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The Effect of Sales Growth, Leverage, and Firm Size on Tax Avoidance (Empirical Evidence from the Food and Beverage Manufacturing Sector Listed on the Indonesia Stock Exchange during 2019–2023)

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ABSTRACT

Tax avoidance remains a crucial issue within Indonesia's tax system, particularly among corporate taxpayers striving to reduce their tax burden while complying with regulations. This study investigates the influence of sales growth, leverage, and firm size on tax avoidance in manufacturing companies operating in the food and beverage sector listed on the Indonesia Stock Exchange. Using a quantitative approach, the research employs secondary data sourced from audited financial statements and applies panel data regression analysis with the fixed effect model selected based on statistical testing. The findings reveal that sales growth has a significant negative effect on tax avoidance, indicating that companies with higher revenue growth are less inclined to engage in aggressive tax planning. On the other hand, leverage and firm size do not show a significant impact on tax avoidance. These results offer important insights for policymakers and stakeholders in developing more effective tax compliance strategies and corporate governance mechanisms.

Keywords:
Tax Avoidance, Sales Growth, Leverage, Firm Size

INTRODUCTION

The tax sector is one of the largest sources of national income, contributing significantly to national development and financing to meet the country's needs. According to Law No. 28 of 2007, tax is a mandatory contribution to the state owed by individuals or entities that is coercive in nature based on law, without receiving direct compensation, and is used for the needs of the state for the greatest prosperity of the people. Indonesia applies a tax collection system using the self-assessment system, where taxpayers are given the authority to calculate, deposit or pay, and report the amount of tax owed in accordance with the time period specified in the Taxation Law (Mutsiah, 2022).

According to the Ministry of Finance of the Republic of Indonesia (December 31, 2023), in the last five years (2019-2023), the tax compliance rate of Indonesian citizens has shown a positive trend (www.pajak.go.id). However, despite the increase, Indonesia is estimated to lose the potential tax revenue of up to $4.86 billion per year due to tax avoidance practices,

most of which come from corporations (Tax Justice Network, 2020). This indicates that tax avoidance remains a serious issue that needs to be addressed.Corporations or businesses are among the major contributors to tax revenue. As entities oriented toward achieving maximum profits, corporations often have interests that differ from those of the government. While the government views taxes as a source of national funds, corporations see taxes as a burden that reduces their net profit. Therefore, it is not uncommon for corporations to use various methods to reduce the amount of tax they have to pay to maintain their financial stability (Muhammad, 2022). One strategy used by corporations is tax avoidance, which is the legal effort to minimize tax burdens without violating applicable regulations (Utami, 2022). However, this practice still carries risks for corporations, such as administrative sanctions and negative impacts on the company's reputation among the public and investors (Rahmadani, 2022).

One example of tax avoidance in Indonesia is the transfer pricing practice carried out by PT Toyota Motor Manufacturing Indonesia (TMMIN), a subsidiary of PT Astra International Tbk. In 2014, TMMIN sold locally produced cars to its affiliated company in Singapore (Toyota Asia Pacific) before reselling them to the Philippines and Thailand. The reason was the lower tax rates in Singapore, thus minimizing the tax obligations that apply in Indonesia. This was done as a way to maintain the company's profits with minimal tax burden (Kompasiana.com) (Muhammad, 2022).

This research focuses on manufacturing companies in the food and beverage sector. This sector was chosen because it is considered a relevant industry due to its role in meeting public consumption needs and its contribution to economic growth through exports and job creation. According to the Ministry of Industry, the food and beverage industry is predicted to remain one of the key drivers of the national economy (sahammilenial.com). In Indonesia, the number of companies in this sector continues to grow along with the increasing demand for basic consumption products such as food and beverages (Nasution, 2021).

There are several factors that influence corporations to engage in tax avoidance, including sales growth, leverage, and company size. Sales growth refers to the increase in revenue from year to year. As sales increase, the tax burden that must be paid also grows, prompting corporations to find ways to reduce that burden through tax avoidance. Several studies, such as those by Ida Ayu Rosa Dewinta and Putu Ery Setiawan (2016) and Charles and Juan Barus Gultom (2020), state that sales growth has an effect on tax avoidance. However, other studies by Adela Syifaul Fuadah and Astri Fitria (2021) and Erna Diyastuti and Nur Kholis (2022) argue that sales growth does not affect tax avoidance.

Another factor that can influence tax avoidance is leverage, which measures the extent to which a company finances its assets through debt. With leverage, a company can increase its capital and profits. The higher the debt, the greater the interest burden, which can become a reason for a company to engage in tax avoidance to maintain profitability (Mutsiah, 2022). Research by Adela Syifaul Fuadah and Astri Fitria (2021) and Ismiani Aulia and Endang Mahpudin (2020) shows that leverage affects tax avoidance. However, other studies by Liomi Byannur and Nursiam (2021) and Ngadiman and Christiany Puspitasari (2014) suggest that leverage does not affect tax avoidance.

Company size is also an important variable, where companies can be categorized by their size based on total assets, log size, stock value, and other factors. The larger the company, the larger its assets and potential profits, which means that the tax burden will also

increase, allowing the company to engage in tax avoidance. Research by Claudia Danilla (2023) and Ismiani Aulia and Endang Mahpudin (2020) indicates that company size affects tax avoidance. However, other studies by Charles and Juan Barus Gultom (2020) and Adela Syifaul Fuadah and Astri Fitria (2021) state that company size does not affect tax avoidance.

Based on the inconsistencies between the results of previous studies, the author is interested in further investigating the effect of sales growth, leverage, and company size on tax avoidance. This study refers to the research conducted by Utami (2020), but with differences in the number of independent variables, observation period, and the industry sector studied. In Utami's (2020) research, there are five independent variables: company size, profitability, leverage, institutional ownership, and sales growth. The research period was from 2014 to 2018, using the palm oil sector. Meanwhile, this study only uses three independent variables: sales growth, leverage, and company size, with the research object focusing on the manufacturing sector, specifically the food and beverage subsector, during the period of 2019-2023.

METHODS

This study adopts a quantitative research approach to examine the influence of sales growth, leverage, and firm size on tax avoidance. The selection of a quantitative method is based on its ability to provide empirical validation through numerical data, allowing for a more objective interpretation of relationships between variables. The research framework is built on existing theories and prior studies, particularly those concerning corporate financial behavior and tax management strategies.

The research population comprises manufacturing companies in the food and beverage sub-sector listed on the Indonesia Stock Exchange. This sector was chosen due to its consistent contribution to economic growth and its strategic role in ensuring food security. Moreover, the sector presents a dynamic competitive environment, making it an ideal context to observe managerial decisions related to tax planning. To ensure relevance and data availability, the study focuses on companies with complete financial statements over the selected period.

Purposive sampling was employed to determine the final sample, applying specific inclusion criteria such as the availability of audited annual reports and the consistency of financial disclosures. This non-random technique was chosen to ensure that only companies meeting research requirements were included. The sampling process resulted in a balanced and representative dataset, allowing the analysis to capture sector-specific insights without compromising the generalizability of the results.

Secondary data were collected from the official website of the Indonesia Stock Exchange and the respective corporate websites. The data include key financial metrics such as total assets, total liabilities, sales revenue, and effective tax payments. These indicators were used to calculate the independent and dependent variables, namely sales growth, leverage, firm size, and tax avoidance. The use of audited and publicly available data helps enhance the validity and reliability of the study.

Tax avoidance is measured using the Cash Effective Tax Rate (CETR), which is calculated as the ratio of cash tax paid to pre-tax income. A lower CETR value indicates a higher tendency for tax avoidance. Sales growth is calculated based on the year-over-year increase in revenue, while leverage is measured using the debt-to-asset ratio. Firm size is

proxied by the natural logarithm of total assets, a commonly accepted metric in corporate financial research.

The statistical analysis is conducted using panel data regression, which is suitable for datasets that track multiple companies over several time periods. This method allows the study to account for both cross-sectional and time-series variations, improving the robustness of the estimation. To determine the best model for the data—whether fixed effect, random effect, or pooled ordinary least squares—several tests were conducted, including the Chow test, Hausman test, and Lagrange Multiplier test.

Based on the results of these model selection tests, the fixed effect model was identified as the most appropriate. This model accounts for unobserved heterogeneity across firms, which is crucial given the sectoral and operational differences among companies. The regression analysis was conducted using EViews version nineteen, a reliable software widely used in econometrics for time-series and panel data analysis.

Prior to hypothesis testing, classical assumption tests were performed to ensure the validity of the regression model. These include tests for multicollinearity, heteroskedasticity, and autocorrelation. By satisfying these assumptions, the study ensures that the results are not only statistically significant but also economically meaningful. The final model was then used to test the influence of each independent variable on tax avoidance, both individually and collectively.

RESULTS AND DISCUSSION

Research Results

Descriptive Statistical Analysis

This analysis aims to describe the characteristics of each variable under study based on the sample data. It provides a summary of key information such as maximum, minimum, mean, and standard deviation values, which helps to understand the patterns and distribution of the data more clearly.

Table 1. Descriptive Statistical Analysis Results

	CETR	SG	DER	SIZE
Mean	0.298129	0.089321	0.837752	29.43118
Median	0.223762	0.082885	0.597524	29.09422
Maximum	2.295040	1.160292	6.354164	32.85992
Minimum	0.000000	-0.465160	0.102822	27.22503
Std. Dev.	0.330725	0.183286	0.884125	1.442018
Skewness	4.299983	1.489749	3.323115	0.501095
Kurtosis	23.25590	11.34382	18.10749	2.430419
Jarque-Bera	2623.080	425.1909	1475.546	7.197705
Probability	0.000000	0.000000	0.000000	0.027355
Sum	38.75673	11.61168	108.9078	3826.053
Sum Sq. Dev.	14.10989	4.333616	100.8362	268.2447
Observations	130	130	130	130

Based on the descriptive statistics in Table 1, the tax avoidance variable, measured by CETR, shows a maximum value found in PT Sekar Bumi Tbk and a minimum of zero in PT Astra Agro Lestari Tbk across several years, indicating the existence of firms that paid either no tax or more than twice their pre-tax income. The average CETR suggests a moderate level

of tax payments overall, while the standard deviation indicates substantial variation among firms.

Sales growth has a maximum value indicating strong revenue increase and a minimum value showing a significant decline in sales. The average growth rate suggests a moderate sales performance across the sample, with some firms experiencing losses.

Leverage, measured by the Debt-to-Equity Ratio, ranges widely from low to extremely high, suggesting differing financing structures among firms. The average and standard deviation figures reflect high variation in how companies manage debt.

Firm size, proxied by the natural logarithm of total assets, also shows significant variation. The gap between the largest and smallest firms demonstrates differences in operational scale, although the average and standard deviation reflect a moderately dispersed dataset.

Panel Data Regression Model Selection

Panel data regression can be conducted using three models: Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM). Each model has its strengths and limitations, and the appropriate choice depends on both theoretical considerations and technical requirements. To ensure accurate estimation, determining the correct panel data structure is a critical first step in the analysis.

Common Effect Model (CEM) Results

The Common Effect Model applies the Ordinary Least Squares (OLS) method, which estimates the regression without considering differences across time or individual entities. It assumes that all observations are homogeneous, making it the most basic form of panel regression.

Table 2. Common Effect Model (CEM) Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.796156	0.599635	1.327736	0.1867
SG	-0.319504	0.162975	-1.960442	0.0522
DER	0.082106	0.034947	2.349460	0.0204
SIZE	-0.018289	0.020565	-0.889324	0.3755
Root MSE	0.320118	R-squared		0.055852
Me$_S$an dependent var	0.298129	Adjusted R-squared		0.033372
S.D. dependent var	0.330725	S.E of re$_S$gression		0.325160
Akaike info criterion	0.621285	Sum squared resid		13.32182
Schwarz criterion	0.709517	Log likelihood		-36.38350
Hannan-Quinn criter.	0.657136	F-statistic		2.484560
Durbin-Watson stat	1.226506	Prob(F-statistic)		0.063771

Based on Table 2, the regression results using the Common Effect Model are not significant on a simultaneous basis, and only one variable shows partial significance. Therefore, further testing is necessary to determine the most appropriate model for the panel data.

Fixed Effect Model (FEM) Results

The Fixed Effect Model (FEM) employs the Least Squares Dummy Variable (LSDV) technique to estimate panel data models by introducing dummy variables to capture individual-specific intercepts. This method helps account for unobserved heterogeneity across companies, allowing for more accurate estimation by controlling for firm-specific effects.

Table 2. Fixed Effect Model (FEM) Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.228455	4.463232	0.499292	0.6187
SG	-0.384258	0.148571	-2.586364	0.0111
DER	-0.087251	0.063622	-1.371387	0.1733
SIZE	-0.061938	0.151566	-0.408654	0.6837
	Effects Specification			
Cross-section fixed (dummy variables)				
Root MSE	0.244580	R-squared		0.448862
Mean dependent var	0.298129	Adjusted R-squared		0.296071
S.D. dependent var	0.330725	S.E. of regression		0.277480
Akaike info criterion	0.467602	Sum squared resid		7.776497
Schwarz criterion	1.107283	Log likelihood		-1.394155
Hannan-Quinn criter.	0.727526	F-statistic		2.937758
Durbin-Watson stat	2.081536	Prob(F-statistic)		0.000043

Based on Table 2, the regression results using the Fixed Effect Model show significance on a simultaneous basis and effectively capture differences between firms. However, additional testing is still required to determine the most appropriate panel data model.

Random Effect Model (REM) Results

The Random Effect Model (REM), also known as the Error Component Model (ECM), uses the Generalized Least Squares (GLS) method to estimate panel data. This model assumes that differences across individuals are captured through random error components that are uncorrelated with the independent variables.

Table 3. Random Effect Model (REM) Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.662736	0.811480	0.816701	0.4156
SG	-0.373070	0.143613	-2.597741	0.0105
DER	0.041755	0.040964	1.019315	0.3100
SIZE	-0.012445	0.027762	-0.448261	0.6547
	Effects Specification			
			S.D.	Rho
Cross-section random			0.157385	0.2434
Idiosyncratic random			0.277480	0.7566
	Weighted Statistics			
Root MSE	0.279915	R-squared		0.050476
Mean dependent var	0.184588	Adjusted R-squared		0.027868
S.D. dependent var	0.288370	S.E. of regression		0.284324
Sum squared resid	10.18583	Sum squared resid		2.232672
Durbin-Watson stat	1.581197	Log likelihood		0.087644
	Unweighted Statistics			

R-squared	0.042343	Mean dependent var	0.298129
Sum squared resid	13.51244	Durbin-Watson stsat	1.191925

According to Table 3, the regression results from the Random Effect Model differ from those produced by the Common Effect Model and the Fixed Effect Model. Therefore, further testing is required to determine the most appropriate model for this panel data.

Panel Data Model Selection

Based on the outputs of the three panel data regression models, Common Effect Model, Fixed Effect Model, and Random Effect Model, initial insights are obtained to guide model selection. To determine the most suitable model for the analysis, three comparison tests are conducted: the Chow test, the Hausman test, and the Lagrange Multiplier test.

Chow Test

The Chow Test is based on the probability value (p-value) of the cross-section chi-square. If the p-value is greater than 0.05, the Common Effect Model is preferred. Conversely, if the p-value is less than 0.05, the Fixed Effect Model is deemed more appropriate. The results of the Chow Test are presented in the following table.

Table 4. Chow test Results

Effects Test	Statistic	d.f.	Prob.
Cros-section F	2.880876	(25,101)	0.0001
Cross-section Chi-square	69.978700	25	0.0000

Based on Table 4, the probability value of the cross-section chi-square is shown to be 0.0000, which is less than the 0.05 significance level. Therefore, the Fixed Effect Model (FEM) is considered the most appropriate regression model for this study.

Hausman Test

The Hausman Test determines model suitability by examining the probability value. If the p-value is greater than 0.05, the Random Effect Model is preferred; however, if the p-value is less than 0.05, the Fixed Effect Model is more appropriate. The results of the Hausman Test are presented in the following table.

Table 5. Hausman test Results

Teşst Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	9.292127	3	0.0256

Based on Table 5, the probability value from the cross-section random test is 0.0256, which is less than the 0.05 threshold. This indicates that the Fixed Effect Model (FEM) remains the most appropriate regression model for this study.

Lagrange Multiplier Test

The Lagrange Multiplier Test evaluates model suitability using the probability value from the Breusch-Pagan cross-section test. If the p-value is greater than 0.05, the Common Effect Model is preferred. However, if the p-value is less than 0.05, the Random Effect Model is considered more appropriate. The results of the Lagrange Multiplier Test are presented in the following table.

Table 6. Lagrange Multiplier Test Results

	Test Hypothesis		
	Cross-section	Time	Both
Breusch-Pagan	11.61018	1.236614	12.84679
	(0.0007)	(0.2661)	(0.0003)

Based on Table 6, the probability value from the Breusch-Pagan cross-section test is 0.0007, which is less than the 0.05 significance level. Therefore, the Random Effect Model (REM) is considered more appropriate for use in this panel data regression analysis.

Table 7. Results of Panel Data Regression Model Selection

No.	Model Selection Test	Significance Criteria	Test Result
1	Chow Test	Prob > 0.05 = Common Effect Model (CEM) Prob < 0.05 = Fixed Effect Model (FEM)	Fixed Effect Model
2	Hausman Test	Prob > 0.05 = Random Effect Model (REM) Prob < 0.05 = Fixed Effect Model (FEM)	Fixed Effect Model
3	Lagrange Multiplier Test	Prob > 0.05 = Common Effect Model (CEM) Prob < 0.05 = Random Effect Model (REM)	Random Effect Model

Based on the results presented in Table 7, the most appropriate regression model selected for this study is the Fixed Effect Model (FEM).

Classical Assumption Testing

Normality Test

The normality test is used to determine whether the variables in the regression model are normally distributed. The assessment is based on the probability value of the Jarque-Bera statistic. If the p-value is greater than 0.05, the data is considered normally distributed; otherwise, if it is less than 0.05, the data is not normally distributed.

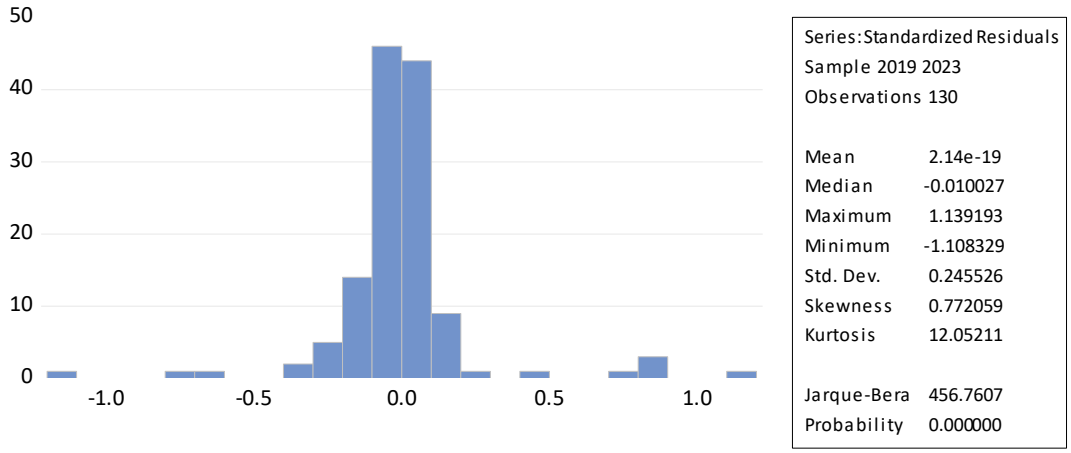

Figure 1. Normality test Results

Based on Figure 1, the probability value from the Jarque-Bera test is 0.000000, which is less than 0.05, indicating that the data is not normally distributed. However, since the sample size in this study includes 130 observations, the Central Limit Theorem (CLT) can be

applied. CLT states that with a sufficiently large sample size (n > 30), the sampling distribution of the mean will approximate a normal distribution, even if the population data is not normally distributed. Therefore, despite the test indicating non-normality, the analysis can still proceed to the next stages.

Multicollinearity Test

The multicollinearity test is used to assess whether there is a correlation among the independent variables in the regression model. A good regression model should not have multicollinearity. The evaluation is based on the Variance Inflation Factor (VIF); if the VIF value is less than 10, it indicates that there is no multicollinearity in the model.

Table 8. Multicollinearity Test Results

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	0.359562	442.1030	NA
SG	0.026561	1.349236	1.088682
DER	0.001221	2.218660	1.164766
SIZE	0.000423	451.5130	1.073024

Based on the multicollinearity test results presented in Table 8, all centered VIF values for the independent variables are below 10. This indicates that there is no multicollinearity problem within the regression model.

Heteroskedasticity Test

The heteroskedasticity test is conducted to examine whether there is unequal variance in the residuals across observations in the regression model. This study uses the White test by regressing the absolute residual values on the independent variables. If the significance value is less than 0.05, it indicates the presence of heteroskedasticity.

Table 9. Heteroskedasticity Test Results

Heteroskedasticity Test: White			
F-statistic	0.853702	Prob. F(9,120)	0.5686
Obs*R-squared	7.822722	Prob. Chi-Square(9)	0.5521
Scaled explained	77.43721	Prob. Chi-Square(9)	0.0000

Based on the results of the White heteroskedasticity test shown in Table 9, the Chi-Square probability value for Obs*R-Squared is 0.5521, which is greater than 0.05. Therefore, it can be concluded that there is no heteroskedasticity in the regression model.

Autocorrelation Test

The autocorrelation test is used to determine whether there is a correlation between the residuals in period t and those in the previous period (t–1) in a linear regression model. A good regression model should be free from autocorrelation. In this study, the Durbin-Watson (DW) test is used to detect autocorrelation. A DW value close to 2 indicates no autocorrelation. Values far below 2 suggest positive autocorrelation, while values far above 2 indicate negative autocorrelation.

Table 10. Autocorrelation Test Results

R-squared	0.017288	Mean dependent var	5.17E-17
Adjusted R-squared	-0.022338	S.D. dependent var	0.321356
S.E. of regression	0.324926	Akaike info criterion	0.634615
Sum squared resid	13.09152	Schwarz criterion	0.766963
Log likelihood	-35.24999	Hannan-Quinn criter.	0.688393
F-statistic	0.436273	Durbin-Watson stat	1.983502
Prob(F-statistic)	0.822510		

Based on the autocorrelation test results shown in Table 10, the Durbin-Watson value is 1.983502, which is very close to 2. This indicates that there is no autocorrelation, either positive or negative, present in the regression model.

Panel Data Regression Test

Panel data regression analysis is used to examine the extent to which sales growth, leverage, and firm size influence tax avoidance among manufacturing companies in the food and beverage sector listed on the Indonesia Stock Exchange during the period of 2019 to 2023. In this study, the regression test was conducted using the Fixed Effect Model (FEM) as the estimation model. The results of the regression analysis are presented in the following table.

Table 11. Panel Data Regression Test Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.228455	4.463232	0.499292	0.6187
SG	-0.384258	0.148571	-2.586364	0.0111
DER	-0.087251	0.063622	-1.371387	0.1733
SIZE	-0.061938	0.151566	-0.408654	0.6837

Based on the panel data regression results in Table 11, the regression equation is as follows: $Y = 2.228455 - 0.384258X_1 - 0.087251X_2 - 0.061938X_3 + e$. Where:
X_1 = Sales Growth
X_2 = Leverage
X_3 = Firm Size.

From the regression equation, the interpretations are as follows:

1. The constant value of 2.228455 indicates that if all independent variables are zero, the tax avoidance value would be 2.228455.
2. The coefficient for sales growth (X_1) is –0.384258, indicating that a one-unit increase in sales growth leads to a decrease in tax avoidance by 0.384258, assuming other variables remain constant.
3. The coefficient for leverage (X_2) is –0.087251, meaning a one-unit increase in leverage reduces tax avoidance by 0.087251, holding other variables constant.
4. The coefficient for firm size (X_3) is –0.061938, implying that a one-unit increase in firm size increases tax avoidance by 0.061938, assuming other variables do not change.

Hypothesis Testing

Partial Test (t-test)

The t-test is used to assess the individual effect of each independent variable on the dependent variable. The hypothesis testing is conducted at a 5% significance level (α = 0.05). If the p-value is less than 0.05, the alternative hypothesis is accepted, indicating a significant influence of the independent variable on the dependent variable. Conversely, if the p-value is greater than 0.05, the null hypothesis is accepted, meaning the independent variable has no significant effect on the dependent variable.

Table 12. Partial Test Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.228455	4.463232	0.499292	0.6187
SG	-0.384258	0.148571	-2.586364	0.0111
DER	-0.087251	0.063622	-1.371387	0.1733
SIZE	-0.061938	0.151566	-0.408654	0.6837

Based on the results in Table 12, the hypothesis testing can be described as follows:

a. H1: Sales growth affects tax avoidance.
   The t-statistic for sales growth is –2.586364 with a probability value of 0.0111, which is less than 0.05. Therefore, H1 is accepted, indicating that sales growth has a negative and significant effect on tax avoidance.
b. H2: Leverage affects tax avoidance.
   The t-statistic for leverage is –1.371387 with a probability value of 0.1733, which is greater than 0.05. Thus, H2 is rejected, suggesting that leverage does not have a significant effect on tax avoidance.
c. H3: Firm size affects tax avoidance.
   The t-statistic for firm size is –0.408654 with a probability value of 0.6837, also greater than 0.05. Hence, H3 is rejected, implying that firm size does not significantly influence tax avoidance.

Simultaneous Test (F-Test)

The F-test is used to evaluate whether all independent variables in the model jointly influence the dependent variable. This test refers to the significance level of 5% (α = 0.05). If the significance value is less than 0.05, the alternative hypothesis is accepted, indicating a simultaneous significant effect of the independent variables on the dependent variable. Conversely, if the value is greater than 0.05, the null hypothesis is accepted, meaning there is no significant simultaneous effect.

Table 13. Simultaneous Test (F-Test) Results

Root MSE	0.244580	R-squared	0.448862
Mean dependent var	0.298129	Adjusted R-squared	0.296071
S.D. dependent var	0.330725	S.E. of regression	0.277480
Akaike info criterion	0.467602	Sum squared resid	7.776497
Schwarz criterion	1.107283	Log likelihood	-1.394155
Hannan-Quinn criter.	0.727526	F-statistic	2.937758
Durbin-Watson stat	2.081536	Prob(F-statistic)	0.000043

Based on the results presented in Table 4.16, the following conclusion can be drawn: H4: Sales Growth, Leverage, and Firm Size jointly affect Tax Avoidance. The simultaneous test (F-test) shows an F-statistic of 2.937758 with a probability value of 0.000043, which is lower than the significance level of 0.05. Therefore, H4 is accepted, indicating that Sales Growth, Leverage, and Firm Size together have a significant influence on Tax Avoidance.

Coefficient of Determination (Adjusted R^2)

The coefficient of determination is used to assess how well the independent variables explain the variation in the dependent variable. The Adjusted R^2 ranges from 0 to 1, where a lower value indicates limited explanatory power of the independent variables. This may suggest the existence of other influential factors not included in the model or a weak relationship between the variables studied.

Table 14. Coefficient of Determination (Adjusted R^2) Results

Root MSE	0.244580	R-squared	0.448862
Mean dependent var	0.298129	Adjusted R-squared	0.296071
S.D. dependent var	0.330725	S.E. of regression	0.277480
Akaike info criterion	0.467602	Sum squared resid	7.776497
Schwarz criterion	1.107283	Log likelihood	-1.394155
Hannan-Quinn criter.	0.727526	F-statistic	2.937758
Durbin-Watson stat	2.081536	Prob(F-statistic)	0.000043

Based on Table 14, the R-Square value is 0.296071, indicating that the variables Sales Growth, Leverage, and Firm Size collectively explain 29.6% of the variation in Tax Avoidance. The remaining 70.4% is attributed to other factors not included in this research model.

Discussion

This study investigates the effect of Sales Growth, Leverage, and Firm Size on Tax Avoidance among manufacturing companies in the food and beverage sub-sector listed on the Indonesia Stock Exchange from 2019 to 2023. The panel data regression using the Fixed Effect Model reveals several key findings.

1 First, Sales Growth has a negative and significant effect on Tax Avoidance. This implies that companies experiencing higher sales growth tend to reduce their tendency to engage in tax avoidance. The result supports agency theory, suggesting that when companies experience strong performance through increasing sales, they are more likely to comply with tax obligations to maintain good reputation and stakeholder trust. These findings are consistent with the studies conducted by Dewinta and Setiawan (2016), and Gultom and Charles (2020), which found that high growth firms are more transparent and accountable in tax reporting.

2 Second, Leverage does not have a significant influence on Tax Avoidance. This indicates that the level of debt does not necessarily motivate companies to manipulate their tax liabilities. Although in theory, higher leverage can lead to tax planning behavior due to interest expense deductibility, the results suggest that companies may not perceive tax avoidance as a necessary strategy to reduce financial burden from debt. This finding aligns with prior studies by Liomi and Nursiam (2021) and Ngadiman & Puspitasari (2014), which also found no significant link between leverage and tax avoidance.

3 Third, Firm Size also shows no significant impact on Tax Avoidance. Larger firms are often presumed to have greater resources and knowledge to engage in tax planning strategies, yet the findings indicate that firm size alone is not a determinant of tax avoidance behavior. This might be due to public scrutiny and regulatory pressure that larger firms face, making them more cautious. This finding corroborates previous studies by Charles and Gultom (2020) and Fuadah & Fitria (2021), which found firm size unrelated to aggressive tax behavior.

Simultaneously, the joint effect of Sales Growth, Leverage, and Firm Size is statistically significant, indicating that the combined financial characteristics of a firm can influence its tax strategy decisions. This suggests that while individual variables may not have strong explanatory power, their interaction provides a more comprehensive understanding of the determinants of tax avoidance.

CONCLUSION

This study aimed to examine the effect of sales growth, leverage, and firm size on tax avoidance in manufacturing companies operating within the food and beverage sub-sector listed on the Indonesia Stock Exchange. Using a panel data regression approach with the Fixed Effect Model, the results provide valuable insights into how specific financial indicators influence tax behavior. The findings demonstrate that sales growth has a negative and significant impact on tax avoidance, indicating that companies with higher sales performance tend to exhibit lower tendencies toward minimizing tax obligations. This supports the notion that firms experiencing growth are more likely to maintain compliance to preserve their reputation and stakeholder trust. In contrast, both leverage and firm size do not show a significant influence on tax avoidance. This suggests that the amount of debt financing and the scale of operations do not necessarily drive companies to engage in aggressive tax strategies. It may reflect the growing awareness and regulatory oversight that curtails such practices. Taken together, this study highlights the complexity of tax avoidance behavior and suggests that not all financial characteristics equally influence it. The results encourage future research to consider broader variables, including corporate governance and managerial incentives, to better understand tax planning practices in the Indonesian context.

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