



## The Effect of Profitability, Leverage, Capital Intensity and Corporate Social Responsibility on Tax Avoidance in Energy Sector Companies Listed on the Indonesian Stock Exchange 2020-2024

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### ABSTRACT

Tax avoidance is defined as efforts by taxpayers to minimize their tax liabilities by exploiting legitimate loopholes in tax regulations. Tax avoidance is carried out through tax planning. This study aims to analyze the effect of profitability, leverage, capital intensity, and corporate social responsibility on tax avoidance. Data collection was conducted by documenting data sourced from annual reports published through the Indonesia Stock Exchange and the official websites of energy sector companies from 2020-2024. Sample collection used purposive sampling, resulting in a total of 100 samples consisting of 20 energy companies listed on the Indonesia Stock Exchange from 2020-2024. This study used multiple linear regression with a panel-data approach in Eviews 12. The partial results showed that leverage had a significant effect on tax avoidance, while profitability, capital intensity, and corporate social responsibility did not have a significant effect on tax avoidance. Meanwhile, the simultaneous test results show that profitability, leverage, capital intensity, and corporate social responsibility together have a significant effect on tax avoidance.

**Keywords:** Tax Avoidance; Profitability; Leverage; Capital Intensity; Corporate Social Responsibility



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## INTRODUCTION

Taxes are one of the sources of state revenue with the potential to be a major contributor to the State Budget (Nurtanto & Wulandari, 2024). Taxes play an important role in supporting the state's financial capabilities and supporting national development. The success of a country's national development is determined by the amount of revenue received by the state (Marlinda *et al.* 2020).

According to the Tax Justice Network report, tax avoidance in Indonesia in 2022 reached 69.2 trillion rupiah for corporations and 1.1 trillion rupiah for individual taxpayers, with Indonesia ranking 4th in Asia in terms of tax avoidance. One of the reasons for the high rate of tax avoidance among corporations in Indonesia is the difference in tax interests between companies and the government. Yulianty *et al.* (2021) argue in their research that one of the legal methods often used by companies to reduce their tax burden is tax avoidance.

The case of tax avoidance by companies in the energy sector in Indonesia that has become the subject of public attention is PT Freeport Indonesia, which is involved in a dispute with the Directorate General of Taxes (DGT) regarding the 2016 Corporate Income Tax Underpayment Assessment Letter (SKPKB) worth hundreds of millions of US dollars. The dispute stemmed from fiscal corrections made by the DJP to several cost components, such as police and military support, professional fees, supplies, and IT costs. PT Freeport argued that these costs were legitimate operational expenses, while the DJP considered that the recognition of these costs was not in accordance with the principle of fairness. The Tax Court then decided to grant some of the DJP's corrections and reject others. This case reflects the potential for legal tax avoidance practices in the energy sector through the recognition of costs that are difficult to verify, as well as illustrating the complexity and high risk of tax avoidance in large companies in this sector (Liputan6, 2023).

Although companies in the energy sector make a significant contribution to Indonesia's Gross Domestic Product (GDP), the sector's tax compliance remains far below the expected level. In 2022, the ESDM (Energy and Mineral Resources) sector was recorded to have contributed 12.2% to the Gross Domestic Product (GDP) (Purwowidhu, 2023). However, the energy sector contributed only 8.3% to tax revenue (Central Statistics Agency, 2023).

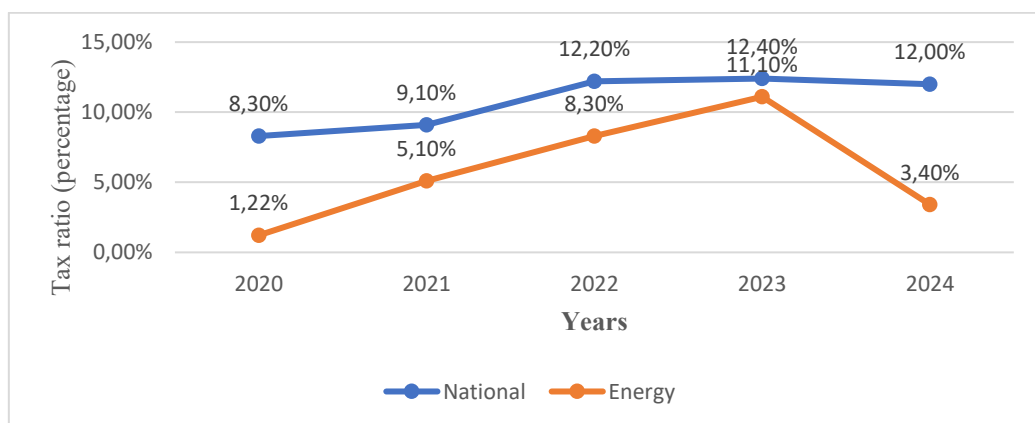


Figure 1. National Tax Ratio and the Energy Sector  
Source: Ministry of Finance & Ministry of Energy and Mineral Resources (2025)

As shown in the data in Figure 1, the tax ratio in the energy sector remains well below the national tax ratio. The tax ratio figures reveal significant fluctuations between

the national tax ratio and that of the energy sector from 2020 to 2024. In 2020, the national tax ratio stood at 8.30%, while that of the energy sector was only 1.22%, indicating that the energy sector's contribution to tax revenue remains very low. In 2021, the national tax ratio rose slightly to 9.10% in line with economic recovery, while the energy sector's tax ratio surged sharply to 5.10%. This occurred due to rising commodity prices in the energy sector as well as government efforts to improve tax compliance.

In 2022, the national tax ratio increased significantly to 12.20%, while the energy sector also rose to 8.30%, indicating that despite this increase, the energy sector still lagged behind the national average. In 2023, the national tax ratio rose again to 12.40%, and the energy sector also increased to 11.1%, indicating that the sector's tax contribution was approaching the national level. However, in 2024, there was a sharp decline in the energy sector to only 3.40%, contrary to the national tax ratio which still rose slightly to 12.50%, thus showing instability in the energy sector's tax contribution to total national revenue.

One factor that is thought to drive a company to engage in tax avoidance is profitability. The higher the profit a company earns, the higher its income tax liability will be. Tax avoidance tends to be practiced by companies when they have higher total profits (Yulianty *et al.* 2021). Highly profitable companies are able to apply tax reductions to reduce their tax expenses, or in other words, their level of tax avoidance will be higher (Danardhito *et al.* 2023).

In addition to profitability, the next factor is leverage. Leverage (debt structure) is the ratio of a company's debt to its assets. Companies choose debt financing because the interest expenses on the debt can be used as a tax shield, thereby reducing the company's tax burden. The higher a company's leverage ratio, the greater its efforts to engage in tax avoidance (Gazali *et al.* 2020). This is in line with the Modigliani and Miller II theory of 1963, which states that leverage allows companies to reduce their tax rates because interest on debt can be used to reduce taxes, and tax savings also have an impact on increasing company value (Modigliani & Miller, 1963).

Furthermore, capital intensity is also suspected to be a driver of corporate tax avoidance. According to Marlinda *et al.* (2020), capital intensity describes the extent to which a company is able to invest its assets in the form of fixed assets or inventories. Companies with large amounts of fixed assets will pay lower taxes because the depreciation of fixed assets can reduce the company's tax burden (Siboro & Santoso, 2021). In addition to profitability, leverage, and capital intensity, Corporate Social Responsibility is also suspected to be a driver of tax avoidance. Neglecting Corporate Social Responsibility disclosures not only reflects a lack of awareness of the company's obligations to the community and the surrounding environment, but can also damage the reputation and trust of the parties involved, including investors and regulators.

The issue of tax avoidance practices among companies in Indonesia remains an interesting topic for research. This study will use energy sector companies listed on the IDX during the 2020-2024 research period as the object of study. Based on data obtained from the IDX official website ([www.idx.co.id](http://www.idx.co.id)), the total number of energy sector companies that are the object of this study is 91 companies. The energy sector was chosen because energy sector companies have high capital intensity, operational complexity, and conduct international transactions, thus opening up greater opportunities for tax avoidance practices. Furthermore, the energy sector contributes significantly to state tax revenue, so tax avoidance in this sector would result in losses to state revenue and impact national development. Thus, the use of this sector is expected to provide a comprehensive picture of the relationship between profitability, leverage, capital intensity, and corporate social responsibility on tax avoidance practices in the energy sector in Indonesia.

## **LITERATURE REVIEW**

### **Agency Theory**

Agency theory explains conflicts of interest that arise due to cooperation between two parties (principal and agent). Internal conflicts of interest within a company can trigger agency costs, which are expenses that arise due to the separation between ownership and control. According to Jensen & Meckling (1976), these agency costs can include monitoring costs, bonding costs, and residual losses that must be borne by the company. Conflicts of interest between shareholders and agents can significantly affect company performance, one of which is related to company regulations on tax compliance (Yulianty *et al.*, 2021).

The selection of Agency Theory as the conceptual foundation of this study is based on the view that every party, including managers, is motivated by self-interest. Agency Theory also posits that principals will allocate resources in the form of compensation to agents so that they can improve performance and cost efficiency, including efficiency in corporate tax payments. In examining the influence of profitability on tax avoidance, Agency Theory helps explain how managerial decisions regarding tax practices can create conflicts of interest with the interests of shareholders.

### **Leverage Relevant Theory**

The Leverage Relevant Theory proposed by Modigliani & Miller (1963) states that a company's financing structure can affect its value due to the tax shield benefits of using debt. In Leverage Relevant Theory, the assumption made is that there are taxes on company income (Corporate Income Taxes). With these taxes in place, MM II concludes that the use of debt (leverage) will increase the value of the company because the cost of debt interest is an expense that reduces tax payments (a tax-deductible expense).

### **Legitimacy Theory**

According to Suchman (1995), legitimacy is crucial because it enables companies to obtain resources, trust, and political support from the community. The theory of legitimacy is directly related to a company's financial performance. This theory indicates that failure to manage a company's reputation can lead to a decline in its financial performance. Research by Chairunnisa *et al.* (2025) confirms that this legitimacy theory motivates companies to be more transparent in their Corporate Social Responsibility reporting to ensure the sustainability and growth of the company.

### **Tax Avoidance**

According to Jasmine *et al.* (2017), tax avoidance is a legal effort to reduce taxes by optimally utilizing provisions in the field of taxation, such as allowable exemptions and deductions, as well as benefits that are not yet regulated and weaknesses in the applicable tax regulations. The purpose of tax avoidance is to engineer the taxpayer's business so that the tax burden can be reduced as much as possible by taking advantage of loopholes in existing tax regulations to maximize after-tax profits, because in this case, tax is a profit-reducing factor.

### **Profitability**

Gultom (2021) defines profitability as a performance indicator that shows a company's capability to generate profits during a certain period of time. Profitability describes a company's ability to use its assets effectively in generating profits from the use of assets, which is referred to as Return On Assets (ROA) (Prabowo & Sahlan, 2022). The claim

that highly profitable companies are capable of engaging in tax avoidance is supported by research conducted by Hendayana *et al.* (2024) and Siboro & Santoso (2021), which found that profitability has a positive effect on tax avoidance. Meanwhile, research conducted by Putri *et al.* (2024) found that profitability has a negative effect on tax avoidance. However, these results differ from those of studies conducted by Aini & Ikram (2025) and Kartika *et al.* (2023), which found that profitability has no effect on tax avoidance. Thus, the relationship between profitability and tax avoidance is increasingly influenced by a company's ability to generate profitability.

### **Leverage**

According to Susilawati & Purnomo (2023), leverage is the use of debt that needs to be done to maintain turnover so that company operations can run smoothly. Leverage/Financial Leverage (LEV) is defined as the ratio of long-term debt to total assets (both at book value), which is a proxy for the company's capital structure and is included to capture the company's financing decisions (Gupta & Newberry, 1997). Referring to studies conducted by Hendayana *et al.* (2024), Mariadi & Dewi (2022), and Muid (2022), the results indicate that leverage has a positive effect on tax avoidance. Meanwhile, the study by Prabowo & Sahlan (2022) found that leverage has a negative effect on tax avoidance. However, this differs from the findings of the study by Manuel *et al.* (2022), which showed that leverage has no effect on tax avoidance. This is because the debt structure of manufacturing companies is not larger than their equity.

### **Capital Intensity**

According to Marlinda *et al.* (2020), capital intensity is a description of how much a company can invest its assets, both in the form of fixed assets and inventory. All fixed assets will depreciate except for land. This depreciation will become an expense in the company's financial statements, thereby reducing income in the calculation of corporate tax. Companies with a large amount of fixed assets will pay lower taxes because depreciation of fixed assets can reduce the company's tax burden (Siboro & Santoso, 2021).

This statement is supported by research conducted by Kurniawati & Mukti (2023), which found that capital intensity has a significant positive effect on tax avoidance. Meanwhile, research by Jessica (2022) found that capital intensity has a negative effect on tax avoidance. In contrast to the research by Dewi & Oktaviani (2021), Firmansyah & Bahri (2023), Hendayana *et al.* (2024), and Putra *et al.* (2025) indicate that Capital Intensity has no effect on tax avoidance. Thus, the relationship between Capital Intensity and tax avoidance is increasingly influenced by a company's ability to invest its assets.

### **Corporate Social Responsibility**

According to Gupita (2025), Corporate Social Responsibility (CSR) is a social responsibility and a form of communication between companies and the surrounding community. However, Corporate Social Responsibility is often exploited as a loophole for tax avoidance through Government Regulation No. 93 of 2010, which allows certain expenses to be deducted from a company's gross income.

This statement is supported by the results of a study by Dewi *et al.* (2022), which showed that Corporate Social Responsibility has a significant positive effect on tax avoidance. Thus, it can be concluded that the higher the level of Corporate Social Responsibility disclosure, the greater the tax avoidance practices within a company. However, these findings differ from those of Yuliansyah *et al.* (2025), who found that Corporate Social Responsibility has no effect on corporate tax avoidance.

The research model is illustrated in the following diagram:

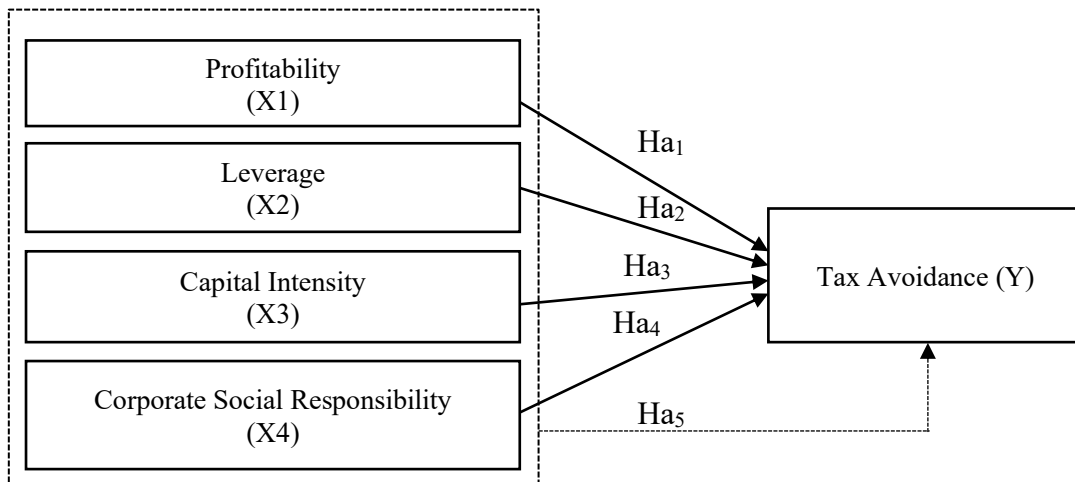


Figure 2. Conceptual Framework  
 Source: Data processed by researchers (2026)

## RESEARCH METHOD

This study will use an associative research method with a quantitative research approach that aims to analyze and explain the effect of profitability, leverage, capital intensity, and corporate social responsibility on tax avoidance. The type of data used in this study is secondary data. The data used in this study are annual reports published by energy companies listed on the IDX from 2020 to 2024. This data source was obtained through the IDX official website [www.idx.co.id](http://www.idx.co.id) and the official websites of the companies included in the research sample.

The population of this study is all energy sector companies listed on the IDX during the research period of 2020-2024. Based on data obtained from the official IDX website ([www.idx.co.id](http://www.idx.co.id)), the total number of energy sector companies that are the research population is 91 companies. The sample was selected using non-probability sampling as the sampling technique. To obtain a sample that was in line with the research objectives, a selection process was carried out based on certain criteria using purposive sampling. This selection stage aimed to ensure that the selected companies had the complete data and consistent reporting required for measuring all research variables. The final research sample selection process can be seen in the following table:

Table 1. List of Companies Included in the Research Sample

No.	Company Code	Company Name
1.	ABMM	ABM Investama Tbk.
2.	ADRO	Alamtri Resources Indonesia Tbk.
3.	AKRA	AKR Corporindo Tbk.
4.	BIPI	Astrindo Nusantara Infrastrukt Tbk.
5.	BSSR	Baramulti Suksessarana Tbk.
6.	BYAN	Bayan Resources Tbk.
7.	ELSA	Elnusa Tbk.
8.	HRUM	Harum Energy Tbk.
9.	ITMG	Indo Tambangraya Megah Tbk.
10.	MBAP	Mitrabara Adiperdana Tbk.
11.	MYON	Samindo Resources Tbk.
12.	PTBA	Bukit Asam Tbk.

13.	PTRO	Petrosea Tbk.
14.	RAJA	Rukun Raharja Tbk.
15.	RUIS	Radiant Utama Interinsco Tbk.
16.	SOCI	Soechi Lines Tbk.
17.	TOBA	TBS Energi Utama Tbk.
18.	SHIP	Sillo Maritime Perdana Tbk.
19.	PSSI	IMC Pelita Logistik Tbk.
20.	SGER	Sumber Global Energy Tbk.

Source: Data processed by researchers (2026)

The tool used in analyzing the data for this study is E-Views 12. E-Views 12 was chosen as the panel data analysis tool for this study because of its flexibility and accuracy in detecting the best model and testing the significance of variables, thereby strengthening the validity of the findings in this study. The data analysis techniques used in this study consisted of several tests, including descriptive statistical tests, panel data regression analysis (consisting of three approaches: common effect model, fixed effect model, and random effect model), panel data regression model determination (consisting of Chow's test, Hausman's test, Lagrange multiplier test, classical assumption test, normality test, and multicollinearity test), classical assumption test (consisting of normality test, heteroscedasticity test, and autocorrelation test), hypothesis test (consisting of partial significance test (t-test), simultaneous significance test (f-test), and coefficient of determination test. Table 2 below presents the operational definitions and measurements of each research variable.

Table 2. Operational Definitions of Research Variables

Variable	Operational Definition	Parameters	Scale
Tax Avoidance (Y)	Tax avoidance is measured using the effective tax rate (ETR) ratio, which presents the percentage of a company's efficient tax payments against its net profit. The lower the ETR value, the higher the company's tendency to engage in tax avoidance.	$ETR = \frac{\text{Income Tax Liability}}{\text{Income Before Tax}}$	Ratio
Profitability (X <sub>1</sub> )	Profitability is measured using the return on assets (ROA) ratio to reflect the company's capability in optimizing the use of its assets to generate profits.	$ROA = \frac{\text{Net Profit}}{\text{Total Assets}}$	Ratio
Leverage (X <sub>2</sub> )	Leverage is measured using the Debt-to-Equity Ratio (DER) to represent the amount of funds provided by creditors to the company.	$DER = \frac{\text{Total Debt}}{\text{Total Equity}}$	Ratio
Capital Intensity (X <sub>3</sub> )	<i>Capital Intensity is measured using the capital intensity ratio (CAPINT) to determine how much a company invests in fixed assets.</i>	$CAPINT = \frac{\text{Total Fixed Assets}}{\text{Total Assets}}$	Ratio
Corporate Social Responsibility (X <sub>4</sub> )	Corporate social responsibility (CSR) is measured using a checklist based on general indicators, namely the Global Reporting Initiative (GRI).	$CSRI_i = \frac{\sum X_i}{n_i}$	Ratio

Source: Data processed by researchers (2026)

## RESEARCH RESULTS

### Results of Descriptive Statistical Analysis

Table 3. Descriptive Statistical Analysis Results

	ETR	ROA	DER	CAPINT	CSR
Mean	0.251661	0.131579	0.961688	0.282344	0.449452
Median	0.222250	0.079400	0.862650	0.203450	0.467000
Maximum	0.929100	0.592600	4.114300	0.864000	0.802200
Minimum	0.060400	0.004800	0.096500	0.005800	0.098900
Std. Dev.	0.144122	0.137660	0.678468	0.231085	0.162950
Observations	100	100	100	100	100

Source: Data processed by researchers (2026)

Based on the test results in Table 3, the statistical analysis of the dependent and independent variables yielded the following results:

Corporate tax avoidance in the energy sector during the 2020-2024 period shows a minimum value of 0.060400 and a maximum value of 0.929100. The mean of 0.251661 indicates that the overall level of corporate tax avoidance is quite high. The median value of 0.222250, which is lower than the mean value, indicates that there are a number of companies with high levels of tax avoidance. The standard deviation value of 0.144122, which is smaller than the mean value, shows that the variation in tax avoidance data is relatively low.

Based on the results of descriptive analysis, the Profitability variable shows a minimum value of 0.004800 and a maximum value of 0.592600. The mean of 0.131579 indicates that the majority of companies have good profitability. The median value of 0.079400, which is lower than the mean value, indicates that there are several companies with high profitability. The standard deviation of 0.137660, which is slightly higher than the mean value, illustrates that the level of profitability among these energy companies shows quite a lot of variation.

Based on the results of descriptive analysis, the Leverage variable shows a minimum value of 0.096500 and a maximum value of 4.114300. Meanwhile, the mean value of 0.961688 indicates that, in general, energy companies have a relatively high level of leverage, where the proportion of debt is almost comparable to equity. The median value of Leverage is 0.862650, slightly lower than the average value, indicating that there are several companies with high Leverage. The standard deviation is smaller than the mean value, which is 0.678468, indicating that the Leverage variable has low data variation.

Based on the results of descriptive statistical analysis during the 2020-2024 period, the Capital Intensity variable shows a minimum value of 0.005800 and a maximum value of 0.864000, which indicates differences in the proportion of fixed assets between companies. With a mean value of 0.282344, it shows that the Capital Intensity level is in the moderate category, so that fixed asset investment plays a significant role in the company's asset structure. The median value of Capital Intensity is 0.203450, indicating that there are several companies with high Capital Intensity that drive up the mean value. The standard deviation of 0.162950, which is lower than the mean value, indicates that Capital Intensity among energy companies is relatively uniform and tends to be consistent throughout the research period.

Based on the results of descriptive analysis during the 2020-2024 period, the Corporate Social Responsibility variable has a minimum value of 0.098900 and a median value of 0.802200. The mean value of 0.449452 indicates that energy companies have fairly good quality in implementing Corporate Social Responsibility, although the level of disclosure is not yet fully maximized. The median value of Corporate Social

Responsibility is 0.467000, indicating that most energy companies in the research sample have implemented Corporate Social Responsibility activities within their companies. The standard deviation of 0.162950, which is smaller than the mean value, indicates that the implementation of Corporate Social Responsibility tends to be consistent and does not show significant differences during the research period.

### Multiple Linear Regression Results of Panel Data Models

#### a. Chow Test

Table 4. Chow Test Results

Effects Test	Statistic	d.f.	Prob.
Cross-section F	4.063429	(19,76)	0.0000
Cross-section Chi-square	70.104449	19	0.0000

Source: Data processed by researchers (2026)

Based on the Chow test conducted in Table 4 above, it is known that the p-values for Cross-Section F and Chi-Square are both 0.0000, which means that these values are smaller than Alpha 0.05, so H0 is rejected and the best model to use is the Fixed Effect Model (FEM). Based on the Chow test results that reject H0, the testing continues to the Hausman test.

#### b. Hausman Test

Table 5. Hausman Test Results

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	3.227821	4	0.5204

Source: Data processed by researchers (2026)

Based on the Hausman test in Table 5, the Cross-Section Random p-value is 0.5204, so H0 is accepted. This means that the value is greater than Alpha 0.05, so the best model to use is the Random Effect Model (REM). Based on the Hausman test results that accept H0, the test continues to the Lagrange Multiplier (LM) test.

#### c. Lagrange Multiplier (LM) Test

Table 6. Lagrange Multiplier (LM) Test Results

	Test Hypothesis		
	Cross-section	Time	Both
Breusch-Pagan	23.90403 (0.0000)	0.796832 (0.3720)	24.70086 (0.0000)

Source: Data processed by researchers (2026)

From the results of the LM test above, it can be seen that the Breusch Pagan probability value of 0.0000 is smaller than Alpha 0.05, thus rejecting H0. Based on the Lagrange Multiplier test, the best model to use is the Random Effect Model (REM).

### Random Effect Model (REM) Panel Data Regression Model

Table 7. Random Effect Model (REM) Panel Data Regression

Variable	Coefficient	Std Error	t-Statistic	Prob.
C	0.305992	0.062741	4.877947	0.0000
ROA	-0.190781	0.115551	-1.651059	0.1020

DER	0.053414	0.025313	2.110173	0.0375
CAPINT	-0.108040	0.092061	-1.173570	0.2435
CSR	-0.111451	0.084792	-1.314394	0.1919
Effect Specification				
			S.D.	Rho
Cross-section random			0.090001	0.4279
Idiosyncratic random			0.104070	0.5721
Weighted Statistic				
R-squared	0.115967	Mean dependent var		0.115598
Adjusted R-squared	0.078745	S.D. dependent var		0.107985
S.E. of regression	0.103646	Sum squared resid		1.020541
F-statistic	3.115516	Durbin-Waston stat		1.207653
Prob(F-statistic)	0.018652			
Unweighted Statistics				
R-squared	0.176423	Mean dependent var		0.251661
Sum squared	1.693547	Durbin-Waston stat		0.727739

Source: Data processed by researchers (2026)

Based on Table 7, it can be seen that the constant value of 0.3059 indicates that if the values of the variables Profitability (X1), Leverage (X2), Capital Intensity (X3), and Corporate Social Responsibility (X4) are zero, then the value of the Tax Avoidance (Y) variable is equal to 0.3059. The Profitability variable has a regression coefficient of -0.1907. This indicates that the coefficient value of the Profitability variable is negative and shows an opposite relationship to ETR as a proxy for Tax Avoidance. The Leverage variable has a regression coefficient of 0.0534. This indicates that the coefficient value of the Leverage variable is positive and shows a direct or non-opposite relationship with ETR as a proxy for Tax Avoidance. The Capital Intensity variable has a regression coefficient of -0.1080. This indicates that the coefficient value of the Capital Intensity variable is negative and shows a non-directional or opposite relationship to ETR as a proxy for Tax Avoidance. The Corporate Social Responsibility variable has a regression coefficient of -0.1114. This indicates that the coefficient value of the Corporate Social Responsibility variable is negative and shows a non-directional or opposite relationship to ETR as a proxy for Tax Avoidance.

## Hypothesis Test Results

### a. Partial Test (t-test)

Table 8. Partial Test Results (t-test)

Variable	Coefficient	Std.Error	t-Statistic	Prob.
C	0.305992	0.062741	4.877047	0.0000
ROA	-0.190781	0.115551	-1.651059	0.1020
DER	0.053414	0.025313	2.110173	0.0375
CAPINT	-0.108040	0.092061	-1.173570	0.2435
CSR	-0.111451	0.084792	-1.314394	0.1919

Source: Data processed by researchers (2026)

Based on Table 8, it can be concluded that; The results of the regression analysis show that the profitability variable, proxied by Return On Asset (ROA), has a t-value of  $-1.651059 < 1.985251$  and a probability value of  $0.1020 > 0.05$ , so  $H_01$  is accepted and  $H_{a1}$  is rejected. This means that profitability (X1) has no significant partial effect on tax avoidance (Y). The results of the regression analysis show that the leverage variable, proxied by the Debt to Equity Ratio (DER), has a t-value  $> t$ -table of  $2.667487 > 1.985251$  and a probability value of  $0.0375 < 0.05$ , so  $H_02$  is rejected and  $H_{a2}$  is accepted. This means that Leverage (X2) partially has a significant effect on Tax Avoidance (Y). The results of the regression analysis show that the Capital

Intensity (CAPINT) variable has a t-value of  $-1.499897 < 1.985251$  and a probability value of  $0.2435 > 0.05$ , so  $H_{o3}$  is accepted and  $H_{a3}$  is rejected. This means that Capital Intensity (X3) partially has no significant effect on Tax Avoidance (Y). The results of the regression analysis show that the Corporate Social Responsibility (CSR) variable has a t-value  $< t$ -table of  $-1.294998 < 1.985251$  and a probability value of  $0.1919 > 0.05$ , so  $H_{o4}$  is accepted and  $H_{a4}$  is rejected. This means that Corporate Social Responsibility (X1) has no significant partial effect on Tax Avoidance (Y).

#### b. Simultaneous Test (F Test)

Table 9. F Test Results

F-statistic	3.115516
Prob(F-statistic)	0.018652

Source: Data processed by researchers (2026)

Based on Table 9, the simultaneous test results show that the F-statistic value obtained is 3.115516, with an F-statistic probability value of 0.018652. The  $F_{count} > F_{table}$  value is  $3.115516 > 2.466949$  and the probability value is  $0.018652 < 0.05$ , so  $H_{o5}$  is rejected and  $H_{a5}$  is accepted. Thus, Profitability, Leverage, Capital Intensity, and Corporate Social Responsibility simultaneously have a significant effect on Tax Avoidance.

#### Results of the Coefficient of Determination Test (R2)

Table 10. Results of the Coefficient of Determination Test (R2)

R-squared	0.115967
Adjusted R-squared	0.078745

Source: Data processed by researchers, 2026).

Based on the calculation of the coefficient of determination in Table 10, the Adjusted R-squared value obtained is 0.0787445 or 7.87%. This means that the variables of Profitability, Leverage, Capital Intensity, and Corporate Social Responsibility explain 7.87% of the Tax Avoidance variable, and the level of correlation is very low because the results of the determination test in this study fall within the 0.00 - 0.199 interval. Meanwhile, the remaining 92.13% shows that the Tax Avoidance variable can be explained by other variables outside the study, such as Company Size, Good Corporate Governance (GCG), Institutional Ownership, and Independent Commissioners (Dewi & Oktaviani (2021), Hendayana *et al.* (2024), Kartika *et al.* (2023) and Kurniawati & Mukti (2023)).

## DISCUSSION

According to research conducted by Gultom (2021), profitability is an indicator that describes a company's ability to generate profits, which is measured using ratios. Profitability ratios can be used to assess a company's financial performance in generating margins for the company, which will affect the welfare of shareholders.

Based on the data obtained from the partial hypothesis test results, the profitability variable in this study has a probability value of 0.1020, which is greater than 0.05, so  $H_{o1}$  is accepted and  $H_{a1}$  is rejected. This means that profitability has no significant partial effect on tax avoidance. The results of this study are in line with the studies by Aini &

Ikram (2025) and Kartika *et al.* (2023), which state that profitability has no significant partial effect on tax avoidance. Meanwhile, this study is not in line with Hendayana *et al.* (2024) and Siboro & Santoso (2021), who conducted research that produced results indicating that profitability partially has a significant positive effect on tax avoidance.

This situation indicates that an increase in profits does not necessarily lead to aggressive tax avoidance strategies, as management continues to take into account the risks of scrutiny, tax compliance, and the legal and reputational consequences for the company. Thus, this study is inconsistent with Agency Theory (Jensen & Meckling, 1976). Profitability was not found to have a significant impact on tax avoidance, suggesting that this agency conflict incentive was not consistently reflected in the tax policies of energy sector companies during the study period.

Leverage is the ratio of long-term debt to total assets to measure a company's financing ability. The use of debt is necessary to keep operations running smoothly (Susilawati & Purnomo, 2023). Based on data obtained from partial hypothesis testing, the leverage variable in this study has a probability value of 0.0375, which is less than 0.05, so  $H_{02}$  is rejected and  $H_{a2}$  is accepted. This means that leverage partially has a significant effect on tax avoidance. This study is in line with Hendayana *et al.* (2024), Mariadi & Dewi, (2022) and Prasetya & Muid (2022), whose research results show that leverage partially has a significant effect on tax avoidance. Meanwhile, this study is not in line with the research by Manuel *et al.* (2022) and Prabowo & Sahlan (2022), which found that leverage partially has no significant effect on tax avoidance.

These findings suggest that while leverage theoretically offers opportunities for tax savings through a tax shield, in practice, companies with high debt levels tend to be more cautious and compliant in fulfilling their tax obligations. This situation may arise because highly leveraged companies are subject to stricter oversight by creditors and face greater financial risks, leading management to avoid aggressive tax policies in order to maintain the company's stability and reputation.

The results of this study are consistent with the Leverage Relevant Theory/MM II (Modigliani & Miller, 1963). This theory states that a company's funding structure can reduce its value due to the tax shield benefits of using debt. Given the tax benefits, MM II concludes that the use of debt will increase the value of the company because the interest on the debt reduces tax payments (a tax-deductible). This indicates that Leverage Relevant Theory supports the view that interest expenses are an effective tax deduction for companies.

According to Marlinda *et al.* (2020), capital intensity is a description of how much a company can invest its assets, both in the form of fixed assets and inventories. Based on the data obtained from the partial hypothesis test results, the Capital Intensity variable in this study has a probability value of 0.2435, which is greater than 0.05, so  $H_{03}$  is accepted and  $H_{a3}$  is rejected. This means that Capital Intensity has no significant partial effect on Tax Avoidance.

This study is in line with studies by Dewi & Oktaviani (2021), Firmansyah & Bahri (2023), Hendayana *et al.* (2024), and Putra *et al.* (2025), whose results show that capital intensity has no significant effect on tax avoidance. Meanwhile, this study is not in line with the research conducted by Jessica (2022), which found that capital intensity has a significant effect on tax avoidance. A company's level of capital intensity whether high or low does not consistently affect the level of tax avoidance. This suggests that although fixed asset investments generate depreciation expenses that could theoretically reduce taxable income, in practice, decisions regarding fixed asset investments were not the primary factor determining tax avoidance policies among energy sector companies during the study period.

However, the results of this study indicate that capital intensity does not have a significant effect on the Effective Tax Rate (ETR), meaning these findings are inconsistent with the implications of the Modigliani & Miller II theory. This discrepancy suggests that, for companies in the energy sector, fixed asset investments prioritize operational needs and the sustainability of production over serving as a strategy to minimize tax burdens.

Corporate Social Responsibility is a social responsibility and a form of communication between companies and the surrounding community (Gupita, 2025). Based on data obtained from partial hypothesis testing, the Corporate Social Responsibility variable in this study has a probability value of 0.1919, which is greater than 0.05, so  $H_{04}$  is accepted and  $H_{a4}$  is rejected. This means that Corporate Social Responsibility partially has no significant effect on tax avoidance. This shows that the level of Corporate Social Responsibility disclosure does not affect companies in implementing tax avoidance practices.

The results of this study are in line with the study by Yuliansyah *et al.* (2025), which found that Corporate Social Responsibility partially has no significant effect on tax avoidance. However, this study is not in line with the research by Dewi *et al.* (2022), which found that corporate social responsibility has a significant effect on tax avoidance. Thus, corporate social responsibility (CSR) disclosures by energy sector companies during the study period have not yet been a determining factor in corporate tax policy. CSR serves more as a means of fulfilling social responsibility and enhancing corporate legitimacy, rather than as a strategic instrument directly related to tax management practices. The results of this study do not fully support the legitimacy theory (Suchman, 1995), which states that companies use corporate social responsibility disclosure as an instrument to obtain and maintain social legitimacy, especially in the energy sector, which has a high level of environmental exposure.

Based on the F-test results table presented above, it can be seen that profitability, leverage, capital intensity, and corporate social responsibility variables collectively have a significant effect on tax avoidance. The F-statistic probability value is 0.018652, so  $H_{05}$  is rejected and  $H_{a5}$  is accepted. Thus, profitability, leverage, capital intensity, and corporate social responsibility simultaneously have a significant effect on tax avoidance. This means that all independent variables together have the ability to explain the variation in tax avoidance as a dependent variable.

Based on the coefficient of determination calculated by the researcher, the Adjusted R-squared value is 0.0787445 or 7.87%. This indicates that the variables of Profitability, Leverage, Capital Intensity, and Corporate Social Responsibility are able to explain Tax Avoidance by 7.87%, while the remaining 92.13% shows that the tax avoidance variable can be explained by other variables outside the scope of this study. This value falls into the very low category with an interval of 0.00-0.199. Therefore, it can be concluded that although Profitability, Leverage, Capital Intensity, and Corporate Social Responsibility are simultaneously significant, their explanatory power for the variation in Tax Avoidance of energy sector companies listed on the Indonesia Stock Exchange in 2020-2024 is still limited.

Profitability, leverage, capital intensity, and corporate social responsibility management are related to corporate tax liability management policies. Profitability affects the amount of profit as the basis for taxation, while leverage and capital intensity have an impact through interest expenses and depreciation. Disclosure of Corporate Social Responsibility reflects the company's transparency to stakeholders, including the government as the tax authority. However, the Adjusted R-squared value of 7.87% shows that the influence of these four variables on tax avoidance is still limited. Although

significant simultaneously, tax avoidance by companies in the energy sector is not entirely determined by these variables but is also influenced by other factors outside the research model.

## CONCLUSIONS

This study contributes to the understanding of corporate tax avoidance practices by reinforcing the Modigliani–Miller II Theory, particularly in the context of Indonesia’s energy sector during the 2020–2024 period. Based on the results of the research conducted, the analysis and hypothesis testing can be concluded that; Profitability partially has a negative and insignificant effect on Tax Avoidance in energy sector companies listed on the Indonesia Stock Exchange in 2020-2024. Leverage partially has a positive and significant effect on Tax Avoidance in energy sector companies listed on the Indonesia Stock Exchange in 2020-2024. Capital Intensity partially has a negative and insignificant effect on Tax Avoidance in energy sector companies listed on the Indonesia Stock Exchange in 2020-2024. Corporate Social Responsibility partially has a negative and insignificant effect on Tax Avoidance in energy sector companies listed on the Indonesia Stock Exchange in 2020-2024. Profitability, Leverage, Capital Intensity, and Corporate Social Responsibility simultaneously have a significant effect on Tax Avoidance in energy sector companies listed on the Indonesia Stock Exchange in 2020-2024. Companies in the energy sector are urged to manage their tax structures so that the tax benefits they receive do not increase financial risk or liquidity pressure in the future.

This study has several limitations, including a limited sample size (20 companies) and a relatively short observation period (2020–2024), meaning it does not fully represent long-term conditions. Additionally, the study’s focus solely on the energy sector means its results cannot be generalized to other industrial sectors. The use of a single proxy, the Effective Tax Rate (ETR), also fails to fully capture the complexity of tax avoidance practices. Finally, this study relies heavily on the transparency and consistency of secondary data from companies’ annual reports and sustainability reports as its primary data sources.

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