

CAPITAL INTENSITY AS DETERMINANT OF TAX AVOIDANCE IN IDX BUMN20 COMPANIES: INSIGHTS FROM 2023

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ABSTRACT

This study investigates the impact of capital intensity on tax avoidance in 20 companies listed in the IDX BUMN20 index on the Indonesia Stock Exchange in 2023. Using simple linear regression, the results show a significant effect capital intensity on tax avoidance. This suggests that companies with higher capital intensity are more likely to engage in tax avoidance strategies, such as asset depreciation and tax incentives. Furthermore, 74% of the variation in tax avoidance is explained by capital intensity. These findings highlight the importance of fixed asset investment on corporate tax behavior and the need for regular evaluations of tax policies.

Keyword: Capital intensity, IDX BUMN20, Tax Avoidance

INTRODUCTION

The ongoing decline in tax revenue raises significant concerns regarding taxpayer compliance across various sectors. This trend not only highlights challenges in fulfilling tax obligations but also reflects broader issues related to the efficiency, transparency, and administrative capabilities of the national tax system. Such a decrease prompts critical questions about the effectiveness of existing tax policies, enforcement strategies, and institutional frameworks in ensuring fair tax collection. Furthermore, it necessitates an examination of how well these systems can minimize revenue losses due to tax evasion or avoidance. In this research, it is essential to consider whether the measures implemented by the government and relevant agencies are sufficient to foster a more compliant taxpayer environment.

Addressing these issues may require fundamental reforms in the tax approach, including enhancing transparency in revenue collection processes and strengthening oversight mechanisms. By taking these steps, it is hoped that a more effective and equitable tax system can be established, ultimately supporting sustainable economic development. The persistent decline in tax revenue presents serious concerns about taxpayer compliance across diverse sectors of the economy. This trend not only underscores the challenges faced by individuals and businesses in meeting their tax obligations but also reveals deeper issues related to the overall efficiency, transparency, and administrative prowess of the national tax system.

Table 1. Tax Revenue Contribution (in Trillion)

Information	2019	2020	2021	2022
State Revenue	2.164	1.698	1.742	2.750
Tax Target	1.577	1.198	1.229	1.510
Tax Realization	1.332	1.069	1.277	1.717
Contribution	61,5%	62,9%	73,3%	62,7%

Source: Processed Data, 2025

The low tax revenue experienced in Indonesia can be attributed to the prevalence of illegal tax avoidance practices, as corporations often regard taxes as a significant burden that adversely affects their profits (Achmad, T., Helmina, M. R. A., Hapsari, D. I., & Pamungkas, I. D., 2023). Tax avoidance represents a strategy employed by corporate management to reduce their tax liabilities. According to Panda, A. K., & Nanda, S. (2021), tax avoidance is a legal approach to minimizing tax payments that complies with existing tax legislation. This practice can significantly influence a company's tax obligations, both through activities directly related to taxation and those aimed at diminishing tax liabilities (Dyrenge et al., 2008). Furthermore, it underscores potential shortcomings in public trust, taxpayer education, and the capacity of tax authorities to respond to the dynamic economic behaviors and complexities present in both formal and informal sectors. Teguh Erawati, B. Y. J. (2019), emphasizes that the economic crisis of 2008 underscored the critical need for international regulations pertaining to tax avoidance. Companies frequently view taxes as an expense that erodes profits, prompting them to seek ways to minimize their tax payments (Pradana, F. A., & Wulandari, S., 2023).

LITERATURE REVIEW

Agency Theory

Agency theory, introduced by Jensen and Meckling (1976), elucidates the relationship between the principal (owners) and the agent (managers). In this research, BUMN20 owners expect management to maximize profits while adhering to tax regulations. However, managers may be incentivized to engage in tax avoidance to enhance short-term financial performance. Other than that, high capital intensity can provide firms with opportunities to optimize tax avoidance through capital expenditures and depreciation (Mappadang, A., 2021).

Capital Intensity

Capital intensity refers to investment activities that involve investing in fixed assets (Medioli, A., Azzali, S., & Mazza, T., 2023). By assessing fixed assets, companies have the opportunity to add expenses, specifically depreciation expenses from fixed assets that can reduce income. In other words, if fixed assets increase, the resulting profit will be lower due to the depreciation burden on fixed assets that can reduce profit (Noviatna & Devi Safitri, 2021). According to Henny and Febrianti (2016), capital intensity can be calculated by comparing the company's total fixed assets to its total assets. This study makes use of financial statement data from companies listed in the IDX BUMN20 index on the Indonesia Stock Exchange in 2023.

Tax Avoidance

Tax avoidance involves the use of lawful strategies and methods aimed at reducing one's tax obligations to the government (Afrianti, Uzliawat & Ayu Noorida 2022). This approach is designed to minimize the overall tax burden through various financial planning techniques. By leveraging existing tax laws and regulations, individuals and businesses can implement specific tactics that allow them to retain more of their income while still complying with legal requirements (Hanlon, M., & Heitzman, S., 2010).

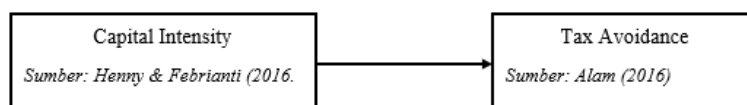


Figure 1. Research Model

Source: Data Processed, 2025

Hypotheses Development

Based on the literature review that has been described previously, this research's hypotheses with the research's model are developed as follows:

H₁ : Suspect that capital intensity affects tax avoidance in IDX BUMN20 Companies 2023.

METHODOLOGY

The data utilized are secondary quantitative data in the form of financial reports from firms in the IDX BUMN20 listed on the Indonesia Stock Exchange (BEI) for 2023. The data were obtained from the BEI website and the official company pages, and processed using SPSS version 25. In this case study, tax avoidance, proxied by the Cash Effective Tax Rate (CETR), is the dependent variable. A low CETR level for a company indicates that there is tax avoidance activity (Alam, 2019). According to Henny & Febrianti (2016), capital intensity can be calculated by comparing the company's total assets to its fixed assets.

Table 2. Operationalization Variable

Type	Indicator	Scale
Capital Intensity (Independent)	CI = Total Fixed Asset/Total Asset <i>Source: Henny & Febrianti (2016)</i>	Ratio
Tax Avoidance (Dependent)	TA = Tax Payment/Profit Before <i>TaxSource: Alam (2016)</i>	Ratio

Source: Data Processed, 2025

In summary, this research method employs a quantitative approach to analyze the interplay between capital intensity on tax avoidance among IDX BUMN20 companies, utilizing established financial metrics and rigorous statistical analysis to derive meaningful conclusions.

RESULT AND DISCUSSION

RESULT

Descriptive Statistical Analysis

Table 3. Descriptive Statistical

Variable	N	Min	Max	Mean	Std. Variation
Capital Intensity	20	-.0852	0.084	-.025	.02469
Tax Avoidance	20	.0332	.0901	.0434	.03823

Source: SPSS Output Result, 2025

The table presents descriptive statistics for this research. The explanation is as follows:

- N (Number of Sample), There are 20 data points for both variables.
- Min (Minimum Value), The minimum for Capital Intensity is -0.0852, indicating some companies may have negative values, while Tax Avoidance has a minimum of 0.0332, suggesting a small level of avoidance.
- Max (Maximum Value), Capital Intensity has a maximum of 0.084, and Tax Avoidance has a maximum of 0.0901, indicating the upper limits observed.
- Mean (Average Value), The average for Capital Intensity is -0.025, suggesting a slight negative value, whereas the mean for Tax Avoidance is 0.0434, indicating moderate avoidance.

- Standard Deviation (Std. Variation), The standard deviation for Capital Intensity is 0.02469, and for Tax Avoidance, it is 0.03823, reflecting variability in the data.

Asumption Test

Normality Test

Table 4. Normality Test

Variable	Sig. Values	Asymp Sig. (2-Tailed)
Capital Intensity	0.05	0.200

Source: SPSS Output Result, 2025

Based on the table above, the significant value of Asymp. Sig (2-tailed) is more than 0.05. As a result, based on the decision-making criteria in the Kolmogorov-Smirnov normality test, the data may be classified as regularly distributed. Before proceeding with additional analysis, this test must be performed to establish whether the data fulfills the required requirements.

Linearity Test

Table 5. Linearity Test

Variable	Sig. Values	Asymp Sig. (2-Tailed)
Capital Intensity	0.05	0.200

Source: SPSS Output Result, 2025

As can be observed, no independent factors have a statistically significant influence on the dependent variable. This is demonstrated by the significant probability above the 5% confidence level, leading to the conclusion that linearity does not exist in the regression model. Thus, this basic linear regression model is appropriate for forecasting capital intensity in connection to tax evasion.

Simple Linear Regression

Table 6. Simple Linear Regression Test

Coefficients				
Model				Standardized Coefficients
		B	Std. Error	Beta
1	(Constant)	1,401	1,334	
	Capital Intensity	,235	,343	,322
a. Dependent Variable: Tax Avoidance				

Source: SPSS Output Result, 2025

The basic linear regression analysis shown in the table sheds light on the factors that influence tax avoidance, the dependent variable of interest. The constant value 1.401 represents the degree of capital intensity when all independent variables are zero. Capital intensity has a positive and statistically significant influence on tax avoidance, as evidenced by a coefficient of 0.235. If capital intensity increases by one unit, tax avoidance is expected to rise by 0.235. This indicates that higher capital intensity is associated with an increase in tax avoidance practices

Hyphotesis Test

t-Test

Table 7. t-Test

Variable	Sig. Values	Sig. (2-Tailed)
Capital Intensity	0.05	0.018

Source: SPSS Output Result, 2025

Based on the table above, capital intensity variable (X) has a significance level of 0.018. The significance value of $0.018 < 0.05$ rejects H_0 and accepts H_1 . That's means the hypothesis of this investigation is accepted. This suggests that capital intensity has a substantial impact on tax Avoidance.

Coefficient of Determination (R^2)

The determination analysis in multiple linear regression seeks to estimate the percentage contribution of the independent variables combined effect on the dependent variable. The coefficient of determination analysis findings for this study are shown in the table below:

Table 8. Coefficient of Determination (R^2)

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,742	,881	,892	,10451
a. Predictors: (Constant), Capital Intensity				

Source: SPSS Output Result, 2025

According to Figure 3, the findings of the coefficient of determination test done on the study data reveal that the R value is 0.742, or 74%. This signifies that the regression model's independent variables account for 74% of the variation in the dependent variable. The high R^2 value signifies a strong relationship between capital intensity and the dependent variable, highlighting the model's efficacy in explaining the variations observed in the data.

DISCUSSION

The effect of Capital Intensity on Tax Avoidance in IDX BUMN20 Companies 2023.

In this study, the effect of capital intensity on tax avoidance is demonstrated through simple linear regression analysis. The analysis results show that capital intensity has effect on tax avoidance. the results of this study support previous research from (Utomo, A. B., & Fitria, G. N., 2021). This indicates that an increase in capital intensity tends to correlate with an increase in tax avoidance. When companies invest more in fixed assets, they may adopt more aggressive strategies to reduce tax liabilities, such as through depreciation or utilizing available tax incentives (Gagola, G., Karamoy, H., & Pusung, R., 2022). Allowing us to conclude that the effect of capital intensity on tax avoidance is significant. This means that companies with higher levels of capital intensity tend to be more active in tax avoidance. According Fang, H., Su, Y., & Lu, W. (2022), Companies with higher capital intensity often resort to various strategies to

minimize tax liabilities, which may include methods such as depreciation or the utilization of available tax credits. This suggests that firms with significant capital investments actively seek ways to optimize their tax positions.

The analysis highlights that capital intensity plays a crucial role in influencing tax behavior. Firms with substantial capital investments may perceive a greater incentive to engage in tax avoidance practices, as they can leverage their investments to navigate the tax landscape more effectively. This tendency reflects a broader understanding that capital-intensive companies are more likely to explore diverse avenues for tax optimization. By doing so, they can mitigate their tax burden, thereby enhancing their overall financial performance (Nurhidayah, L. I., & Rahmawati, I. P., 2022). Furthermore, the coefficient of determination reveals that approximately 74% of the variance in tax avoidance can be explained by capital intensity. This high percentage underscores the strong relationship between the two variables, indicating that capital intensity is a significant predictor of tax avoidance behavior (Farah, B., Elias, R., Chakravarty, D., & Beamish, P., 2021).

This research suggest that as companies increase their investments in capital assets, they are more inclined to implement strategies aimed at reducing their tax liabilities. This relationship can be attributed to several factors. First, capital-intensive companies tend to have more complex financial structures, which may provide them with greater opportunities to exploit tax regulations. For instance, investments in fixed assets often come with associated tax benefits, such as depreciation allowances, which can be strategically utilized to lower taxable income. Additionally, the sheer scale of operations in capital-intensive industries may lead firms to engage in more sophisticated tax planning and avoidance strategies for companies (Fernández-Rodríguez, E., García-Fernández, R., & Martínez-Arias, A., 2021).

Understanding the dynamics between capital intensity and tax avoidance is essential for both practitioners and policymakers. For business leaders, acknowledging the impact of capital investments on tax behavior can inform strategic decision-making. According Irawan, Y., Sularso, H., & Farida, Y. N. (2017), companies can better align their financial strategies with their operational goals, ensuring that they navigate tax obligations while optimizing their financial outcomes. Moreover, this understanding can guide firms in developing comprehensive tax strategies that not only comply with regulations but also enhance their competitive edge. From a policy perspective, the findings of this study may prompt discussions about the implications of capital intensity on tax policy. Policymakers may need to consider how tax regulations interact with capital investments and whether adjustments are necessary to ensure a fair and equitable tax system. By recognizing the propensity for capital-intensive companies to engage in tax avoidance, policymakers can explore avenues to create a tax environment that encourages transparency and accountability while still fostering investment.

CONCLUSION AND RECOMENDATION

The coefficient of determination reveals that capital intensity accounts for 74% of the variation in tax avoidance. This underscores the significance of capital intensity in shaping corporate tax behavior and offers valuable insights for stakeholders regarding the influence of fixed asset investments on company tax strategies. Consequently, firms that prioritize enhancing capital intensity may find greater opportunities to optimize their tax obligations, thereby impacting their investment decisions and overall financial strategies. This study emphasizes the necessity for managers and policymakers to thoroughly understand the interplay between capital intensity and tax avoidance to develop effective and sustainable tax approaches This suggests

that companies with greater capital intensity are more likely to engage in tax avoidance strategies, including asset depreciation and the use of tax incentives for companies.

These findings offer essential insights for stakeholders to consider the implications of fixed asset investments when developing effective and sustainable tax strategies. Companies are advised to consider capital intensity when formulating tax strategies. Increasing investment in fixed assets can be leveraged to optimize tax avoidance. Additionally, it is important for stakeholders to conduct regular evaluations of tax policies to ensure they align with current market conditions and applicable regulations.

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