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THE EFFECT OF LEVERAGE, CAPITAL INTENSITY, AND EXECUTIVE CHARACTERISTICS ON TAX AVOIDANCE IN TECHNOLOGY SECTOR COMPANIES

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Abstract

This research aims to examine the influence of Leverage, Capital Intensity, and Executive Characteristics on Tax Avoidance. A quantitative approach was employed, with the study population comprising technology sector companies listed on the Indonesia Stock Exchange (IDX) during the period 2021–2024. A total of 36 companies were selected as the sample using a purposive sampling technique. The data were analyzed using multiple linear regression with the assistance of SPSS version 25. The findings reveal that only Capital Intensity significantly affects Tax Avoidance, while Leverage and Executive Characteristics do not show any significant influence on Tax Avoidance among technology sector companies listed on the IDX for the 2021–2024 period.

Keywords: Leverage, Capital Intensity, Executive Characteristics, Tax Avoidance

Introduction

On a global scale, taxation is the main source of government revenue in almost every country. The funding covers all expenditures, such as infrastructure, military vehicles, medical facilities, and educational institutions. The government's ability to collect taxes can be a determining factor in the success of a society and its ability to meet the basic needs of its people. Reported on the official website of the Indonesian Directorate General of Taxes (DJP), tax revenue collected by the Indonesian government in 2022 amounted to IDR 1,716.8 trillion, surpassing the IDR 1,485 trillion goal set by Presidential Regulation No. 98/2022. This achievement, reflecting a broad-based economic recovery across multiple sectors, represents a 34.3% increase over the previous year.

Indonesia has paid much attention to tax avoidance practices among multinational companies. Reporting from the official website of the Directorate General of Taxes (DJP), Former Minister of Finance Agus Martowadojo revealed that nearly 4,000 multinational companies have neglected to fulfill their tax obligations for seven consecutive years. These companies continue to operate as usual, despite revealing financial losses over a long period of time. In 2016, around 2,000 multinational companies operating in Indonesia failed to pay Corporate Income Tax (PPh) Articles 25 and 29, citing financial losses. Nevertheless, these companies continued to operate. For more than a decade, many foreign companies have engaged in transfer pricing, which is a practice involving the relocation of profits from Indonesia to other countries, to avoid paying taxes.

Tax avoidance is not a new phenomenon and has existed before technological advances developed rapidly. However, rapid changes in technology and how businesses run amid economic progress can make this problem have a greater impact (Mustika et al., 2024). Major multinational corporations such as Google, Facebook, and Microsoft have also engaged in tax avoidance strategies. (Syahnandevito et al., 2024). These large companies implement tax avoidance in developing countries including Indonesia by taking advantage of the global tax system or transfer pricing to avoid taxes which results in losses reaching USD 2.8 Billion or equivalent to Rp. 41 Trillion per year (Jelanti, 2024). Based on this phenomenon, although tax avoidance is legal, this activity can have a major impact on the value of taxes that should be received.

Leverage on Tax Avoidance

A high debt to equity ratio reflects a company's strong dependence on debt as a source of financing. When external parties provide this debt, it leads to interest expenses that reduce the company's taxable income, thus lowering its income tax burden (Prabawati & Rahman, 2022). This strategy is viewed as a form of tax avoidance, as the company uses high interest costs to reduce reported profits.

Leverage has been widely explored in previous research. Several studies, including those by Ainniyya et al. (2021) and Dwimartha et al. (2024), found that leverage influences tax avoidance behavior. Conversely, the study by Apriani & Sunarto (2022) reported that leverage does not have a significant correlation with tax avoidance. Meanwhile, Puspitasari and Wulandari (2022) reported that leverage negatively affects tax avoidance in a significant way.

H_1: Leverage affects tax avoidance

Capital Intensity on Tax Avoidance

A higher capital intensity ratio reflects a greater proportion of the company's resources being allocated to fixed asset investments., which affects the value of depreciation expense which will increase if the company has a lot of assets and the depreciation can reduce business profits, which can reduce the income tax burden (Apridila, et al., 2021). So it is suspected that companies may avoid taxes with depreciation expense. In this research, capital intensity is another element that affects tax avoidance. There are many researchers who have studied capital intensity. According to Widagdo et al. (2020), capital intensity has a positive influence on tax avoidance. Meanwhile, according to the study of Sari et al., (2023), capital intensity has a negative effect on tax avoidance.
H_2: Capital intensity affects tax avoidance

Executive Characteristics on Tax Avoidance

Executives generally show two traits in decision making, namely risk taking and risk averse. The more risk taker the executive is, the ETR (Effective Tax Rate) value of an executive tends to decrease along with an increase in risk taking, indicating a higher level of tax avoidance. In line with Oktavia & Safii's (2023) findings, Awaloedin, et al.'s (2024) study also revealed that executive characteristics have a positive impact on tax avoidance.
H_3: Executive Characteristics affects tax avoidance.

Research Method

This study employs a quantitative approach, utilizing secondary data obtained from the financial statements of technology sector companies listed on the Indonesia Stock Exchange (IDX) for the period 2021–2024. The sample was selected through a purposive sampling method based on specific criteria:

1. Technology sector companies listed on the Indonesia Stock Exchange (IDX) in 2021-2024
2. Companies that report annual financial statements consecutively during the observation period, namely 2021-2024
3. Companies that use Rupiah value units in their financial statements
4. The company did not experience losses in the financial statements during the study period

The data used uses financial reports and annual reports of each company taken through the website www.idx.co.id.

Research Model and Operationalization Variable

This study uses multiple linear regression tests which will be used to test the research hypothesis. The mathematical regression model used to test hypotheses 1 - 3 is:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$$

Descriptions:
Y = Tax Avoidance
α = Constant
$\beta_1 - \beta_3$ = Regression Coefficients
X_1 = Leverage
X_2 = Capital Intensity
X_3 = Executive Characteristics
e = Error

Dependent Variable
Tax Avoidance

Tax avoidance is the practice by which companies minimize their tax obligations through methods that remain within the boundaries of prevailing legal frameworks (Apriani & Sunarto, 2022). In this study, tax avoidance is measured using the Effective Tax Ratio (ETR). This approach is consistent with the method used by Apriani & Sunarto (2022), who measured ETR by dividing income tax expense by profit before income tax. The formula for calculating ETR is as follows:

$$ETR = \frac{Income\ Tax\ Expense}{Earning\ Before\ Income\ Tax}$$

Independent Variable
Leverage

Leverage is the level of debt use by the company in funding its operations. According to Ainiyya et al., (2021) leverage is measured using DER or Debt to Equity Ratio, The formula for calculating DER is as follows:

$$DER = \frac{Total\ Liabilities}{Total\ Equity}$$

Capital Intensity

Capital intensity reflects the capital invested in fixed assets to generate benefits. Companies with high capital intensity tend to record significant depreciation expenses. This large depreciation expense is potentially a legitimate means for companies to reduce their tax obligations. Thus, it can be said that the higher the capital intensity ratio of a company, the greater the potential for the company to conduct tax avoidance through the depreciation expense mechanism (Dewi & Oktaviani, 2021). The formula used in calculating capital intensity refers to the research of Pratiwi & Oktaviani (2021), namely:

$$CIR = \frac{Total\ Fixed\ Assets}{Total\ Assets}$$

Executive Characteristics

Executives are individuals who occupy important positions in the company and have the highest authority to manage their company. Executive character refers to Aisyah & Setiyawati (2019) can be divided into two characters, namely risk taker and risk averse, risk taker is an executive who has the characteristics of taking risks and choosing to get greater profits even with greater risks. Meanwhile, risk averse is an executive characteristic that reflects executives who choose to secure their assets even though the benefits obtained are not too large.

This ratio generally represents company profitability, but when associated with executive characteristics, the higher the RISK value is interpreted as a bold decision to take risks in order to achieve higher profitability (Timbate et al., 2024). Risk taker executives tend to push for strategies that generate large profits even though there is a large risk behind it. Conversely, a low ratio value may reflect a risk averse character who is more cautious and avoids high risks.

The formula for calculating company risk is as follows:

$$RISK = \frac{EBITDA}{Total\ Assets}$$

EBITDA = Earnings Before Income Tax, Depreciation, and Amortization (Revenue – expenses (excluding taxes, interest, depreciation, amortization)

Results and Discussions

Descriptive Statistics

Tabel 1: Descriptive Statistics

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
DER	36	.025	3.897	1.06333	.886412
CIR	36	.030	.896	.34181	.309807
RISK	36	.033	.350	.14586	.060561
ETR	36	.013	.416	.20086	.074591
Valid N (listwise)	36				

Sources: SPSS 25 Output (Data processed by researches, 2025)

This study utilizes data from 36 technology sector companies listed on the Indonesia Stock Exchange during the period 2021–2024, covering variables such as Leverage (X1), Capital Intensity (X2), Executive Characteristics (X3), and Tax Avoidance (Y). The descriptive statistics for each variable are as follows: Leverage (X1) has a minimum value of 0.025, a maximum value of 3.897, a mean of 1.06333, and a standard deviation of 0.886412. Capital Intensity (X2) ranges from 0.030 to 0.896, with an average of 0.34181 and a standard deviation of 0.309807. Executive Characteristics (X3) show a minimum of 0.033, a maximum of 0.350, a mean of 0.14586, and a standard deviation of 0.060561. Lastly, Tax Avoidance (Y) has a minimum value of 0.013, a maximum value of 0.416, a mean of 0.20086, and a standard deviation of 0.074591.

Classical Assumption Test

Normality Test

Tabel 2: Normality Test Results

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		36
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	.06463676
Most Extreme Differences	Absolute	.126
	Positive	.112
	Negatives	-.126
Test Statistic		.126
Asymp. Sig. (2-Tailed)		.163[c]

Sources: SPSS 25 Output (Data processed by researches, 2025)

According to the decision rule, if the Asymp. Sig. (2-Tailed) value is greater than 0.05, the data is considered to be normally distributed. Based on the normality test using the Kolmogorov-Smirnov (K-S) method shown in Table 2, the significance value obtained is 0.163. Since this value exceeds 0.05, it can be concluded that the data follows a normal distribution.

Multicolinearity Test

Tabel 3: Multicolinearity Test Results

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	.214	.033		6.566	.000		
	DER	-.014	.013	-.165	-1.060	.297	.972	1.029
	CIR	-.113	.037	-.471	-3.031	.005	.971	1.029
	RISK	.279	.194	.226	1.440	.160	.950	1.053

a. Dependent Variable: ETR

Sources: SPSS 25 Output (Data processed by researches, 2025)

Multicollinearity can be detected through statistical tests where if the VIF value is less than 10, it can be concluded that there is no multicollinearity in the data. Based on table 3, it is found that all correlation values between independent variables are less than 10 which indicates that there is no multicollinearity in the regression model.

Heteroscedasticity Test

Tabel 4:Heterocedastisity Test Results

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	.064	.022		2.874	.007
	DER	-.012	.009	-.223	-1.288	.207
	CIR	.011	.026	.077	.445	.659
	RISK	-.074	.132	-.097	-.555	.583

a. Dependent Variable: ABS_RES

Sources: SPSS 25 Output (Data processed by researches, 2025)

In testing heteroscedasticity, a model is said to be free from hetero when the significance value is more than 0.05. After analyzing the heteroscedasticity test, the sig. value of all variables in table 4 is greater than 0.05, which means that the model is free from heteroscedasticity.

Autocorrelation Test

Tabel 5: Autocorrelation Test Results

Runs Test

	Unstandardized Residual
Test Value[a]	-.00402
Cases < Test Value	18
Cases >= Test Value	18
Total Cases	36
Number of Runs	15
Z	-1.184
Asymp. Sig (2-tailed)	.237

a. Median

Sources: SPSS 25 Output (Data processed by researches, 2025)

The autocorrelation test in this study was conducted using the runs test method, as described by Kusnanto & Prastiwi (2020), who stated that this test is used to determine whether there is a correlation between time sequences in a regression model, which could affect the validity of the results. According to the decision rule for the runs test, if the Asymp. Sig. (2-tailed) value exceeds the 0.05 significance level it indicates the absence of autocorrelation. Based on Table 4, the Asymp. Sig. (2-tailed) value is 0.237, which is greater than 0.05. Therefore, it can be concluded that the data do not exhibit signs of autocorrelation.

Multiple Linear Regression Analysis

Tabel 6: Multiple Linear Regression Test Results

Model		T	Sig. T
1	(Constant)	6.566	0.000
	DER	-1.060	0.297
	CIR	-3.031	0.005
	RISK	1.440	0.160
R Square	0.249		
F	3.538		
Sig F	0.025		

Dependent Variable: ETR

Sources: SPSS 25 Output (Data processed by researches, 2025)

Table 6 can show that R Square is 0.249 or 24.9%, meaning that the effect of leverage, capital intensity, and executive characteristics on tax avoidance is 24.9%, the remaining 75.1% is influenced by other independent variables outside this research. Simultaneous F test in this research shows a significant value of 0.025. In this simultaneous test, the hypothesis is accepted if the Sig. F < 0,05. This research shows Sig. F value of 0.025 < 0.05. This means that leverage, capital intensity, and executive characteristics simultaneously affect tax avoidance. Partial test results show DER has sig. 0.297> 0.05, meaning that leverage has no effect on tax avoidance. CIR has sig. 0.005 <0.05 with a T value of -3.031 which means that capital intensity negatively affects tax avoidance. RISK has a sig value of 0.160> 0.05, meaning that executive characteristics have no effect on tax avoidance.

Leverage Effect on Tax Avoidance

The results of the hypothesis test on the effect of leverage on tax avoidance reveal a significance value of 0.297. Since this value exceeds the predetermined significance level of 0.05, the research hypothesis H_1 which posits that leverage influences tax avoidance—is rejected. This result suggests that the level of leverage, whether high or low, does not impact a company's decision to engage in tax avoidance practices (Dewi & Oktaviani, 2021). Regarding the Minister of Finance Regulation No.169 / PMK.010 / 2015 related to the discussion regarding the maximum limit of debt to equity Ratio, namely the ratio of 4: 1 as an approach to prevent tax avoidance, causing companies to be more careful about using debt levels as a way to avoid taxes, so that companies will look

for other ways in taxation. Thus, the initial assumption that the amount of corporate debt affects tax avoidance is not empirically proven in this study. The results of this study are in line with research conducted by Wuriti & Noviari (2023), Dewi & Oktaviani (2021), and Apriani & Sunarto (2022) which state that leverage has no significant effect on tax avoidance.

Capital Intensity Effect on Tax Avoidance

The hypothesis test results on the effect of capital intensity on tax avoidance show a significance value of 0.005. Since this value is below the established significance threshold of 0.05, the research hypothesis H_2 which states that capital intensity influences tax avoidance is accepted. With a coefficient of -3.031 which indicates that the higher the level of capital capacity owned by the company, the lower the tendency to practice tax avoidance, and vice versa. This phenomenon may occur due to the difference between the useful life of assets recognized by the company and tax calculations, in addition to the permission given to companies to depreciate their fixed assets. The results of this study are in line with Sari et al. (2023) and Apridila et al. (2021) which state that capital intensity has a negative effect on tax avoidance

Executive Characteristics on Tax Avoidance

Testing of the executive influence on tax avoidance has a significance value of 0.160 which is greater than the specified significance level of 0.05, then H 3which states that executive characteristics affect tax avoidance, is rejected. This could happen because perhaps the sample in this study has risk averse executive characteristics that tend to avoid risk. This means that the executives in this sample are more careful in making decisions and the risks they will face if they practice tax avoidance. The results of this study are in line with research conducted by Curry & Fikri (2023) and Astriyani & Safii (2023) which state that executive characteristics have no effect on tax avoidance.

Conclusion and Suggestion

Based on the results of panel data analysis that has been done, it can be concluded that leverage and executive characteristics have no effect on tax avoidance, while capital intensity has a negative effect on tax avoidance which explains that the higher the level of capital capacity owned by the company, the tendency to do tax avoidance will be smaller. This can be caused by the difference between the useful life of assets recognized by the company and those recognized by tax calculations. For future researchers, it is recommended to expand the scope of sectors and industries studied, because some sectors may have unique characteristics from other sectors.

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