia's tax ratio only at 8.33% to 10.38%. This figure is still far below the Asia Pacific average of 19% and the IMF minimum standard of 15%, indicating that the potential for tax revenue in Indonesia has not been optimally explored.
This condition indicates the existence of a tax gap, one of which is influenced by tax avoidance practices carried out by companies to minimize their tax obligations by exploiting loopholes in tax regulations (Niandari & Novelia, 2022) [20]. This practice arises due to a difference in interests between the government, which seeks to maximize tax revenue, and companies, which seek to minimize their tax burden in order to increase profits (Sanisuhari *et al*., 2022) [26].
A company's decision to engage in tax avoidance is influenced by various internal factors, including profitability, leverage, and capital intensity. According to Saragih & Halawa (2022) [27], profitability is defined as the ability of a business entity to earn profits in a certain period, which is influenced by sales volume, asset size, and the amount of equity capital. Companies with high profitability tend to have a larger tax burden, giving them an incentive to engage in tax savings (Aini & Kartika, 2022) [1]. Therefore, this study aims to analyze the effect of profitability, leverage, and capital intensity on tax avoidance.
In addition to profitability, leverage is also a factor that is thought to influence tax avoidance practices. Leverage reflects the use of debt as a source of company funding. The use of debt incurs interest payment obligations, which under tax regulations can be deducted from taxable income (tax deductible expense). This condition provides an incentive for companies to increase their use of debt as a strategy to reduce their tax burden (Firmansyah & Bahri, 2022) [8]. Therefore, the higher the level of leverage of a company, the greater the opportunity for the company to engage in tax avoidance through the use of tax deductions from interest expenses.
Another factor that influences tax avoidance practices is capital intensity or fixed asset intensity. Capital intensity describes the proportion of a company's investment in fixed

assets. High fixed asset ownership will result in depreciation expenses that can be recognized as a deduction from gross income in tax calculations. Thus, the greater a company's capital intensity, the greater the depreciation expense that can reduce taxable income, thereby potentially reducing the amount of tax payable (Pravitasari & Khoiriawati, 2022) [22]. Although various studies have examined the influence of profitability, leverage, and capital intensity on tax avoidance, previous research results still show inconsistencies. These differences indicate that the relationship between these variables and tax avoidance is not yet conclusive and requires further testing, especially in the context of different economic periods. The post-COVID-19 pandemic economic recovery phase is also thought to influence companies' behavior in determining tax management strategies, making it important to conduct research with more up-to-date periods (Zawitri *et al*. 2024) [38].

Companies in the food and beverage sector are included in the manufacturing industry group, which faces high market competition and plays a strategic role in driving the GDP (Gross Domestic Product) growth of the non-oil and gas processing industry (Alfarasi & Muid, 2022) [2]. This sector is one of the main contributors to the gross domestic product of the non-oil and gas processing industry and has shown fairly stable growth in recent years. The high level of business activity and profit potential in this sector make it an important source of tax revenue for the country. However, at the same time, these conditions can also encourage companies to pursue tax efficiency through various strategies, including tax avoidance practices. Therefore, this study focuses on food and beverage companies listed on the Indonesia Stock Exchange. Based on this description, this study aims to analyze the effect of profitability, leverage, and capital intensity on tax avoidance in food and beverage companies listed on the Indonesia Stock Exchange for the period 2022–2024.

Theoretical Framework and Hypothesis Formulation

This section explains the theory used in the research, the conceptual framework that describes the relationships between the research variables, and the development of research hypotheses.

Agency Theory

The agency theory proposed by Jensen and Meckling (1976) [13] explains the relationship between the principal and the agent. In this relationship, the principal gives the agent responsibility for running the company and delegates decision-making authority with the aim of maximizing profits. However, when both parties seek to fulfill their respective interests, there is a possibility that the agent will not always act in accordance with the principal's interests. This misalignment of interests can lead to agency problems. Agents generally have broader access to information about the company's internal conditions and business environment than principals who are not directly involved in the management of the company. This condition creates information asymmetry that can trigger moral hazard and adverse selection problems (Darrough & Stoughton, 1986) [7].

Conflicts of interest in agency relationships can also give rise to agency costs, which are costs incurred by principals to monitor and control the behavior of agents so that they remain in line with the company's objectives (Singh *et al*., 2021) [29]. Jensen and Meckling (1976) [13] classify agency costs into monitoring costs, bonding costs, and residual costs. In addition, conflicts of interest between principals and agents can also affect corporate decision-making, including in taxation policy. The implementation of a self-assessment system in Indonesia gives companies the authority to calculate, pay, and report their tax obligations independently, thereby potentially opening up opportunities for manipulation of taxable income (Nugraha & Meiranto, 2015) [21]. Agency problems can also occur between the government and companies, where the government as the principal expects companies to fulfill their tax obligations in accordance with applicable regulations, while companies as agents tend to maximize profits by minimizing their tax burden. This condition shows a difference in interests between the government and companies in the management of tax obligations (Gazali *et al*., 2020) [9].

Trade off Theory

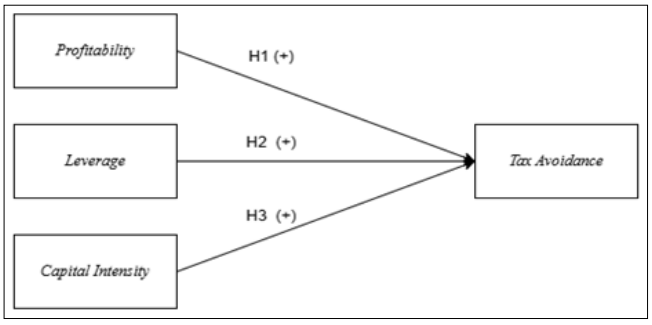
The trade-off theory, which originated from the thinking of Modigliani and Miller (1963) [18], emphasizes the importance of tax factors in corporate capital structure decisions. The existence of taxes provides an advantage for debt-based financing because interest payments are tax deductible, while dividends do not receive the same treatment. This theory was later developed by Kraus and Litzenberger (1973) [15], who introduced the concept of balancing the tax shield benefits of debt with the cost of financial distress. Within this framework, companies will increase their debt as long as the present value of the tax savings obtained is still greater than the potential cost of financial distress that may arise (Setyaningsih *et al*., 2023) [28].

The trade-off theory explains that companies consider various factors such as taxes, agency costs, and financial distress costs in determining the optimal capital structure. Companies rationally balance the tax benefits of using debt with the risk of bankruptcy, interest expenses, and potential agency conflicts (Brigham & Houston, 2001) [5]. Therefore, full use of debt is rarely found because the higher the leverage, the greater the risk of default and the costs that must be borne by the company. In this context, tax reductions on debt interest expenses result in tax shield benefits that can lower capital costs and increase company value. Thus, the use of leverage can be viewed as a rational strategy as long as the tax benefits obtained are still greater than the risk of bankruptcy or financial pressure (Prayogi & Fibriani, 2025) [23].

Theoretical Framework

The following framework illustrates the relationship between the independent variable and the dependent variable.

Image 1: Theoretical Framework



Hypothesis Formulation

The Effect of Corporate social responsibility on Tax Avoidance

Based on the agency theory perspective, principals generally focus on the long-term sustainability of company value, including compliance with regulations to avoid legal sanctions and financial losses. Conversely, agents (management) tend to focus on achieving short-term performance to maximize personal interests, such as obtaining bonuses, compensation, and enhancing managerial reputation. These differences in interests can encourage management to engage in tax avoidance practices in order to maintain the company's profit performance (Maghfiroh & Laksito, 2025) [17].

Profitability is an indicator of management's success in managing company operations to generate profits. However, an increase in company profits will also increase the tax liabilities that must be paid, thereby reducing the company's net profit. This condition encourages management to implement tax avoidance strategies to minimize the tax burden and maintain the company's financial performance in the eyes of the principal (Wardhana & Meiranto, 2025). In addition, companies with high profitability have greater resources and flexibility in designing tax saving strategies by taking advantage of loopholes in tax regulations (Rahmawati & Nani, 2021) [24].

Previous studies have shown that profitability has a positive effect on tax avoidance (Hardana & Hasibuan, 2023; Suwaldiman & Az Zahra, 2025; Supardi & Kunawangsih, 2025) [12, 32, 33]. However, other studies show different results, where profitability has a negative effect (Wangsa & Tanno, 2024) [36] or no effect on tax avoidance (Zahrani *et al*., 2023) [37]. Based on this description, the proposed hypotheses are:

H1: Profitability has a positive effect on tax avoidance.

The Effect of Leverage on Tax Avoidance

Based on trade-off theory, companies will balance the benefits and costs in determining the optimal capital structure. Companies can increase their use of debt to obtain tax savings as long as the benefits outweigh the risk of bankruptcy or agency costs that may arise (Aulia & Mahpudin, 2020) [4]. Companies will increase the proportion of debt until it reaches a balance between tax benefits and financial risks (Kusumawijaya & Diantini, 2024) [16].

The use of debt in the capital structure provides the advantage of a tax shield, because interest expenses on debt are tax deductible, while dividend payments to investors are not tax deductible (Karpavi & Yu, 2016) [14]. Therefore, the higher the company's leverage, the greater the opportunity for the company to reduce its tax liability through the use of interest expenses.

Several previous studies have shown that leverage has a positive effect on tax avoidance (Suwaldiman & Az Zahra, 2025; Sulistiana *et al*., 2025; Asriani *et al*., 2023) [3, 31, 33]. However, other studies show different results, such as the study by Supardi & Kunawangsih (2025) [32], which found a negative effect, and the study by Wangsa & Tanno (2024) [36], which found that leverage has no effect on tax avoidance. Based on this description, the hypothesis proposed is:

H2: Leverage has a positive effect on tax avoidance.

The Effect of Capital Intensity on Tax Avoidance

Capital intensity describes the proportion of a company's investment in fixed assets to its total assets. High investment in fixed assets can increase depreciation costs, which can be used as a deduction from taxable income, thereby potentially reducing the company's tax burden (Comanor & Wilson, 1967) [6].

Based on agency theory, conflicts of interest between managers and principals can influence a company's investment decisions. Managers tend to seek to increase company profits by utilizing various tax efficiency strategies, including through the use of depreciation costs from fixed assets as tax deductions (Putri & Evana, 2024). Thus, companies with high capital intensity have a greater opportunity to engage in tax avoidance practices.

In addition, investment in fixed assets can be a strategy for management to reduce tax burdens while maintaining company profit performance (Sinaga & Suardikha, 2019). Several previous studies have shown that capital intensity has a positive effect on tax avoidance (Hardana & Hasibuan, 2023; Zahrani *et al*., 2023; Kurniawati & Mukti, 2023) [12, 37]. However, other studies show different results, such as the study by Ravanelly & Soetardjo (2023) [24], which found a negative effect, and the studies by Asriani *et al*. (2023) [3] and Agustyo & Arianti (2024), which found that capital intensity has no effect on tax avoidance.

H3: Capital intensity has a positive effect on tax avoidance.

Research Methodology

This section describes the research population and sample, the variables used and their measurements, and the research model.

Population and Sample

The population is the entire subject of research that has certain characteristics to be studied by researchers (Sugiyono, 2019) [30]. The population in this study is food and beverage companies listed on the Indonesia Stock Exchange (IDX) in the period 2022–2024.

The sample in this study was determined using the purposive sampling method, which is a method of selecting samples based on specific criteria in accordance with the research objectives. The research sample consisted of food and beverage companies that met the following criteria:

1. Food and beverage companies listed on the IDX during the 2022–2024 period.
2. Companies that published complete annual financial reports during the 2022–2024 period.
3. Companies that did not experience losses during the research period.
4. Companies with a CETR value between 0 and 1 ($0 < CETR < 1$).

Model and Research Variables

This study uses two types of variables, namely dependent variables and independent variables. The dependent variable in this research is tax avoidance, while the independent variables are profitability, leverage, and capital intensity. These variables are used to analyze the effect of profitability, leverage, and capital intensity on tax avoidance in food and beverage companies listed on the Indonesia Stock Exchange (IDX) during the 2022–2024 period.

Tax Avoidance

The measurement for the dependent variable tax avoidance in this study uses the Cash Effective Tax Rate (CETR). CETR is an indicator used to measure the proportion of tax

payments made by a company relative to its profit before tax. This ratio reflects how much tax is actually paid by the company compared to its pre-tax income (Pravitasari & Khoiriawati, 2022) [22].

$$\text{Cash Effective Tax Rate} = \frac{Cash\ Tax\ Paid}{Pre\text{-}Tax\ Income}$$

A lower CETR value indicates a higher level of tax avoidance, while a higher CETR value indicates that the company pays taxes closer to the applicable tax rate.

Profitability

Profitability in this study is measured using Return on Assets (ROA). ROA is a financial ratio used to measure the company's ability to generate profit from the assets it owns. ROA shows how efficiently a company utilizes its assets to generate profits (Rosyidah & Trisnaningsih, 2024).

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

Leverage

Leverage in this study is measured using the Debt to Asset Ratio (DAR). Debt to Asset Ratio (DAR) is a solvency ratio that shows the proportion of company funding derived from debt compared to total assets. This ratio reflects the extent to which company assets are financed through debt. The higher the debt ratio, the greater the portion of debt in the company's capital structure (Arham *et al*., 2021).

$$\text{Debt to Asset Ratio} = \frac{Total\ Debt}{Total\ Assets}$$

Capital Intensity

Capital intensity in this study is measured using the Capital Intensity Ratio (CIR). Capital intensity describes the proportion of company investment in fixed assets compared to total assets. Companies with higher fixed asset ownership tend to have greater depreciation expenses which can reduce taxable income (Pravitasari & Khoiriawati, 2022) [22].

$$\text{Capital Intensity Ratio} = \frac{Total\ Fixed\ Asset}{Total\ Asset}$$

Analysis Method

In this study, multiple linear regression analysis was used to test the effect of independent variables on dependent variables. The independent variables used in this study were profitability, leverage, and capital intensity, while the dependent variable used was tax avoidance.

Data processing was performed using IBM SPSS software version 25 to obtain the necessary statistical analysis results. The multiple linear regression analysis method was used to determine the effect of each independent variable on tax avoidance simultaneously and partially. The research model in this study can be formulated in the following regression equation:

$CETR = \alpha + \beta_1 ROA + \beta_2 DAR + \beta_3 CIR + e$

Explanation:

CETR = Cash Effective Tax Rate
ROA = Profitability
DAR = Debt to Asset Ratio
CIR = Capital Intensity Ratio
α = Constant
$\beta_1, \beta_2, \beta_3$ = Regression coefficient for each variable X
e = Error term

Research Results and Discussion

Description of Research Objects

This study uses secondary data obtained from companies annual financial reports. The population in this study is food and beverage companies listed on the Indonesia Stock Exchange (IDX) during the period 2022–2024.The purposive sampling method was used in determining the research sample. The steps for selecting the sample in this study are as follows:

Table 1: Research Sample

No	Sample Criteria	Number
1	Food and beverage companies listed on the IDX for the period 2022–2024	101
2	Companies that did not publish complete and consecutive financial reports during the period 2022–2024	(20)
3	Companies that experienced losses during the period 2022–2024	(19)
4	Companies with CETR values less than 0 or greater than 1	(16)
	Total sample companies	46
	Number of observations (46 × 3 years)	138
	Outlier data	(8)
	Final research sample	130

Descriptive Statistics

Table 2: Descriptive Statistics

Variabel	N	Minimum	Maximum	Mean	Std. Deviation
ROA	130	0.1156	0.6154	0.295085	0.1024530
DAR	130	0.0255	0.9807	0.376736	0.1931407
CIR	130	0.0199	0.8176	0.412166	0.2002745
CETR	130	0.2472	0.8871	0.478824	0.1044414
Valid N (listwise)	130				

Source: Secondary data processed using SPSS 25, 2026

Based on the Descriptive Statistics Table, the profitability variable, which is proxied by Return on Assets (ROA), has a minimum value of 0.1156 and a maximum value of 0.6154. The average ROA value in this study is 0.295085 with a standard deviation of 0.1024530.

This indicates that the food and beverage companies sampled in this study have a fairly good ability to generate profits from their assets. The leverage variable, proxied by the Debt to Asset Ratio (DAR), has a minimum value of 0.0255 and a maximum value of 0.9807.
The average DAR value is 0.376736 with a standard deviation of 0.1931407. This value indicates that most of the companies in the sample use debt as one of the sources of funding in their capital structure.
The capital intensity variable, proxied by the Capital Intensity Ratio (CIR), has a minimum value of 0.0199 and a maximum value of 0.8176.
The average CIR value is 0.412166 with a standard deviation of 0.2002745. This indicates that the companies in the research sample have a fairly large proportion of fixed asset investments compared to the company's total assets.
The tax avoidance variable, proxied by the Cash Effective Tax Rate (CETR), has a minimum value of 0.2472 and a maximum value of 0.8871.
The average CETR value is 0.478824 with a standard deviation of 0.1044414. A lower CETR value indicates a higher level of tax avoidance practices, while a higher CETR value indicates that the company pays taxes closer to the applicable tax rate.

Normality Test

Table 3 presents the results of the normality test using the Kolmogorov–Smirnov test. The test results show that the Asymp. Sig. value for each variable is < 0.05, so it can be concluded that the research data is not normally distributed. Therefore, further data processing was carried out to ensure that the research model could still be used in the analysis.

Table 3: Results of the Kolmogorov-Smirnov Test

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		130
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	.09698471
Most Extreme Differences	Absolute	.066
	Positive	.066
	Negative	-.060
Test Statistic		.066
Asymp. Sig. (2-tailed)		.200[c,d]

Source: Secondary data processed using SPSS 25, 2026

Autocorrelation Test

Based on Table 4, the Durbin-Watson value is 2.074. This value is between the limits of dU and (4 – dU), so it can be concluded that the regression model in this study does not experience autocorrelation. Thus, the regression model used has fulfilled one of the classical assumptions and is suitable for further analysis.

Table 4: Results of the Durbin-Watson Autocorrelation Test

Model Summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.371[a]	.138	.117	.0981325	2.074
a. Predictors: (Constant), CIR, DAR, ROA					
b. Dependent Variable: CETR					

Source: Secondary data processed using SPSS 25, 2026

Multicollinearity Test

Based on Table 5, the ROA variable has a tolerance value of 0.767 and a VIF of 1.303, the DAR variable has a tolerance value of 0.771 and a VIF of 1.297, while the CIR variable has a tolerance value of 0.966 and a VIF of 1.035. All variables have tolerance values above 0.10 and VIF values below 10, so it can be concluded that the regression model in this study does not experience multicollinearity and is suitable for further analysis.

Tabel 1: Multicollinearity Test Results

Coefficients[a]			
Model		Collinearity Statistics	
		Tolerance	VIF
1	ROA	.767	1.303
	DAR	.771	1.297
	CIR	.966	1.035

Source: Secondary data processed using SPSS 25, 2026

Heteroscedasticity Test

Based on Table 6, the Glejser test results show that the ROA variable has a significance value of 0.187, DAR of 0.332, and CIR of 0.096. All independent variables have significance values above 0.05, so it can be concluded that the regression model in this study does not experience heteroscedasticity. Thus, the regression model has fulfilled one of the classical assumptions and is suitable for further analysis.

Table 2: Glejser Test Results

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.071	.025		2.877	.005
	ROA	-.074	.056	-.131	-1.328	.187
	DAR	.029	.029	.096	.974	.332
	CIR	.043	.025	.147	1.675	.096

Source: Secondary data processed using SPSS 25, 2026

Hypothesis Testing

Coefficient of Determination Test

The coefficient of determination test is used to measure the extent to which the independent variables (profitability, leverage, and capital intensity) are able to explain the variation in the dependent variable (tax avoidance). According table 7 the test results show an adjusted R square value of 0.117.

Table 7: Results of the Coefficient of Determination Test (R^2)

Model Summary[b]				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.371[a]	.138	.117	.0981325

Source: Secondary data processed using SPSS 25, 2026

This indicates that the variables ROA, DAR, and CIR are able to explain 11.7% of the variation in CETR. Meanwhile, the remaining 88.3% is explained by other variables or factors outside.

F-test

The F test was conducted to verify the suitability of the regression model and to detect whether all independent

variables simultaneously had an effect on the dependent variable. According table 8 the test results showed a calculated F value of 6.707 with a significance level of 0.000.

Tabel 3: Simultaneous Significance Test (F-Statistic Test)

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.194	3	.065	6.707	.000[b]
	Residual	1.213	126	.010		
	Total	1.407	129			
a. Dependent Variable: CETR						
b. Predictors: (Constant), CIR, DAR, ROA						

Source: Secondary data processed using SPSS 25, 2026

Since the significance value is below the significance level of 0.05 (0.000 < 0.05), it can be concluded that the regression model in this study is valid (fit). This indicates that the variables of profitability (ROA), leverage (DAR), and capital intensity (CIR) together (simultaneously) have a significant effect on tax avoidance (CETR) in food and beverage companies listed on the IDX for the period 2022-2024.

t-test

The t-test is used to test how each independent variable individually affects the dependent variable.

Table 4: Partial Significance Test (t-test)

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.619	.043		14.515	.000
	ROA	-.413	.096	-.405	-4.290	.000
	DAR	-.137	.051	-.253	-2.686	.008
	CIR	.080	.044	.154	1.824	.070

Source: Secondary data processed using SPSS 25, 2026

Based on the test results in Table 9, the findings of this study are as follows:

1. Profitability (ROA) has a significance value of 0.000 (< 0.05) with a t-value of -4.290. The negative value of the t-value indicates that an increase in ROA decreases the CETR value, which means that profitability has a positive and significant effect on *tax avoidance*.
2. *Leverage* (DAR) has a significance value of 0.008 (< 0.05) with a t-value of -2.686. This indicates that *leverage* has a positive and significant effect on *tax avoidance*, because an increase in debt has been proven to effectively reduce a company's cash tax burden.
3. *Capital Intensity* (CIR) has a significance value of 0.070 (> 0.05). Since the significance value is greater than the significance level of 0.05, it can be concluded that *capital intensity* does not have a significant effect on tax avoidance in food and beverage companies during the observation period.

Interpretation of Results

The Effect of Profitability on Tax Avoidance

Based on the t-test results in Table 4.9, the first hypothesis is accepted, indicating that profitability has a positive effect on tax avoidance. This result is in line with the research of Hardana & Hasibuan (2023) [12], Suwaldiman & Az Zahra (2025), and Supardi & Kunawangsih (2025) [32, 33], which shows that the higher the level of company profitability, the higher the tendency for companies to engage in tax avoidance practices.

Profitability reflects a company's ability to generate profits from its operational activities. Based on the agency theory perspective, principals generally focus on the long-term sustainability of company value and compliance with regulations, including tax regulations. Conversely, agents or management tend to be oriented towards achieving short-term performance that can increase personal utility, such as bonuses, compensation, and managerial reputation.

This condition can encourage management to implement tax management strategies, including tax avoidance, in order to maintain the company's net profit. In addition, high profitability also provides greater resources and flexibility for management in designing tax saving strategies by exploiting loopholes in tax regulations.his condition is even more relevant in the 2022–2024 period, which is a period of post-pandemic economic recovery, where companies face pressure to improve their financial performance, encouraging management to engage in tax avoidance so that their profits are not eroded by tax burdens.

The Effect of Leverage on Tax Avoidance

Based on the results of statistical testing, leverage has a positive effect on tax avoidance, so the second hypothesis is accepted. These results are in line with the research of Suwaldiman & Az Zahra (2025) [33], Sulistiana *et al*. (2025) [31], and Asriani *et al*. (2023) [3], which states that the higher the level of corporate leverage, the higher the tendency for companies to engage in tax avoidance.

From the perspective of trade-off theory, companies will balance the benefits and costs of using debt in their capital structure. One of the main benefits of using debt is tax savings through interest expenses that can be deducted from taxable income (tax deductible expense). Therefore, the higher the company's use of debt, the greater the interest expense that can be used to reduce tax liabilities.

In addition, in the economic context of 2022–2024, many companies are adjusting their funding structures to support post-pandemic business recovery. Increased use of debt in the capital structure not only serves as a source of funding, but also provides benefits in the form of an interest tax shield that can legally reduce a company's tax burden. This shows that leverage can be one of the strategies companies use to engage in tax avoidance.

The Effect of Capital Intensity on Tax Avoidance

The test results show that capital intensity has no effect on tax avoidance, thus rejecting the third hypothesis. These results are in line with the research by Asriani *et al*. (2023) [3] and Agustyo & Arianti (2024), who also found that capital intensity has no significant effect on tax avoidance.

Capital intensity describes the proportion of a company's investment in fixed assets to its total assets. Theoretically, high fixed asset ownership can result in depreciation expenses that can be used as a deduction from taxable income. However, in practice, investment in fixed assets is more aimed at increasing production capacity, operational efficiency, and supporting the company's business activities.

From an agency theory perspective, investment decisions in fixed assets are a form of managerial responsibility in

managing company resources to improve operational performance and create company value for principals. In the food and beverage sector, fixed asset investments are generally focused on increasing production capacity and meeting market demand. Therefore, even though capital intensity generates depreciation expenses that can reduce taxes, this factor is not a major driver for companies to engage in tax avoidance.

In addition, in the 2022–2024 period, companies will prioritize the recovery of production capacity and operational stability after the pandemic. This means that investment in fixed assets will be directed more towards supporting production activities rather than as a strategy to reduce the company's tax liabilities.

Conclusion and Limitations

Conclusion

Based on the results of research on the effect of profitability, leverage, and capital intensity on tax avoidance in food and beverage companies listed on the Indonesia Stock Exchange for the period 2022–2024, the following conclusions can be drawn:

1. Profitability, measured using Return on Assets (ROA), has a positive and significant effect on tax avoidance.
2. Leverage, measured using the Debt to Asset Ratio (DAR), has been proven to have a positive and significant effect on tax avoidance.
3. Capital intensity, proxied using the Capital Intensity Ratio (CIR), proved to have no significant effect on tax avoidance.

Limitations

This study has several limitations, including the following:

1. The observation period of the study is relatively short, namely only 2022–2024, so it does not fully describe tax avoidance behavior in the long term.
2. The scope of the research sample is still limited. From the initial population of 101 companies, only 46 companies met the sample criteria with 130 observation data after removing outlier data.
3. The ability of independent variables to explain tax avoidance is still relatively low. The Adjusted R Square value of 0.117 indicates that the variables of profitability, leverage, and capital intensity can only explain 11.7% of the variation in tax avoidance, while the rest is influenced by other factors outside the research model.

Suggestions

This study has several limitations, including the following:

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