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The Influence of Multinationality and Capital Intensity on Tax Avoidance in Manufacturing Companies Listed on the Indonesia Stock Exchange

M. Alimuddin, Susi Sarumpaet
Lampung University, Indonesia

Address : St. Prof. Dr. Ir. Sumantri Brojonegoro No.1, Bandar Lampung City, Lampung 35141
Author Correspondence : muhammadalimuddin969@gmail.com

***Abstract**. This study analyzes the impact of multinationality and capital intensity on tax avoidance in manufacturing companies listed on the Indonesia Stock Exchange (IDX) in the primary consumer goods sector for the period 2020-2022. Data was obtained through purposive sampling from the annual reports of these companies. The variables studied include multinationality, capital intensity, leverage, company size, and profitability. The results show that multinationality has a significant impact on tax avoidance, while capital intensity does not show a significant effect. Control variables such as leverage, company size, and profitability also have a significant impact on tax avoidance.*
***Keywords**: Tax Avoidance, Capital Intensity, Multinationality*

1. INTRODUCTION

Taxes are one of the largest sources of government revenue, essential for supporting and enhancing national development aimed at improving public welfare. Therefore, taxpayers are expected to actively contribute to increasing state revenue. Since the tax reform in 1983, the tax system has shifted from an office assessment system to a self-assessment system. This self-assessment system allows taxpayers to calculate, determine, and pay their tax obligations based on tax regulations and report them to the tax authorities. This system heavily relies on taxpayer compliance with applicable tax laws.

The self-assessment system provides flexibility for taxpayers in calculating, paying, and reporting their tax obligations. This system works well when taxpayers comply with tax regulations. However, taxpayers often attempt to maximize their profits by minimizing costs, which conflicts with the government's interest in ensuring taxpayers pay taxes in accordance with the law. Tax avoidance practices are quite rampant, with notable cases such as the Panama Papers in 2016 and multinational companies like PT Bentoel Internasional Investama involved in tax avoidance through shell companies in tax havens.

Capital intensity, perceived as the ratio of fixed assets to total assets, is believed to reduce tax burdens because depreciation expenses can be used to lower taxes. Previous research has shown varying effects of capital intensity on corporate tax avoidance. While some studies show a negative impact, others show a positive influence. However, there are also studies showing

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* M. Alimuddin, *muhammadalimuddin969@gmail.com*

no significant effect, indicating the need for further research on the relationship between capital intensity, multinationality, and tax avoidance.

Multinationality, which refers to companies operating in multiple countries, provides greater opportunities to exploit differences in tax regulations between countries to reduce tax burdens. Multinational companies often have complex structures and sophisticated tax strategies, allowing them to shift profits to lower-tax jurisdictions. This study aims to analyze the influence of multinationality and capital intensity on tax avoidance in manufacturing companies listed on the Indonesia Stock Exchange in the primary consumer goods sector for the period 2020-2022. By examining these variables, this research aims to provide insights into the factors influencing tax avoidance practices and contribute to a broader understanding of corporate tax behavior.

2. LITERATURE REVIEW

Agency theory explains the contractual relationship between principals (owners or shareholders) and agents (managers) that occurs when principals delegate authority to agents to act on their behalf. Conflicts of interest between principals and agents can lead to agency costs, including in the context of taxation. In this scenario, the state as the principal seeks to maximize tax revenue, while companies as agents aim to minimize tax payments. This conflict drives companies to engage in tax avoidance as an effort to reduce their tax burden without violating tax laws.

Tax avoidance is a strategy used by companies to reduce their tax liabilities by exploiting loopholes or imperfections in tax regulations. This practice is considered legal and not against the law, although it is often viewed negatively by governments. Tax avoidance is frequently measured using the Effective Tax Rate (ETR), which is the ratio of tax expense to pre-tax profit. A lower ETR indicates a higher level of tax avoidance.

Multinational companies are business entities operating in various countries with the aim of maximizing after-tax profits. These companies often leverage differences in tax regulations between countries to reduce their tax burden. Multinationality allows companies to shift profits to lower-tax jurisdictions, thereby reducing their overall tax burden. Some studies indicate that multinational companies tend to have higher levels of tax avoidance compared to domestic companies.

Capital intensity, measured as the ratio of fixed assets to total assets, can affect tax avoidance. High fixed assets allow companies to claim larger depreciation expenses, which can reduce taxable income and, thus, the tax burden. However, research shows mixed results regarding the impact of capital intensity on tax avoidance. Some studies find a positive influence, while others find a negative or insignificant impact, indicating the need for further research.

3. RESEARCH METHODS

This study employs a quantitative design with both descriptive and causal approaches. The descriptive approach is used to depict the characteristics of the research variables, while the causal approach examines the influence between variables.

The population of this study consists of manufacturing companies listed on the Indonesia Stock Exchange (IDX) in the primary consumer goods sector for the period 2020-2022. The sample selection is conducted using purposive sampling, which involves selecting samples based on specific criteria relevant to the research objectives. The criteria for sample selection are :

1. Manufacturing companies in the primary consumer goods sector listed on the Indonesia Stock Exchange during the period 2020 – 2022.
2. Companies that consistently publish financial statements on the Indonesia Stock Exchange during the years 2020 – 2022.
3. Companies that did not incur losses during the observation period from 2020 – 2022.
4. Companies that use the Indonesian rupiah in their financial statement presentations.

The data used in this research are secondary data obtained from the annual financial reports of companies listed on the IDX and other relevant sources such as official company websites and IDX publications. The data collection technique is documentation, which involves collecting and recording the necessary data from the companies' financial statements.

Data analysis is performed using statistical software such as SPSS or EViews. The analysis techniques include : Descriptive Analysis, Classical Assumption Tests, Multiple Linear Regression Analysis, and Hypothesis Testing.

The research model used in this study is multiple linear regression. This model is used to assess the influence of two independent variables (multinationality and capital intensity) on the dependent variable (tax avoidance). The multiple linear regression model used in this study is as follows:

$$TA = \alpha + \beta 1 \text{ MULT} + \beta 2 \text{ CINT} + \beta 3 \text{ LEV} + \beta 4 \text{ SIZE} + \beta 5 \text{ ROA} + \epsilon$$

Description:

TA : Tax Avoidance

MULT : Multinationality

CINT : Capital Intensity

LEV : Leverage (control variable)

SIZE : Firm Size (control variable)

ROA : Profitability (control variable)

α : Constant

β : Regression coefficients

ϵ : Error term

4. RESULTS AND DISCUSSION

This study uses a population of manufacturing companies listed on the Indonesia Stock Exchange (IDX) for the period 2020-2022. The research sample is determined using purposive sampling and meets several research data criteria. The research data is obtained from the official website of the Indonesia Stock Exchange (www.idx.co.id) and the official websites of the companies. The sample selection process is based on the established criteria, as follows:

Table 1. Purposive Sampling Result

Description	**Quantity**
Manufacturing companies in the primary consumer goods sector listed on the Indonesia Stock Exchange during the period 2020 – 2022	122
Companies that did not consistently publish annual reports during the period 2020 – 2022	(32)
Companies that incurred losses during the observation period from 2020 – 2022	(39)
Companies that use foreign currency in their financial statement presentations	(2)
Total Companies	49
Total Observed Data Over 3 Years	**147**
Outlier Data	(8)
Total Observed Data	**139**

Source: Processed secondary data, 2024

Descriptive Statistic Analysis

Table 2. Descriptive Statistic Result

	N	Minimum	Maximum	Mean	Std. Deviation
TA	139	.00258	.37600	.22397	.04729
MULT	139	0	1	.51	.502
CINT	139	.00029	.96261	.32953	.17279
LEV	139	.00686	10.18237	.95886	1.09212
LNSIZE	139	25.07	32.83	29.1757	1.71881
ROA	139	.00696	.49303	.10026	.07529
Valid N (listwise)	139				

Source: Processed data with SPSS, 2024

The results of the descriptive statistical analysis show that there are 139 observations in this study. The dependent variable, tax avoidance (Y), has an average value of 0.22397, with a minimum value of 0.00258 and a maximum value of 0.37600, and a standard deviation of 0.04729. This indicates that, on average, the observed companies engage in tax avoidance by 22.3 percent. The company with the lowest level of tax avoidance is PT. Provident Agro Tbk. (PALM) in 2020, with a value of 0.00258, while the company with the highest level of tax avoidance is PT. Jaya Swarasa Agung Tbk. (TAYS) in 2020, with a value of 0.37600.

The first independent variable, multinationality (X1), has an average value of 0.51, with a minimum value of 0 and a maximum value of 1, and a standard deviation of 0.502. The second independent variable, capital intensity (X2), has an average value of 0.32953, with a minimum value of 0.00029 and a maximum value of 0.96261, and a standard deviation of 0.17279. PT. Provident Agro Tbk. (PALM) in 2021 has the lowest capital intensity ratio of 0.00029, while PT. Indo Pureco Pratama Tbk. (IPPE) in 2020 has the highest capital intensity ratio of 0.96261.

The control variable leverage has an average value of 0.95886, with a minimum value of 0.00686 and a maximum value of 10.18237, and a standard deviation of 1.09212. PT. Provident Agro Tbk. (PALM) in 2021 has the lowest leverage of 0.00686, while PT. Jaya Swarasa Agung Tbk. (TAYS) in 2020 has the highest leverage of 10.18237. The company size control variable, proxied by ln(total assets), has an average value of 29.1757, with a minimum value of 25.07 and a maximum value of 32.83, and a standard deviation of 1.71881. PT. Indo Oil Perkasa Tbk. (OILS) in 2020 has the smallest company size of 25.07, while PT. Indofood Sukses Makmur Tbk. (INDF) in 2022 has the largest company size of 32.83. The profitability control variable, proxied by return on assets (ROA), has an average value of 0.10026, with a minimum value of 0.00696 and a maximum value of 0.49303, and a standard deviation of 0.07529. PT. Jaya Swarasa Agung Tbk. (TAYS) in 2020 has the lowest profitability of 0.00696, while PT. Provident Agro Tbk. (PALM) in 2020 has the highest profitability of 0.49303.

Classic Assumption Test

Normality Test

The normality test is used to determine whether the residuals in the regression model are normally distributed. In this study, the normality test was conducted using the Kolmogorov-Smirnov test. If the Asymp. Sig. (2-tailed) value is greater than 0.05, the residuals are considered to be normally distributed. In this study, after removing outliers, the Kolmogorov-Smirnov test results showed that the data were normally distributed with an Asymp. Sig. value of 0.200.

Table 3. One-Sample Kolmogorov-Smirnov Test Result

		Unstandardized Residual
N		139
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	.03779950
Most Extreme Differences	Absolute	.057
	Positive	.057
	Negative	-.047
Test Statistic		.057
Asymp. Sig. (2-tailed)		.200[c,d]

Source: Processed data with SPSS, 2024

Multicollinearity Test

The multicollinearity test aims to determine whether there is a high correlation among the independent variables in the regression model. This test uses the Tolerance and Variance Inflation Factor (VIF) values. If the Tolerance value is ≥ 0.10 and the VIF value is ≤ 10, then multicollinearity does not occur. The test results in this study indicate that all variables have a Tolerance value > 0.10 and a VIF value < 10, indicating that there is no multicollinearity in the regression model.

Table 4. Multicollinearity Test Result

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	.369	.065		5.698	.000		
	MULT	.016	.008	.165	2.019	.045	.720	1.388
	CINT	-.006	.019	-.021	-.303	.763	.983	1.017
	LEV	.012	.003	.276	3.955	.000	.986	1.015
	LNSIZE	-.005	.002	-.164	-2.003	.047	.720	1.388
	ROA	-.313	.044	-.498	-7.113	.000	.978	1.022

a. Dependent Variable: TA

Source: Processed data with SPSS, 2024

Heteroscedasticity Test

The heteroscedasticity test is used to determine whether the variance of the residuals is constant or not. In this study, the heteroscedasticity test was conducted by examining the significance of the regression results. If the significance value is ≥ 0.05, then there is no heteroscedasticity. The study results indicate that the regression model does not have heteroscedasticity issues, meaning the residual variance remains constant for each observation.

Table 5. Heteroscedasticity Test Result

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.000	.040		.012	.991
	MULT	-.006	.005	-.131	-1.306	.194
	CINT	.007	.012	.051	.594	.553
	LEV	.003	.002	.147	1.719	.088
	LNSIZE	.001	.001	.061	.604	.547
	ROA	.021	.027	.067	.779	.437

Source: Processed data with SPSS, 2024

Autocorrelation Test

The autocorrelation test aims to determine whether there is a correlation between the residuals at time t and the residuals at time t-1. This test uses the Run Test method. A good regression model is one that does not have autocorrelation. The results of the autocorrelation test in this study show that the regression model does not experience autocorrelation, meaning the residuals between different periods are not correlated.

Table 6. Autocorrelation Test Result

	Unstandardized Residual
Test Value[a]	.00251
Cases < Test Value	69
Cases >= Test Value	70
Total Cases	139
Number of Runs	60
Z	-1.787
Asymp. Sig. (2-tailed)	.074

Source: Processed data with SPSS, 2024

Hypothesis Test

Table 7. Multiple Linier Regression Analysis Result

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.369	.065		5.698	.000
	MULT	.016	.008	.165	2.019	.045
	CINT	-.006	.019	-.021	-.303	.763
	LEV	.012	.003	.276	3.955	.000
	LNSIZE	-.005	.002	-.164	-2.003	.047
	ROA	-.313	.044	-.498	-7.113	.000
a. Dependent Variable: TA						

Source: Processed data with SPSS, 2024

Hypothesis Test on the Effect of Multinationality on Tax Avoidance

Based on the test results, the variable of multinationality and tax avoidance has a t-value of 2.019 with a significance value of 0.045, which is less than 0.05. This indicates that the multinationality variable has a positive influence on tax avoidance at a 5% significance level. Therefore, H1, which states that multinationality has a positive effect on tax avoidance, is accepted. This means that multinational companies are more likely to engage in tax avoidance activities compared to domestic companies.

This finding aligns with the initial hypothesis, which stated that multinational companies, as business entities capable of operating and conducting significant marketing activities beyond their home country's borders and having subsidiaries in various countries, have a greater opportunity to engage in tax avoidance activities.

This research result also supports previous studies by Hidayah et al. (2015) and Oktaviani et al. (2023), which found that multinationality positively affects tax avoidance.

Hypothesis Test on the Effect of Intensity Modal on Tax Avoidance

Based on the test results, the capital intensity variable and tax avoidance have a t-value of -0.303 with a significance value of 0.763, which is greater than 0.05. This indicates that the capital intensity variable does not have an effect on tax avoidance. Therefore, H2, which states that capital intensity positively affects tax avoidance, is rejected. This means that companies with high capital intensity do not significantly influence the tax avoidance activities of the company.

According to Adisamartha & Noviari (2015) in Maratun Y (2018), this might be because manufacturing companies primarily focus on investment in assets. The purpose of investing in fixed assets, such as buildings, land, equipment, and machinery, is to support the company's operational activities, not to avoid taxes. These investments are crucial for the company's needs and aim to improve operational efficiency and profitability. High levels of fixed assets enable companies to maximize profits by increasing production capacity.

This research finding is consistent with previous studies conducted by Maratun Y (2018) and Amiah (2021), which stated that capital intensity does not have a significant effect on tax avoidance.

5. CONCLUSIONS AND RECOMMENDATIONS

Based on research on manufacturing companies listed on the Indonesia Stock Exchange for the period 2020-2022, the results show that multinationality significantly influences tax avoidance practices. This indicates that the presence of cross-border operations provides opportunities to exploit differences in tax regulations between countries. However, fixed asset intensity does not affect tax avoidance practices, possibly because such investments are more related to operational support rather than tax avoidance strategies.

For future research, it is recommended to extend the study period to 5 years to obtain more varied data. Additionally, the population should be expanded beyond manufacturing companies in the primary goods sector to include a wider range of industries. Furthermore, it would be beneficial to add or use alternative measurements for variables such as tax avoidance and capital intensity, as well as any other necessary variables.

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