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Research Article

Profitability, Firm Size, and Tax Avoidance: A Review of the Indonesian Energy Sector (2020-2024)

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Abstract: This study aims to examine how profits and company size affect tax avoidance in energy companies listed on the stock exchange between 2022 and 2024. This study applies a quantitative approach using secondary data from annual financial reports. The population data was taken from 18 energy companies listed on the Indonesia Stock Exchange, while the sample selection was conducted using purposive sampling. The main phenomenon affecting the test results is the existence of incentives for highly profitable companies to engage in tax avoidance due to the potential for more significant tax savings. In addition, large companies usually have more resources and complex organizational structures, which give them more opportunities to carry out innovative and aggressive tax planning. It is hoped that this study can offer a fresh understanding of tax avoidance practices in the energy sector in Indonesia. The impact of this study is important for authorities to understand the relationship between corporate profitability, entity size, and tax avoidance practices, especially in the energy sector, which plays a strategic role. This understanding can assist in formulating more appropriate taxation policies to maintain economic stability and fiscal justice. The novelty of this research lies in its focus on business entities in the energy sector listed on the Stock Exchange from 2022 to 2024, which is a dynamic period marked by global commodity price fluctuations, changes in energy policy, and significant geopolitical challenges.

Keywords: Company Size; Energy Sector; IDX; Profitability; Tax Avoidance

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1. Introduction

Tax compliance is an important aspect of economic sustainability regardless of significant deviations from standard practices. Tebiono & Sukadana (2021) state that taxes are a significant source of government revenue, but for companies, they are an unambiguous expense that can reduce profits. Corporate tax avoidance is a topic of much discussion in Indonesia, mainly because of the problems it poses. In the world of taxation, there are three terms that often appear together but have different implications, namely tax planning, tax avoidance, and tax evasion. These three terms have similar objectives, namely to reduce the amount of tax payable, thereby potentially leading to a decline in tax revenue (Lamsah & Indy, 2024). This phenomenon not only affects state revenue, but can also create unfairness in healthy business competition. Companies that succeed in reducing their tax burden will have a competitive advantage, which can hamper overall economic growth. One method commonly used is tax avoidance, which is a series of legal steps to reduce the amount of tax a company needs to pay.

Tax avoidance is a legal action taken by taxpayers, both individuals and businesses. According to Nurmawan & Nuritomo (2022), tax avoidance is related to efforts made by companies to pay their taxes efficiently. This activity helps reduce the amount of tax payable by exploiting loopholes, weaknesses, or provisions in tax regulations. Although legal, this practice is often considered to be in a gray area between compliance and excess. The term tax

avoidance is used because the goal is to minimize the company's tax burden as much as possible, which sometimes conflicts with the spirit or original intent of the tax law itself.

Tax avoidance practices are an interesting and important topic of research, given their impact on state revenues and fairness in the fiscal system. Particularly in the energy sector, which is an important element of the economy and is greatly affected by fluctuations in global commodity prices, the relationship between corporate profitability, company size, and tax avoidance practices warrants further study. Various previous studies have examined the elements that contribute to tax avoidance, including profits, company size, loans, and corporate management. Research conducted by Sudibyo (2022) indicates that taxes are positively influenced by profits. Meanwhile, a study by Syahputra (2023) reveals that company size does not affect tax avoidance. The complexity of operations and the structure of large companies also open up more opportunities for smart tax planning. Therefore, this study states that both company profits and company size play a key role in determining the extent to which companies engage in tax avoidance.

Several previous studies have identified factors that contribute to tax avoidance, such as profit scale and company size. According to Maharani & Akbar (2025), profitability ratios serve as indicators of how effective management is in implementing business plans, because profit is the main objective of all business activities. In other words, entities with higher profitability tend to have greater motivation to engage in tax avoidance due to the potential for greater tax savings. The higher the profits, the greater the taxes to be paid, thus encouraging managers to find legitimate ways to reduce their tax liability. In addition, company size is also believed to be closely related to tax avoidance. Larger companies generally have more resources, such as experienced internal tax teams and access to renowned external tax consultants. This gives them the ability to design and implement more sophisticated and aggressive tax avoidance strategies than smaller entities. According to Syahputra (2023), the larger the company, the greater the intensity of tax avoidance. The complexity of large companies' operations and structures can also create more opportunities for innovative tax planning. Thus, this study argues that both profitability and company size will have a significant impact on the level of tax avoidance practiced by an entity.

There have been many studies on the aspects that can trigger tax avoidance in companies in various contexts and time periods, but there are still research gaps that need to be explored. Most of the existing literature may not have fully explored such a dynamic period as 2020 to 2024, during which the global energy sector experienced significant commodity price fluctuations, changes in energy regulations, and geopolitical pressures that could affect business and tax strategies. The absence of studies focusing specifically on energy companies listed on the IDX in the 2020-2024 period is also an important gap. The energy sector has its own characteristics, such as dependence on oil and gas prices, large investments, environmental risks, and strict regulations that distinguish it from other sectors and can influence tax avoidance choices in different ways. This study was conducted to fill this gap by evaluating the extent to which profitability and company size can influence tax avoidance practices in energy companies listed on the IDX in this recent period. It is hoped that this research can provide a more up-to-date view of tax avoidance practices in one of Indonesia's most important economic sectors, as well as enrich the tax accounting literature with data and results from the relevant period.

2. Literature Review

Agency Theory

Jensen and Meckling (1976) introduced agency theory, emphasizing that a firm's ownership structure, management practices, and reward systems aim to reduce, but not entirely eliminate, agency costs. They argued that completely eliminating agency costs would be prohibitively expensive. This theory has since become a key foundation in corporate finance, corporate governance, and organizational behavior studies.

Profitability

The return on assets ratio is a crucial indicator for assessing a company's profitability from its available resources (Adyani & Sampurno, 2024). Profitability reflects how efficiently a company transforms revenue into net income, serving as a vital factor in attracting investors and ensuring business sustainability. This ratio plays a significant role in determining a company's financial.

H1: The Effect of Profitability on Tax Avoidance.

Company Size

Company size is measured by the total assets owned by the company, which can be used for its operational activities. Company size refers to the scale or size of a business entity, and several indicators are used to measure it, such as total assets, total sales/revenue, number of employees, or market capitalization. Law Number 20 of 2008 classifies companies into several categories: micro, small, medium, and large businesses. (BPK, nd) . Firm size is often used as a proxy to reflect operational complexity, business diversification, resource capacity, and the potential to undertake certain activities such as more sophisticated tax planning.

H2: Company size has an effect on Tax Avoidance.

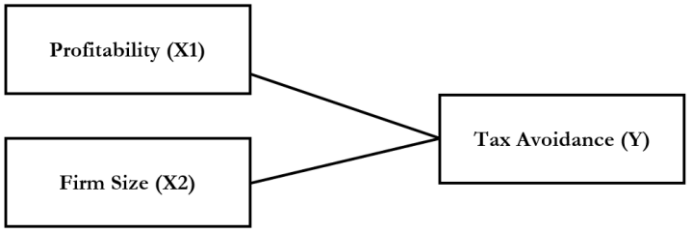

Figure 1. Conceptual Framework

Based on figure 1 in this study, there are two independent variables analyzed, namely Profitability (X1) and Company Size (X2), while the dependent variable studied is Tax Avoidance (Y).

3. Research Method

This study focused on energy sector entities listed on the Indonesia Stock Exchange (IDX) for the 2020-2024 period. Using a purposive sampling method, data was collected from the financial and annual reports of each issuer, which are accessible on the website www.idx.co.id

or on each issuer's individual website. The selection of issuers was based on several criteria: first, the issuers must be part of the energy sector and listed on the IDX during the 2020-2024 period. Second, the issuers must not have been included in the special monitoring board throughout the research period. Third, only issuers with a positive Return on Assets (ROA) during the research period were considered. Additionally, the issuers needed to present complete and audited annual financial reports for the specified period. Lastly, the issuers had to have an Effective Tax Rate (ETR) not exceeding 22% and an ETR that was not negative. These criteria helped ensure that the data used in this study was both relevant and reliable.

Table 1. Criteria Results

No.	Criteria	Year					Sample
		2020	2021	2022	2023	2024	
1.	Initial Data Amount	91	91	91	91	91	455
2.	ROA (-)	-28	-21	-17	-12	-12	-90
3.	Incomplete Financial Report Data	-16	-12	-4	-4	-5	-41
4.	Issuers Under Special Monitoring of the Stock Exchange	-4	-4	-6	-7	-6	-27
5.	ETR < 22%	-22	-31	-26	-28	-31	-138
6.	ETR (-)	-1	0	0	0	0	-1
	Total Sample Used						**158**

Source: SPSS, Self-processed data (2025)

Variable Measurement

Tax Avoidance

There are several methods available to determine the extent of tax avoidance within a company, one of which is the Effective Tax Rate (ETR). The ETR calculation uses Income Tax Expense data from the income statement and profit before tax from the income statement, using the following formula:

$$ETR = \frac{Tax\ Expense}{Earning\ Befor\ Tax}$$

The following definitions are used in this study: ETR (Effective Tax Rate) refers to the rate calculated based on the applicable financial accounting reporting. Tax Expense represents

the corporate income tax expense incurred by companies, as outlined in their financial statements. Meanwhile, Earnings Before Tax refers to the income a company earns before tax deductions within one year, as reported in the company's financial statements. These terms are essential for understanding the financial performance and tax-related behaviors of the companies analyzed in the study.

Profitability

Profitability itself can be calculated in several ways, one of which is using the Return of Assets (ROA) calculation with the formula:

$$ROA = \frac{Net\ Profit}{Total\ Asset}$$

Firm Size

Ln is the natural logarithm. Meanwhile, total assets represent the total value of all assets owned by the company, consisting of current assets, fixed assets, and intangible assets. This formula is used to smooth out the often very large total asset value, making it easier to process in analysis. The calculation formula is as follows:

$$Firm\ Size = Ln\ (Total\ Asset)$$

4. Results and Discussion

Descriptive Statistics Test

The following are the results of descriptive statistical tests on the data:

Table 2. Descriptive Statistics

	N	Minimum	Maximum	Mean	Standard Deviation
ROA	158	0.00	2.01	0.1428	0.19617
FIRM SIZE	158	13.18	29.17	21.3359	4.03811
ETR	158	0.00	0.22	0.1319	0.08000
Valid N (listwise)	158				

Source: SPSS, Self-processed data (2025)

Descriptive statistical measurements on this variable are needed to see the data in general, such as the average (Mean), highest (Max), lowest (Min), and standard deviation values of each variable, namely ROA (X1), Firm Size (X2), and ETR (Y).

Classical Assumption Test

The following are the results of descriptive statistical tests on the data:

Table 3. Classical Assumption Results

Assumption	Criteria	Results	Information
Normality	Monte Carlo Sig Values. (2-tailed) > 0.05	Monte Carlo Sig Values. (2-tailed): 0.000 < 0.05	Not Qualified
Autocorrelation	Run Test > 0.05	1.000 > 0.05	Qualified
Multicollinearity	Tolerance > 0.1; VIF < 10	X1 Tolerance 0.996; VIF 1.004 X2 Tolerance 0.996; VIF 1.004	Qualified
Heteroskedasticity	Spearman Rho with Sig > 0.05	X1 Sig 0.375 X2 Sig 0.815	Qualified

Source: SPSS, Self-processed data (2025)

Statistical tests in Table 2, that the normality test uses Monte Carlo values, the autocorrelation test uses Durbin Watson, the multicollinearity test uses the VIF criteria < 10 and tolerance value > 0.10, and the heteroscedasticity test uses the Spearman rho test.

Hypothesis Testing

Coefficient of Determination

The following are the results of the coefficient of determination test on the data:

Table 4. Coefficient of Determination Results

Model Summary				
Model	**R**	**R Square**	**Adjusted R Square**	**Standard Error of the Estimate**
1	0.180 [a]	0.032	0.020	0.07921

a. Predictors: (Constant), FIRM SIZE, ROA

Source: SPSS, Self-processed data (2025)

The adjusted r square value is 0.020, so it can be concluded that the contribution of the influence of the independent variable on the dependent variable simultaneously is 2%.

F Test (Simultaneous)

The following are the results of the f (simultaneous) test on the data:

Table 5. F Test Results

ANOVA [a]						
Model		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1	Regression	0.032	2	0.016	2,582	0.079 [b]
	Residual	0.972	155	0.006		
	Total	1,005	157			

a. Dependent Variable: ETR

b. Predictors: (Constant), FIRM SIZE, ROA

Source: SPSS, Self-processed data (2025)

The regression model is declared FIT if the sig. value (<0.05). If the sig. value is 0.079 > 0.05, it can be concluded that the independent variable does not have a significant effect simultaneously on the dependent variable.

T-Test (Hypothesis)

The following are the results of the t-test (hypothesis) on the data:

Table 6. T-Tesr Results

Coefficients [a]						
		Unstandardized Coefficients		**Standardized Coefficients**	**t**	**Sig.**
Model		**B**	**Std. Error**	**Beta**		
1	(Constant)	0.099	0.035		2,870	0.005
	ROA	0.071	0.032	0.175	2,209	0.029
	FIRM SIZE	0.001	0.002	0.053	0.667	0.506

a. Dependent Variable: ETR

Source: SPSS, Self-processed data (2025)

The sig. value of the ROA variable (X1) is 0.029 (<0.05), so it can be concluded that the ROA variable (X1) has a significant effect on variable Y. Meanwhile, the sig. value of the Firm Size variable (X2) is 0.506 (>0.05), so it can be concluded that the Firm Size variable (X2) does not have a significant effect on variable Y.

Multiple Linear Regression Test

$Y = 0.099 + 0.071\ X1 + 0.001\ X2 + €$

The following definitions are used in this study: ETR (Effective Tax Rate) refers to the rate calculated based on the applicable financial accounting reporting. Tax Expense represents the corporate income tax expense incurred by companies, as outlined in their financial statements. Meanwhile, Earnings Before Tax refers to the income a company earns before tax deductions within one year, as reported in the company's financial statements. These terms are essential for understanding the financial performance and tax-related behaviors of the companies analyzed in the study.

The Effect of Profitability on Tax Avoidance

Based on Table 5, the ROA significance value is 0.032, which is less than 0.05. Therefore, ROA has a significant effect on tax avoidance, and the first hypothesis (H1) is accepted. Theoretically, a high ROA indicates a company's ability to generate greater profits, thus encouraging management to implement tax burden efficiency through tax avoidance practices. This finding is also in line with agency theory, which states that managers have an incentive to maximize after-tax profits.

Company Size Influences Tax Avoidance

Based on the results in Table 5, the Firm Size variable's significance value is 0.002, which is smaller than 0.05. This indicates that Firm Size has a significant effect on tax avoidance, thus accepting the second hypothesis (H2). Theoretically, the larger the company size, the more complex its operational activities and transactions, thus providing greater opportunities for management to conduct tax planning, including tax avoidance practices. These results align with agency theory, which explains that large companies tend to have broader resources and flexibility to minimize their tax burden.

5. Conclusion

This study aims to analyze the effect of profitability (ROA) and firm size on tax avoidance in energy sector companies listed on the Indonesia Stock Exchange for the 2020–2024 period. The results indicate that profitability (ROA) has a significant effect on tax avoidance. This finding implies that the higher the company's profitability, the greater the tendency of management to optimize tax expenses through tax avoidance practices. This result is consistent with agency theory, which states that managers have incentives to maximize after-tax profits.

On the other hand, firm size does not have a significant effect on tax avoidance. Although theoretically larger companies have more resources and flexibility in tax planning, the findings of this study suggest that firm size is not always a determining factor in tax avoidance practices. Thus, it can be concluded that profitability plays a more dominant role than firm size in influencing tax avoidance in the energy sector. These findings are expected to provide insights for regulators and tax authorities in designing more effective tax policies, particularly for energy companies that have a strategic role in the national economy.

Based on these results, several suggestions can be made for future research. First, future studies are recommended to include other variables that may affect tax avoidance, such as leverage, liquidity, sales growth, or corporate governance mechanisms, to provide a more comprehensive view. Second, future research could expand the sample beyond the energy sector to allow comparisons across industries regarding the factors influencing tax avoidance. Third, a longer observation period could be considered to obtain more stable results and capture changes in economic conditions or tax policies over time.

In addition, future studies may adopt qualitative or mixed-method approaches to gain deeper insights into corporate strategies in tax planning. This is important so that research results are not only limited to quantitative data but also explain managerial motivations, decision-making considerations, and regulatory contexts that shape tax avoidance practices. Hence, future research is expected to enrich the taxation literature and provide more applicable recommendations for regulators, investors, and company management.

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