The Influence of Financial Ratios on Tax Avoidance

Anggata Pradija Sembiring[1)], Thezar Fiqih Hidayat Hasibuan[2)], Retnawaty Siregar[3)].
[1]Faculty of Economic and Business, Medan Area University
E-mail: pradijaanggata@gmail.com
[2] Faculty of Economic and Business, Medan Area University
E-mail: thezarf@yahoo.com
[2] Faculty of Economic and Business, Medan Area University
E-mail: retnawaty0@gmail.com

Abstract

This study aims to determine the extent of the influence of Sales Growth, Return on Assets, and Capital Intensity on Tax Avoidance in plantation sector companies listed on the Indonesia Stock Exchange from 2019 to 2022. This type of research is causal effect with a quantitative approach, and the sample data in this study amounts to 64, which represents data from 16 financial reports over the 4-year research period. The type of data in this study is secondary data. The analysis method used in this study is multiple regression analysis. The research results show that Sales Growth has a partially positive and significant effect on Tax Avoidance, Return on Assets (ROA) has a partially positive and significant effect on Tax Avoidance, and Capital Intensity has a negative and significant effect on Tax Avoidance. The F-test results indicate a positive and significant influence.

Keywords : *Sales Gwowth, Return on Assets, Capital Intensity, Tax Avoidance*

1. INTRODUCTION

According to Hamidah et al. (2023), taxes contribute the largest portion to state revenue, with approximately 60-70% of tax revenue fulfilling the state budget (APBN) structure. Therefore, taxes are one of the main sources of government revenue relied upon to finance both routine expenditures and development projects. According to Mahpudin et al. (2020), taxes are a mandatory contribution from citizens as taxpayers to the state, owed by individuals or business entities, which are coercive based on the law, without receiving direct compensation, and used for state purposes for the greatest welfare of the people. In accordance with the philosophy of tax law, paying taxes is not only an obligation but also a manifestation of the right of every citizen or taxpayer to directly participate in financing the state and national development.

2. LITERATURE REVIEW

Atribution Theory

According to Siladjaja et al. (2023), Agency Theory explains the separation between management functions (by managers) and ownership functions (by shareholders) within a company. This agency relationship arises when one or more people hire others to provide services and then delegate decision-making authority to those agents. The goal of both managers and shareholders is to increase the company's value by enhancing shareholder wealth. According to Jensen & Meckling (1976), to maximize the company's value, the optimal capital structure can be achieved by balancing the marginal agency cost of debt with the marginal agency cost of equity. Their theory assumes that the agency costs of using debt increase as the amount of debt increase

Tax Avoidance

According to Thian (2021), tax avoidance is a legal effort to reduce tax liabilities by optimally utilizing existing provisions in the field of taxation, such as allowable exemptions and deductions, benefits from areas not yet regulated, and exploiting weaknesses in current regulations.

Sales Growth

The sales growth rate indicates the development of a company's performance in a specific year compared to the previous year. Company performance is assumed to be reflected in the net sales (revenue) value of the company. According to Utami (2021), the growth ratio is a ratio that describes the percentage increase in sales/revenue this year compared to the previous year.

Return on Assets

The Return on Assets (ROA) is a profitability ratio used to assess the percentage of profit (earnings) a company earns relative to its resources or total assets. This ratio reflects the efficiency of a company in managing its assets, as demonstrated by the percentage of this ratio (Ompusunggu & Wage, 2021).

Capital Intensity

Capital Intensity or Capital Intensity Ratio is a ratio used to assess the intensity of capital usage by comparing the size of assets to sales. According to Tamplin (2022), the Capital Intensity Ratio (CIR) is a ratio that indicates how much capital is required to generate revenue.

3. RESEARCH METHOD

This study uses quantitative research with an associative approach. According to Sugeng (2022), associative research, often referred to as correlational research, is also part of explanatory quantitative research. Associative explanatory research aims to test causal relationships between variables by examining the degree of relationship or correlation between them.

4. RESULTS AND ANALYSIS

RESULT

Statistics Descriptive

According to Ghozali (2021), descriptive statistical analysis provides an overview or description of data that can be measured by the mean, minimum, maximum, and standard deviation values found in the research

Table 1.1 Descriptive Statistics

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
SG	64	-589.00	52.00	-2.2500	79.77627	.017	.299	48.107	.590
ROA	64	-53.00	49.00	1.1406	12.40439	.038	.299	8.797	.590
IM	64	25.00	2840.00	434.1875	577.98069	.023	.299	8.331	.590
TA_Y	64	.00	5.26	2.7790	1.28931	.045	.383	.529	.750
Valid N (listwise)	64								

Based on the table above, the explanation is as follows:

1. The number of data or N used in this study is 64 data samples consisting of 16 agricultural sector companies listed on the Indonesia Stock Exchange during the observation period from 2019-2022.
2. For the SG variable, the mean value is -2.2500, with a standard deviation of 79.77627. The skewness value is 0.017, and the kurtosis is 48.107.
3. For the ROA variable, the mean value is 1.1406, with a standard deviation of 12.40439. The skewness value is 0.038, and the kurtosis is 2.881. For the IM variable, the mean

value is 434.1875, with a standard deviation of 577.98069. The skewness value is 0.023, and the kurtosis is 8.331.

4. For the TA variable, the mean value is 2.7790, with a standard deviation of 1.28931. The skewness value is 0.45, and the kurtosis is 0.529.

Classics Assumption Test

A. Normality Test

The purpose of normality testing is to assess whether the disturbance or residual variables in the regression model have a normal distribution. The normality test in this study uses the Kolmogorov-Smirnov test

Table 2.1 Normality Test Result Using Kolmogorov-Smirnov

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		64
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	1.02985818
Most Extreme Differences	Absolute	.091
	Positive	.091
	Negative	-.060
Test Statistic		.221
Asymp. Sig. (2-tailed)		.200[c,d]

Based on Table 2.1 from the results of the normality test using the Kolmogorov-Smirnov test, it can be explained that the Asymp Sig. (2-tailed) value is 0.200, which is greater than the significance level of α 0.05. This indicates that the data is normally distributed

B. Multicollinearity Test

This test aims to determine whether there is a high correlation among the independent variables in the linear regression model Firdaus (2021). The decision-making criteria are as follows: if the tolerance value is less than 0.10, multicollinearity occurs, and if the VIF value is greater than 10, multicollinearity is present. Below are the results of the multicollinearity test:

Table 2.2 Multicollinearity Test Result

Coefficients[a]			
		Collinearity Statistics	
Model		Tolerance	VIF
1	(Constant)		
	SG	.962	1.357
	ROA	.978	1.344
	IM	.985	1.321
a. Dependent Variable: TA_Y			

Based on the results of the test above, the explanations are as follows:

1. For SG, the tolerance value is 0.962, indicating that the tolerance is greater than 0.10. The VIF value for SG is 1.357, showing that the VIF is less than 10.
2. For ROA, the tolerance value is 0.978, indicating that the tolerance is greater than 0.10. The VIF value for ROA is 1.344, showing that the VIF is less than 10.
3. For IM, the tolerance value is 0.985, indicating that the tolerance is greater than 0.10. The VIF value for IM is 1.321, showing that the VIF is less than 10.

It can be seen from the table above that the tolerance values are greater than 0.10, and the VIF values are less than 10. Therefore, it can be concluded that there is no multicollinearity in the data.

C. Heterocedasticity Test

The heteroscedasticity test aims to determine whether there is an inequality of variance in the residuals from one observation to another in the regression model. A good regression model

is one that does not exhibit heteroscedasticity. One method to test this is by using a Scatterplot. Below are the results:

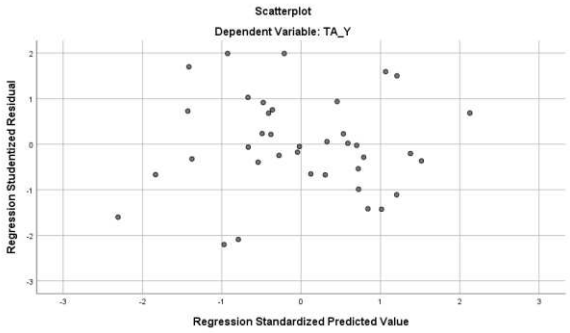

Figure 1.1 Heteroscedasticity Test

In Figure 1.1, it can be observed that in the scatterplot, the points are dispersed without forming a pattern and are spread both above and below the zero mark on the Y-axis. Therefore, it can be concluded that the results of this test do not indicate the presence of heteroscedasticity.

D. Autocorrelation Test

According to Firdaus (2021), the autocorrelation test is performed to examine whether there is a correlation between the disturbance errors at period t and the disturbance errors at period t-1 (previously). Autocorrelation occurs because consecutive observations over time are related to each other. The table below presents the results of the autocorrelation test using the Durbin-Watson statistic.

Tabel 2.3 Autocorrelation Test Result

Model Summary[b]	
Model	Durbin-Watson
1	1.928

Based on Table 2.3 above, it can be seen that the Durbin-Watson (d) value is 1.928. This value will be compared with the Durbin-Watson table value which uses a significance of 5% for a sample size (n) of 64 and a number of independent variables (k) of 3. Based on the Durbin-Watson table, it can be seen that the du value is 1.694, the dl value is 1.499, and 4-du value 2.306. Then the result is du<d<4-du or 1.694<1.928<2.306. So, as in decision making from the autocorrelation test, it can be concluded that the results of this test show that there are no symptoms of autocorrelation.

Multiple Linear Regression

Regression analysis aims to measure the extent of the influence of an independent variable (predictor variable) on a dependent variable (outcome variable). In this study, multiple regression analysis is used to examine the effect of independent variables (Sales Growth, Return on Asset, and Capital Intensity) on the dependent variable (Tax Avoidance). The results of the multiple regression analysis are as follows:

Table 3.1 Multiple Linear Regression Test Result

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	7.469	.419		13.111	.000
	SG	4.367	.762	.014	8.459	.000
	ROA	2.459	.914	.564	4.172	.000
	IM	-2.361	.023	-.485	-3.841	.001
a. Dependent Variable: TA_Y						

Based on Table 4.9 above, the multiple regression equation for this study is: Tax Avoidance (Y) = α 7.649 + 4.367 X1 + 2.459 X2 - 2.361 X3 + 0.419 e The explanation is as follows:

1. The constant value (α) is 7.649, which means that if the independent variables are held constant, the average tax avoidance is a certain unit value.
2. The regression coefficient for SG is 4.367, which means that for every 1% increase in SG, tax avoidance will increase by 4.367 in certain units.
3. The regression coefficient for ROA is 2.459, which means that for every 1% increase in ROA, tax avoidance will increase by 2.459 units. The regression coefficient for IM is -2.361, which means that for every 1% increase in IM, tax avoidance will decrease by 2.361 in certain units.

Hypothesis Testing

1. Partial t test

The t-test indicates the extent to which each independent or explanatory variable individually explains the dependent variable, with a significance level of < α 0.05. If the significance value is below 0.05, the independent variable being tested has an effect on the dependent variable. Additionally, if the calculated t-statistic (Thitung) is greater than the critical t-value (Ttabel), the dependent variable being tested has an effect on the independent variable. Below are the results of the t-test:

Table 3.2 t-test Result

Coefficients[a]			
Model		t	Sig.
1	(Constant)	13.111	.000
	SG	8.4s59	.000
	ROA	4.172	.000
	IM	-3.841	.001
a. Dependent Variable: TA_Y			

To obtain the t-table value, the following formula is used: (α/2 ; n-k-1). The application is as follows: (0.025 ; n (number of sample data) 64 – 3 k (number of independent variables) – 1, which becomes (0.025 ; 60). The value of 60 is the degrees of freedom (df) used to find the T-table value in the t-distribution table. Thus, the t-table value is 2.030. Therefore, the results of the t-test can be summarized as follows:

1. Sales Growth (SG): The calculated t-value (Thitung) is 8.459 with a significance value of 0.000. According to the table and the explanation above, for the SG variable, Thitung > Ttabel and the significance value is less than 0.05. This indicates that SG has a positive and significant effect on tax avoidance. Based on this explanation, H1 is accepted.
2. Return on Asset (ROA): The calculated t-value (Thitung) is 4.172 with a significance value of 0.000. According to the table and the explanation above, for the ROA variable, Thitung > Ttabel and the significance value is less than 0.05. This indicates that ROA has a positive and significant effect on tax avoidance. Based on this explanation, H2 is accepted.
3. Capital Intensity (IM): The calculated t-value (Thitung) is -3.841 with a significance value of 0.001. According to the table and the explanation above, for the IM variable, Thitung > Ttabel and the significance value is less than 0.05. This indicates that IM has a negative and significant effect on tax avoidance. Based on this explanation, H3 is rejected.

2. F Test

According to Ghozali (2021), Analysis of Variance (ANOVA) is a method used to test the correlation of one dependent variable (metric scale) with one or more independent variables. Below are the results of the F-test:

F-test Result

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	43.764	3	20.762	15.684	.000
	Residual	65.671	60	5.078		
	Total	109.435	63			
a. Dependent Variable: TA_Y						
b. Predictors: (Constant), IM, SG, ROA						

To obtain the t-table value, the formula used is: (α/2 ; n-k-1). Applying this formula with (0.025 ; n (sample size) 64 – 3 k (number of independent variables) – 1 results in (0.025 ; 60). The value of 60 is the degrees of freedom (df) used to find the F-table value in the F-distribution table. Thus, the F-table value is 2.758. Therefore, the results of the F-test can be summarized as follows The F-test result shows that the calculated F-value (Fhitung) is 15.684 and the F-table value (Ftabel) is 2.758, with a significance level of 0.001. Since Fhitung > Ftabel and the significance value is 0.001 < 0.05, it can be concluded that all independent variables have a positive and significant effect on the dependent variable. This indicates that H4 is accepted, meaning that Sales Growth (SG), Return on Asset (ROA), and Capital Intensity (IM) have a positive and significant effect on Tax Avoidance. Thus, H4 is accepted.

3. Coeffisien of Determination

The coefficient of determination indicates the extent to which the total variability of the dependent variable can be explained by the independent variables. To determine the value of the coefficient of determination, you can refer to the Adjusted R Square value. Below is the value of the coefficient of determination:

Table 3.3 Coeffisien of Determination Test Result

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.846[a]	.732	.674	1.07433
a. Predictors: (Constant), IM, SG, ROA				

Based on Table 4.12 above, the Adjusted R Square value is 0.674 or 67.4%. This means that 67.4% of the variability in the dependent variable can be explained by the independent variables. The remaining 32.6% of the variability in the dependent variable is explained by other factors not included in this study, such as Debt to Equity Ratio, Price Earnings Ratio, and Return on Equity.

ANALYSIS

The Effect of Sales Growth on Tax Avoidance

Based on the results of this study, it can be concluded that sales growth has a positive and significant effect on tax avoidance, with a calculated t-value (Thitung) of 8.459, which is greater than the critical t-value (Ttabel) of 2.030, and a significance value of 0.000, which is less than 0.05. This finding aligns with previous research by Ningsih & Noviari (2021), which indicated that sales growth affects tax avoidance. However, this study contrasts with the research by Yohanes & Sherly (2022) (2022), which found no effect of sales growth on tax avoidance.

High sales growth generally means increased revenue for the company. Companies with higher revenue have more resources to exploit loopholes in the tax system to reduce their tax burden. They might allocate more resources to designing and implementing tax reduction strategies when experiencing significant sales growth.

This could involve investing in research and development, fixed assets, or other projects that qualify for tax incentives or deductions. This is consistent with the agency theory proposed by Siladjaja et al. (2023), which states that the goals of managers and shareholders are aligned in that they aim to increase company value through enhancing shareholder wealth. High sales growth may provide a reason for companies to manage or withhold their profits in a way that maximizes tax management strategies.

The Effect of Return on Assets (ROA) on Tax Avoidance

Based on the results of this study, it can be concluded that Return on Assets (ROA) has a positive and significant effect on tax avoidance, with a calculated t-value (Thitung) of 4.172, which is greater than the critical t-value (Ttabel) of 2.030, and a significance value of 0.000, which is less than 0.05. This finding aligns with the research by Norisa et al. (2022), which indicates that ROA positively affects tax avoidance. However, this result contrasts with the study by Taufik & Muliana (2021), which found no effect of ROA on tax avoidance.

This positive effect may be due to the fact that companies achieving high ROA demonstrate efficiency and productivity in utilizing their assets to generate significant profits. A high ROA indicates that the company has successfully optimized the use of its assets to generate revenue. As a result, pre-tax income for these companies tends to increase in line with higher earnings. However, this increase in pre-tax income also implies a rise in tax liabilities. Despite this, companies with high ROA often have the resources and capacity to engage in more structured and comprehensive tax planning. Such companies are likely to adopt integrated and sustainable tax strategies aimed at legally and transparently minimizing tax liabilities rather than engaging in questionable or illegal tax avoidance practices. Consequently, a high ROA may reflect not only strong financial performance but also a company's commitment to high tax compliance and responsible tax management practices.

The Effect of Capital Intensity on Tax Avoidance

Based on the results of this study, it can be concluded that capital intensity has a negative and significant effect on tax avoidance, with a calculated t-value (Thitung) of -3.841, which is greater than the critical t-value (Ttabel) of 2.030, and a significance value of 0.001, which is less than 0.05. This result is supported by previous research by Sofian & Djohar (2022), but it contradicts the findings of Artiningsih & Wahyudi (2021), which stated that capital intensity does not affect tax avoidance.

Companies with high capital intensity tend to have larger interest obligations on their debts. These interest obligations can be used as tax-deductible expenses, thereby reducing the tax burden. However, when a company has substantial equity capital, it does not incur significant interest obligations and thus lacks the same incentive to engage in tax avoidance through debt structuring. Additionally, companies with high capital intensity are often more focused on long-term investments that require substantial capital. They may be more inclined to allocate resources to these projects rather than complex tax strategies. Moreover, high capital intensity can also indicate financial stability. A company with high profitability can generate significant profits, leading to increased tax liabilities. Companies with high profitability are likely to engage in well-structured tax planning rather than tax avoidance. Therefore, there is a negative correlation between capital intensity and tax avoidance, where companies with high capital intensity tend to have lower levels of tax avoidance.

The Effect of Sales Growth, Return on Assets, and Capital Intensity on Tax Avoidance

Based on the F-test results, which evaluated the impact of all independent variables—sales growth, return on assets (ROA), and capital intensity—on the dependent variable, tax avoidance, it is evident that these variables have a significant positive effect. The significance value is 0.000, which is less than 0.050, and the calculated F-value (Fhitung) is 15.684, which is greater than the critical F-value (Ftabel) of 2.758. High levels of sales growth, ROA, and capital intensity can incentivize companies to engage in more aggressive tax avoidance strategies. Therefore, effective tax management is crucial to minimize tax costs when companies are required to pay taxes. This emphasizes the need for robust tax planning to ensure that companies can manage their tax liabilities efficiently and legally.

5. CONCLUSION

Based on the analysis and discussion of all the tested hypotheses, the conclusions are as follows:

1. Sales Growth (SG) has a positive and significant effect on tax avoidance among plantation sector companies listed on the Indonesia Stock Exchange for the period 2019-2022.
2. Return on Assets (ROA) has a positive and significant effect on tax avoidance among plantation sector companies listed on the Indonesia Stock Exchange for the period 2019-2022.
3. Capital Intensity (IM) has a negative and significant effect on tax avoidance among plantation sector companies listed on the Indonesia Stock Exchange for the period 2019-2022.
4. Sales Growth, Return on Assets, and Capital Intensity collectively have a positive and significant effect on tax avoidance among plantation sector companies listed on the Indonesia Stock Exchange for the period 2019-2022.

6. REFERENCE

Artiningsih, P. M., & Wahyudi, D. (2021). The Effect of Capital Itensity, Independent, Commissioner, and Political Connections on Tax Avoidance. *SIMAK*, *20*(1), 80–96. https://ojs.feb.uajm.ac.id/index.php/simak/article/view/328/156

Firdaus. (2021). *Metodologi Penelitian Kuantitatif; Dilengkapi Analisis Regresi IBM SPSS Statistic Version 26.0*. DOTPLUS Publisher.

Ghozali, I. (2021). *Aplikasi Analisis Multivariate dengan Program IBM SPSS 26*. Badan Penerbit Universitas Diponegoro.

Ningsih, I. A. M. W., & Noviari, N. (2021). Financial Distress, Sales Growth, Profitabilitas dan Penghindaran Pajak. *E-Jurnal Akuntansi*, *32*(1), 229–244. https://ojs.unud.ac.id/index.php/Akuntansi/article/view/75294

Norisa, I., Dewi, R. R., & Wijayanti, A. (2022). Pengaruh Profitabilitas, Leverage, Likuiditas dan Sales Growth Terhadap Tax Avoidance. *Transekonomika: Akuntansi, Bisnis dan Keuangan*, *2*(4), 115. https://transpublika.co.id/ojs/index.php/Transekonomika/article/view/146

Siladjaja, M., Nugrahanti, T. P., & Magdalena, P. (2023). *Teori Akuntansi Positif: Sebuah Tinjauan pada Persepsi Berbasis Rational Desicion Model Terhadap Informasi Akuntansi Berkualitas*. CV. Mega Press Nusantara.

Sofian, F., & Djohar, C. (2022). Pengaruh Transfer Pricing, Intensitas Modal dan Kepemilikan Institusional Terhadap Tax Avoidance (Studi Empiris pada Perusahaan Manufaktur Sektor Aneka Industri yang Terdaftar di Bursa Efek Indonesia Tahun 2016-2020. *Studies, Indonesian Journal of Management*, *1*(1), 27. https://www.dmi-journals.org/ijms/article/view/210

Taufik, M., & Muliana. (2021). Pengaruh Financial Distress Terhadap Tax Avoidance Pada Perusahaan Yang Terdaftar di Indeks LQ45. *Conference on Management, Business, Innovation, Education and Social Science*, *1*(1).

Yohanes, & Sherly, F. (2022). Pengaruh Profitability, Leverage, Audit Quality, dan Faktor Lainnya Terhadap Tax Avoidance. *E-Jurnal Akuntansi TSM*, *2*(2), 551. https://jurnaltsm.id/index.php/EJATSM/article/view/1386/778