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Exploring Tax Strategies: Leverage and Firm Size Effect in Manufacturing Firms

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Abstract

The purpose of this study is to examine how leverage and firm size affect tax evasion in manufacturing companies that are listed on the Indonesia Stock Exchange (IDX) between 2021 and 2023. The lawful use of tax laws to lower tax obligations is known as tax avoidance. This practice has a substantial impact on state revenue, particularly in Indonesia where tax receipts are rising but the tax ratio stays low. Secondary data from financial reports of industrial firms is used in this study. By calculating business size using the natural logarithm of total assets and assessing leverage using the debt-to-asset ratio (DAR), it applies quantitative research approaches. The research results show that leverage has a significant influence on tax avoidance, where firms with higher levels of debt tend to carry out more tax reduction strategies because of the tax deduction from interest expenses. In contrast, firm size does not show a significant effect on tax avoidance, indicating that both large and small firms adopt similar tax avoidance measures. Managerial implications These findings emphasize the importance of regulatory oversight of corporate leverage and considering firm size in designing tax policies aimed at minimizing tax avoidance practices.

Keywords: Tax Avoidance, Leverage, Firm Size, Manufacturing Companies, Indonesia Stock Exchange (IDX).

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1. Introduction

Taxes play a very important role in the country and its society. They also have a big impact on a country's development because they can be used to finance education, infrastructure development, social assistance, and other government activities. According to Aninniyya (2021), taxes have several functions, including fiscal, regulatory, stabilization, and income redistributive functions.

Tax resistance is an intentional or unintentional action to avoid, evade taxes, and not pay taxes which is categorized into passive resistance and active resistance as stated (Setyawan, 2021). One of the active resistances carried out by taxpayers is to carry out tax avoidance, namely tax avoidance by exploiting tax policy loopholes. One-way firms avoid taxes by increasing their debt. High debt results in high-interest costs, thereby reducing the tax burden. Tax burden reduces profits, and reduced profits reduce tax burden by one period, according to (Kimsen et al., 2021).

A ratio called the leverage ratio is used to assess a company's capacity to meet all of its commitments, both immediate and long-term (Hery, 2020). Leverage can demonstrate the extent to which a company is debt-financed, whereas capital can demonstrate the company's capabilities (Harahap, 2021). The high degree of leverage suggests that the company depends heavily on debt financing. The interest burden will increase with debt levels. One benefit for businesses that lower their taxes is this interest expense.

Ariawan and Setiawan (2021) claim that because high-leverage businesses obtain tax benefits for interest expenses, they are more likely to engage in tax avoidance. Research by Permatasari (2020) and Dewi (2023) supports this conclusion by demonstrating that leverage affects tax evasion. However, research by Aninniyya (2021) revealed conflicting findings, claiming that leverage had no effect on tax evasion.

According to Mahdiana and Amin (2019), firm size is a measurement that is classified based on the size of the firm. It can also show the firm's operational activities and income. Each firm has its way of managing its taxes. Large firms have better abilities in managing their taxes. However, the bigger the firm, the more focused the government is on collecting taxes. Therefore, the size scale of each firm can influence how the firm manages its payments.

This condition is because large-scale firms tend to earn higher profits when compared to small firms, so this will greatly influence corporate taxes. Research conducted by (Dewi, 2023) states that firm size influences tax avoidance in Indonesia. Different research results were revealed (Permatasari, 2020), where firm size was stated not to affect tax avoidance. The manufacturing industry or processing industry is one of the industries that has an important role as a driver of the Indonesian economy.

On a national scale, the manufacturing industry contributes the largest state tax revenue. In 2023, the manufacturing industry will contribute 27.3% of the country's total tax revenue. Even though it is still the backbone of tax revenue, this figure has dropped significantly from the previous period in 2022 of 43.6%. This research aims to examine the impact of the use of leverage (debt) and firm size on the tax strategies implemented by manufacturing firms (Smith & Walker, 2023). This study is original because there has yet to be much research that specifically discusses the relationship between these three variables, especially in the context of manufacturing firms in Indonesia (J & Kwon, 2022). It is hoped that this research can make a scientific contribution by enriching knowledge regarding the behavior of manufacturing firms in making tax-related decisions, especially regarding the use of leverage and firm size. Apart from that, according to Chen, M., & Zhang.

2. Literature Review and Hypothesis
Literature Review
Accountancy
Accounting is widely known as a business language as a tool for measuring, describing, and interpreting financial transactions, which will help internal and external parties in making decisions in allocating financial resources in an organization (Rusiyati et al., 2019). Accounting also has another meaning as a provider of quantitative information of a financial nature to be used in making economic decisions by interested parties. Jusup (2019) argues that accounting can be defined as an information system that measures business activities, processes data into reports, and communicates the results to decision-makers. Then, if viewed in a visual process, according to

Jusup (2019), accounting is the process of recording, classifying, summarizing, reporting, and analyzing the financial data of an entity.

Financial Report Analysis
Leopold (2023) believes that financial statement analysis is a process that is full of consideration to help evaluate the firm's current and past financial position and operating results, with the aim of determining the most likely estimates and predictions regarding the firm's condition and performance in the future. Furthermore, Astarina et al. (2023) said that financial report analysis includes the application of various analytical tools and techniques to financial reports and data to obtain measurements and relationships that are meaningful and useful in the decision-making process.

Financial Statement Ratio Analysis
"Ratio analysis is a method of calculating and interpreting financial ratios to assess the performance and status of a firm" (Astarina et al., 2023). "Ratios in financial analysis are a tool that can be used to explain one financial data to another" (Sumardi & Suharyono, 2020). Ratio expresses the mathematical relationship between one amount and another amount or the comparison between one item and another item. Even though the ratio is just a systematic relationship, its description can be more complex. A ratio will be useful if the ratio shows a relationship that has meaning (Hariyani, 2021).

Leverage Ratio
"Financial leverage is the ratio between the book value of all debt (debt = D) to total assets (total assets = TA) in book value terms or debt from market value (B) to the total value (V) of a firm in market value terms" (Arifin, 2018). According to Hariyani (2021) the debt management ratio (leverage) is a ratio that refers to the debt owned by the firm. In a literal sense, leverage means leverage. Meanwhile, Sumardi and Suharyono (2020) argue that the leverage ratio describes/shows the extent to which the firm is invested with foreign capital. According to (Ningrum, 2022), leverage measures a firm's ability to fulfill all its financial obligations consisting of short-term debt and long-term debt.

Firm Size
The definition of firm size, according to Mahidin and Danastri (2019), is a scale or value that can classify a firm into a large or small category based on its total assets. Firm size is a measurement that is classified based on the size of the firm, but it is also able to show the firm's operational activities and income, Mahdiana & Amin (Aninniyya, 2021). According to Agnes (2020), the Cash Effective Tax Rate (CETR) indicator was chosen because it directly reflects the impact of taxes on a firm's cash flow. This provides a more accurate picture of the actual tax burden that the firm must bear during that period. By using CETR, researchers can understand how taxes affect a firm's ability to pay and the firm's ability to fulfill its tax obligations, according to Wuryatiningsih (Silalahi et al., 2020). In a firm, assets will always experience depreciation every year, and this can reduce firm profits so that it can reduce the tax burden paid by the firm. With the large assets owned by the firm, the firm will be better able to manage its wealth to carry out better tax planning (Mayndarto, 2022).

Manufacturing Industry
A manufacturing factory is a manufacturing firm or business entity that uses machines, equipment, and labor in a process environment to convert raw materials into finished products that have sales value. All processes and steps carried out in production operations are carried out in accordance with standard operating procedures (SOP) that apply to each work unit (Kusumawati, 2019). According to Supriyati (2019), manufacturing firms are firms operating in the industrial sector that are usually equipped with processing, so they are called industrial firms, and the processing activities of these firms include purchasing raw materials to be processed into new products (semi-finished products or finished products) which have been processed. Then selected, sorted, packaged, labeled, and sold.

Stock Exchange

A Stock Exchange is a party that organizes and provides systems and facilities to bring together securities buying and selling offers from parties wishing to trade these securities. The Stock Exchange was established to organize and provide Securities trading systems and/or facilities. With the availability of good systems and/or facilities, Stock Exchange Members can make offers to sell and buy Securities regularly, fairly, and efficiently. In addition, the availability of the system and/or facilities in question allows the Stock Exchange to supervise its members more effectively. Article 1, paragraph 4 of Law Number 8 of 1995 states that the stock exchange is the organizer and provider of systems and/or facilities to bring together offers for selling and buying securities of other parties with the aim of trading securities (Ginting, 2021).

Hypothesis
The influence of leverage on tax avoidance
Businesses may be able to use debt to fund their investment and operating requirements. On the other hand, interest is a fixed cost associated with debt. Because the tax benefits from loan interest are larger, the taxable profit will be smaller the more debt the company has. This result could lead to a rise in the usage of debt by businesses, according to Jasmine et al. (2017). Aninniyya's (2021) research indicates that leverage has an impact on tax evasion because of the high leverage analysis test results. Leverage increases the interest expense, which in turn lowers the tax burden and helps the business dodge taxes inadvertently. Mulyani & Nugraha (2021).
**H1: There is a positive influence of leverage on tax avoidance in manufacturing firms**

The influence of firm size on tax avoidance
Firm size is defined as "a scale where firms can be classified as large or small according to various According to Rinaldi and Cheisviyanny (2019), company size is "a scale where firms can be classified as large or small according to various ways, including total assets, log size, stock market value, etc." Since the log of total assets is thought to be continuous over time and more stable than other proxies, it can be used to calculate the size of the company." According to Fitria's (2019) research, a firm's size can have an impact on tax avoidance. According to this study, a company's tax evasion practices will vary depending on how big it is, as shown by the total amount of assets under its ownership. According to Fitria (2019), a company's running expenses are directly correlated with its assets. Specifically, a stronger asset base translates into higher operating costs, which allows the corporation to engage in more tax avoidance.
H2: There is a positive influence of firm size on tax avoidance in manufacturing firms

Framework
The framework for this research is as follows:
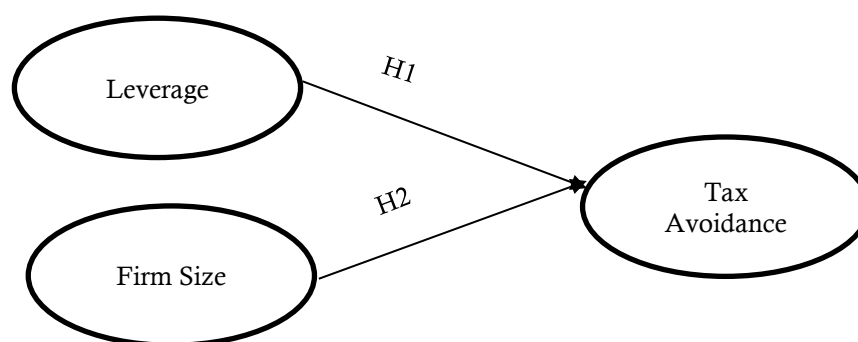
Figure 1. Framework of Thought

3. Data and Method

Types of research

According to Siyoto and Sodik (2020), compared to qualitative research, problems studied in quantitative research methodologies typically have a larger scope and more complicated variations. According to the preceding description, the author's research methodology is quantitative since it stresses the study of numerical data, makes use of statistical techniques, and tests hypotheses.

Sampling Method

This study used a nonprobability sampling strategy. According to Hikmawati (2020), nonprobability sampling only offers equal chances for any component or subset of the population to be chosen as a sample. Purposive sampling was the nonprobability sampling strategy used in this study. The population of this study is manufacturing enterprises registered on the Indonesia Stock Exchange (BEI) for the period of 2021 to 2023, as shown by the description provided above.

Method of collecting data

Techniques in data collecting are policies, procedures, and methods that facilitate the selection and gathering of relevant data; the precise data gathered will have an impact on the research process as well as the findings. There are several components to data collection procedures, including the need to take into account the researcher's skill and experience, the topic and goal of the study, time constraints, and the degree of difficulty involved in gathering data. Of course, consideration for research expenses must also be given to data collecting (Dawis et al., 2021).

Panel Data Analysis

Multiple Regression is an analysis method that consists of more than two variables, namely two/more independent variables and one dependent variable (Sahir, 2021). The formula for the Multiple Regression equation, according to (Sahir, 2021), can be explained as follows:

$$Y = a + \beta_1 L + \beta_2 CS + \beta_3 TA + e \qquad (1)$$

4. Results

Descriptive statistics

Descriptive statistical testing of the variables studied provides an overview of the number or value of each variable used in the research. The following are the results of descriptive statistical tests carried out in this research.

Table 1. Description Statistics

	Leverage	Firm Size
Mean	0.365525	23.56000
Medium	0.340000	26.58000
Maximum	1.080000	30.94000
Std. Dev.	0.030000	12.81000
Skewness	0.185223	5.514621

Source: Processed Data (2023)

The descriptive test results provide an overview of the data distribution for two variables, namely H1 and H2. In variable H1, the average value (mean) is 0.365525 with a median value of 0.340000. The maximum value recorded for H1 is 1.080000, while the standard deviation (std. dev.) reflecting the spread of data around the mean is 0.030000.

Test Chow

The Chow test is used to choose between the CEM (Common Effect Model) or FEM (Fixed Effect Model) models that can be used in research. The basis for decision-making in the Chow test is:

Table 2. Chow Test Results

Effect Test	Statistic	d.f	Prob
Cross-section F	1.929316	(72.144)	0.0004
Cross-section chi-square	147.894677	72	0.0000

Source: Processed Data (2023)

Based on the results of the Chow test in the image above, it is known that the Chi-square probability value is 0.00 < 0.05; based on this, the model chosen is the FEM (Fixed Effect Model).

Housman Test
After carrying out the Chow test, the Housman test must be carried out to determine between the FEM (Fixed Effect Model) or REM (Random Effect Model) model as the best model that can be used in this research.

Table 3. Housman Test

Test Summary	Chi-Sq Statistic	Chi-Sq. d.f.	Prob.
Cross- Section random	1.639612	2	0.4405

Source: Processed Data (2023)

Based on the Housman test results above, it is known that the Chi-square probability value is 0.44 > 0.05, which means the best model for this research is the REM model (Random Effect Model).

Results of Panel Data Analysis
The following are the results of the panel data regression test, which was tested using EViews 12 in this research:

Table 4. Panel Data Regression Analysis

	Kofisen	t-Statistic	Probability
(Constant)	.1124	2.134	.0342
Leverage	.0668	3.956	.0001
Firm Size	.0008	.945	0.3456

Source: Processed Data (2023)

The regression coefficient for the Leverage variable has a positive value of 0.066, meaning that if there is an increase in leverage by one unit, then Tax Avoidance will increase by 0.0668 and vice versa. The regression coefficient for the Firm Size variable has a positive value of 0.0008, meaning that if there is an increase in the Firm Size value by one unit, then Tax Avoidance will increase by 0.0008 and vice versa.

5. Discussion
The Influence of Leverage on Tax Avoidance
Based on the conducted and reported t-test results, the leverage variable's probability value indicates that it has a significant influence on tax evasion in manufacturing companies. The Leverage variable's regression coefficient value is positive, suggesting a positive correlation with the Tax Avoidance variable. Specifically, there is a one unit correlation between an increase in tax evasion and a rise in leverage, and vice versa. The findings of this study support those of Aninniyya (2021) and Triyanti et al. (2020), who found a connection between tax evasion and leverage. These findings corroborate those of Ariawan et al. (2017), who found that leverage significantly affects tax evasion. Marfu'ah's (2019) study on the relationship between leverage and tax evasion yields the same conclusions: leverage helps reduce tax evasion. A high ETR score indicates a low level of tax avoidance, however a high DAR (Debt to Asset Ratio) value indicates that the company has a high level of leverage. The degree of tax evasion decreases with increasing leverage. Because they have benefited from tax breaks on interest expenses, highly leveraged companies are less motivated to evade taxes.

The Influence of Firm Size on Tax Avoidance

The Firm Size variable has a probability value, according to the results of the t-test that was conducted; this indicates that the Firm Size variable only partially has a significant impact on Tax Avoidance in manufacturing enterprises. Additionally, the Firm Size variable has a positive regression coefficient value, indicating that the two variables have a relationship in which the increase in Firm Size improves Tax Avoidance, and vice versa, by one unit. This study supports the findings of Aninniyya (2021) and Silalahi et al. (2020), which claim that there is no relationship between firm size and tax evasion. Researchers Swingly and Sukartha (2017) corroborate the test results, which indicate that firm size has no bearing on tax evasion, a finding corroborated by Dharma's (2018) research. Corporate tax evasion is not influenced or affected by a company's size, no matter how big or little. Every business has to pay taxes in accordance with its taxpayer responsibilities. Penalties may be imposed on any taxpayer who violates relevant regulations. The tax authorities inspect small businesses as well as large businesses to make sure they abide by the relevant tax laws.

6. Conclusion

This study aims to demonstrate the magnitude of the relationship between Firm Size and Leverage and Tax Avoidance. This study's focus is manufacturing companies that are listed on the Indonesia Stock Exchange (BEI) between 2021 and 2023, with a sample size of 73 companies. Drawing from the findings of statistical tests and analysis conducted in the preceding chapter, the author's conclusion is that leverage has an impact on tax avoidance. Tax avoidance is unaffected by firm size. Tax avoidance is unaffected by both leverage and firm size at the same time. This research's management implications demonstrate that leverage and firm size have a big impact on tax evasion. Thus, firm management needs to consider using leverage as a tax reduction tool wisely, without violating tax regulations. Management must also be aware that large firms tend to be more closely monitored for tax avoidance practices. Therefore, firms need to develop tax strategies that are appropriate to their business scale and applicable regulations to reduce the risk of being subject to tax sanctions. In addition, firms must continue to increase transparency and compliance with tax regulations to build a good corporate image and avoid potential legal problems in the future. In examining tax strategies within manufacturing firms, leverage and firm size influence their tax burdens and financial strategies. Larger firms often leverage their size to optimize tax positions through complex arrangements like interest deductions on debt, which smaller firms might find less accessible due to their limited resources and bargaining power. The use of leverage, while offering potential tax shields, also entails higher risks and costs, which must be balanced against the benefits. From a managerial perspective, it is crucial to understand that the advantages of leverage must be carefully weighed against the risks, and the scale of the firm should guide tailored tax strategies that leverage available resources and market positions effectively to ensure sustainable growth and compliance.

Recommendation

Suggestions: This research still has several limitations faced by the author. Therefore, the researcher provides suggestions that can be used by further research: Future research should use other proxies for Tax Avoidance, such as GAAP ETR. Future researchers should use independent variables that still need to be added to this research, which can explain dependent variables such as audit committee and compensation fiscal, corporate governance, and so on. Future researchers should determine more detailed sample criteria so that the determination of a firm that practices Tax Avoidance can be better and more targeted.

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