



Financial Distress, Capital Intensity, Sales Growth, and Tax Avoidance: Profitability as a Moderator in IDX Energy Firms, 2019–2024

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Abstract

Background: Tax avoidance is a lawful strategy used by firms to manage tax obligations by utilizing available gaps within taxation regulations. Previous studies have shown inconsistent findings regarding the effects of financial distress, capital intensity, and sales growth on tax avoidance. Additionally, empirical evidence regarding the moderating role of profitability in the relationship between financial distress and tax avoidance among Indonesian energy-sector firms remains limited.

Objective: This study aims to examine the effects of financial distress, capital intensity, and sales growth on tax avoidance and to investigate the moderating role of profitability in the relationship between financial distress and tax avoidance among energy-sector firms listed on the Indonesia Stock Exchange during 2019–2024.

Methods: A quantitative approach was applied using panel data regression and Moderated Regression Analysis (MRA). The sample consisted of 23 energy-sector firms selected through purposive sampling, generating 124 firm-year observations after outlier removal. Data analysis was conducted using the Random Effects Model (REM) with EViews 13.

Results: The findings reveal that financial distress and capital intensity have positive and significant effects on tax avoidance, while sales growth has a negative and significant effect. Profitability significantly moderates the relationship between financial distress and tax avoidance by weakening the positive effect of financial distress on tax avoidance.

Conclusion: Financial distress, capital intensity, and sales growth are significant factors influencing tax avoidance among Indonesian energy-sector firms. Profitability reduces firms' tendency to engage in tax avoidance when experiencing financial distress.

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INTRODUCTION

Indonesia's fiscal continuity depends substantially on taxation because tax receipts fund public spending and national development in areas such as infrastructure, education, health care, and other public services (Kurnia et al., 2021). Government realization figures issued by the Central Statistics Agency show that taxes have consistently contributed more to state revenue than non-tax state revenue (PNBP) and grants. The statutory foundation is Law Number 7 of 2021 concerning the Harmonization of Tax Regulations, under which taxes constitute compulsory contributions from individuals and business entities for financing government expenditure and advancing public welfare.

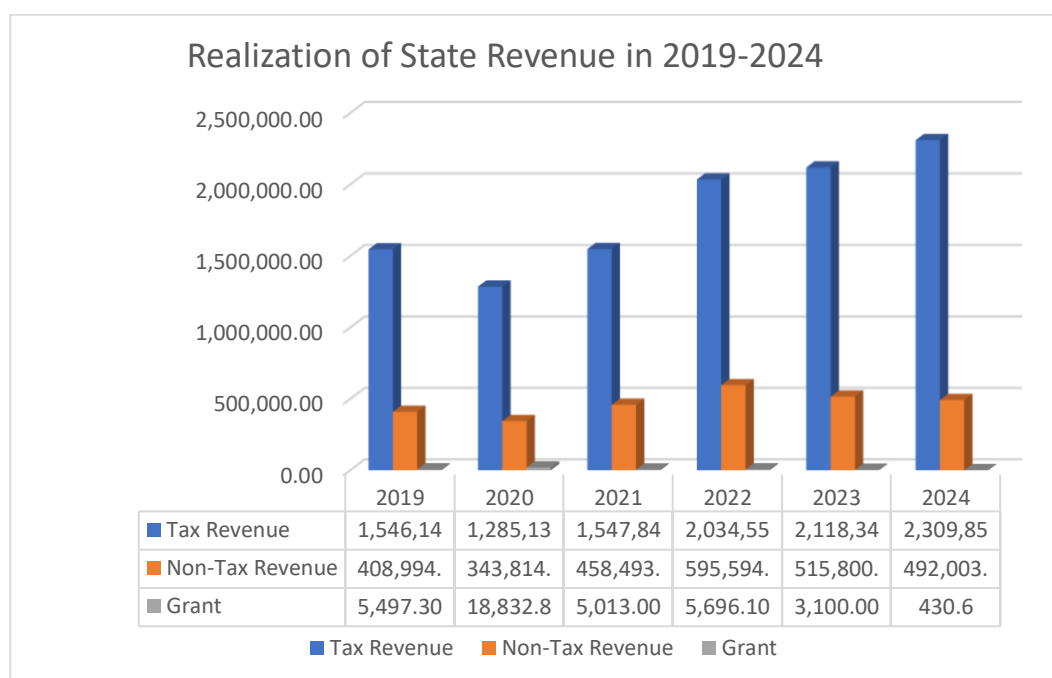


Figure 1. Realization of State Revenue in 2019-2024 (in Billion Rupiah)

Source: Central Statistics Agency, processed by the author (2026)

As shown in Figure 1, tax receipts remained the principal component of Indonesian state revenue throughout 2019–2024. Collections weakened in 2020 when the COVID-19-related contraction reduced economic activity and the taxable base. From 2021, revenue rose progressively as the economy recovered, commodity prices, especially energy commodities, strengthened, and tax administration improved. Tax receipts reached approximately IDR 2,309 trillion in 2024, the highest figure within the observation window. Nevertheless, stronger collections do not prove that the country's tax capacity has been fully realized. Indonesia's persistently modest tax ratio indicates that corporate tax avoidance continues to constrain revenue performance.

The growth in nominal tax receipts should not be interpreted as evidence that tax-collection capacity has been fully utilized. Indonesia continues to record a comparatively low tax ratio relative to several ASEAN members and the broader OECD and G20 groupings, indicating that part of its potential revenue remains uncollected. One explanation is corporate reliance on lawful tax-minimization arrangements that exploit options or gaps available under prevailing rules ([bisnis.com, 2024](#)). Although realized tax receipts increased and the government achieved its revenue target, Indonesia's tax ratio remained low. Finance Minister Sri Mulyani stated that Indonesia's ratio was comparatively below those recorded across ASEAN, OECD, and G20 economies ([Asalam & Pratomo, 2020](#); [Oktavia et al., 2021](#)). Tax avoidance refers to a lawful reduction of corporate tax obligations through the use of regulatory flexibility or loopholes without breaching statutory requirements. It is related to tax planning, but is more specifically directed at minimizing the amount of tax paid within legal boundaries. The practice warrants close attention because it can diminish prospective public revenue even when firms formally comply with tax law.

Agency theory is relevant to tax avoidance because it explains the relationship between the party delegating authority, or principal, and the recipient of that authority, or agent. In the taxation context, tension arises from the different interests pursued by business entities and the government.

On 13 April 2023, Indonesia Audit Watch (IAW) informed Coordinating Minister for Political, Legal, and Security Affairs Mahfud MD that 50 mining companies were suspected of avoiding tax payments ([Tempo.co, 2023](#)). IAW identified two principal patterns. The first concerned PT BS, which allegedly avoided liabilities of as much as IDR 2 trillion. The second involved mining companies manipulating the value and origin of funds allocated to exploration and exploitation. IAW had monitored this practice since 2016 and associated it with capital transfers and alterations to tax information. The alleged manipulation generally originated from

unauthorized funds redirected into mining activities, while weak tax records among numerous mining firms created opportunities to evade liabilities.

Company-related data indicate that tax-avoidance conduct continues among several Indonesian firms and reduces potential state receipts (Tax Justice Network, 2024). Estimated losses from tax evasion in 2023 amounted to US\$3.04 billion: US\$2.98 billion was attributed to corporate taxpayers and the remaining US\$60 million to individual taxpayers (tirto.id, 2019). The operational complexity and cross-border characteristics of Indonesia's energy industry make the sector particularly exposed to tax-avoidance practices. In 2019, the Directorate General of Taxes identified suspected avoidance by coal and energy producer PT Adaro Energy Tbk. The arrangement reportedly involved selling coal below market value to Singapore-based Coaltrade Services International, which subsequently resold it at a higher price, allowing profits to be generated while Indonesian tax liabilities were reduced. Global Witness estimated that the practice may have deprived Indonesia of nearly US\$125 million in tax and that the lower-tax jurisdiction enabled Adaro to lower its annual burden by as much as US\$14 million (IPOT News, 2024).

Adaro's mining operations require substantial fixed-asset investment in production facilities, heavy machinery, mine infrastructure, and other long-term operating assets. The company expanded its capital expenditure considerably in 2023–2024. In 2023, realized expenditure reached USD 648 million, approximately IDR 10 trillion, or 53% above the USD 424 million recorded in 2022, and exceeded the initial guidance of roughly USD 600 million. Hundreds of millions of US dollars were assigned to property, plant, equipment, and supporting facilities as part of the strategy to enlarge production capacity and diversify operations (Dedy Ranggak & Katarina Agnes, 2025).

A large concentration of fixed assets may give companies additional scope to lower taxable profit lawfully by recognizing depreciation expense, thereby reducing tax payable. Energy businesses also encountered severe conditions between 2020 and 2022 as the COVID-19 crisis contracted the global economy and sharply reduced demand. World oil prices temporarily became negative for the first time, while domestic consumption fell under mobility restrictions. Because revenue declined while fixed costs remained substantial, these circumstances could place energy firms under financial distress and encourage tax-minimization measures designed to preserve liquidity. At the same time, subsidized-fuel sales have weakened as consumers shift toward alternative energy and greater efficiency. Firms unable to adjust may experience flat or negative sales growth and could seek lower tax payments to protect after-tax income (Ananda & Wahyuni, 2024; Lukito & Sandra, 2021; Nisa & Hidajat, 2024).

The foregoing conditions suggest that financial distress, capital intensity, and sales growth may shape corporate tax avoidance (Darma & Syahwa Al Maidah, 2023; Santo & Nastiti 2023). Financial distress occurs when liquidity pressure signals a possible progression toward bankruptcy. Deteriorating financial health can lead management to reduce costs, including tax expenditure, in order to maintain operations. More broadly, distress describes an inability to discharge financial obligations when due; declining performance increases bankruptcy exposure and can make lawful tax reduction appear useful for improving the firm's position. Prior empirical findings, however, are inconsistent. Some studies report that distress is positively associated with tax avoidance, another identifies a negative effect, and other evidence finds no statistically significant relationship (Fajriah et al., 2022; Khamisan & Astuti, 2023; Xavier et al., 2020).

Sinambela & Nuraini (2021) Sales growth, the third explanatory factor, measures changes in a company's sales between periods and indicates whether revenue has expanded or contracted. Agency theory frames the government as a principal seeking sufficient taxation to fund national needs and the firm as an agent seeking higher profit with lower expenditure. Because rising sales can increase profit and tax payable, managers may attempt to contain the resulting burden, including through sales returns that reduce reported earnings. Earlier evidence is divided: some studies associate sales growth with a lower CETR and greater avoidance, whereas other CETR-based findings show a positive relationship, meaning that stronger sales coincide with a higher effective tax rate and a lower likelihood of avoidance (Sudibyo, 2022). The conflicting conclusions in earlier tax-avoidance research provide the basis for introducing profitability as a moderating factor. Profitability represents the capacity of operations to generate earnings; a higher level generally creates a larger tax obligation and may motivate management to maintain earnings

efficiency through tax planning. (Almiranti and Koerniawan (2022) also found that profitability is one of the factors associated with tax avoidance, indicating that profitability may be relevant to corporate tax-related decisions. Describe profitability as an indicator of management's effectiveness in producing returns from sales and investment. Return on Assets (ROA), a widely used measure, captures the earnings generated from total assets. Although financial distress and profitability have each been connected to tax policy, relatively few studies directly assess whether profitability changes the financial distress–tax avoidance relationship, and their results remain inconclusive. The present study therefore retests that moderating role.

Against the documented avoidance issues in energy companies and the inconsistent empirical record, this research evaluates how financial distress, capital intensity, and sales growth affect tax avoidance among energy firms listed on the Indonesia Stock Exchange during 2019–2024. It further tests profitability as a moderator of the relationship between financial distress and avoidance. The study is intended to extend theoretical discussion of corporate tax behavior in the energy sector and provide a basis for subsequent inquiry. Practically, the findings may assist government authorities in strengthening oversight and help firms formulate compliant and effective financial and taxation policies.

METHODS

Tax avoidance was specified as the outcome variable and measured with the Effective Tax Rate (ETR). Financial distress, capital intensity, and sales growth constituted the predictors. The Altman Z-Score represented financial distress; capital intensity was expressed as property, plant, and equipment divided by total assets; and sales growth was calculated from the annual percentage movement in company sales. Return on Assets (ROA) represented profitability and was entered as a moderator to test whether it altered the association between financial distress and tax avoidance.

The population consisted of every energy-sector company listed on the Indonesia Stock Exchange through 2024. Purposive sampling applied predetermined eligibility requirements. Twenty-three companies satisfied those requirements and initially generated 138 company-year records; after outliers were screened, 124 observations remained in the analytical dataset.

Table 1

Purposive Sampling Criteria

No.	Criteria	Total
1	Energy sector companies listed on the IDX during 2019–2024	82
2	Companies that did not consistently publish annual financial reports over 2019–2024	(42)
3	Companies that reported negative pre-tax income during the observation period	(10)
4	Companies with incomplete data for all required variables	(7)
Total sample companies		23
Observation period (years)		6
Total firm-year observations		138
Outlier observations removed		(14)
Final observations used in analysis		124

Source: Data processed by the author (2026)

A review of relevant literature and prior empirical evidence established the conceptual basis of the study. EViews 13 was used for descriptive analysis, classical-assumption diagnostics, panel-model selection, and moderated regression. Chow, Hausman, and Lagrange Multiplier testing determined which of the Common Effect Model (CEM), Fixed Effect Model (FEM), or Random Effect Model (REM) best represented the data. Adjusted R-squared, the F-test, and the t-test were then used to assess explanatory power and hypotheses. Moderated regression analysis (MRA) tested whether profitability increased or reduced the effect of financial distress on tax avoidance.

RESULTS AND DISCUSSION

Results

The empirical analysis covered 23 IDX-listed energy companies across six years, from 2019 to 2024. Removal of outlying cases left 124 company-year observations. Audited annual reports obtained from the official IDX portal and individual corporate websites supplied the data. ETR represented tax avoidance, Altman Z-Score represented financial distress, fixed assets divided by total assets represented capital intensity, annual net-sales change represented sales growth, and ROA represented profitability.

Classic Assumption Testing Analysis Descriptive Statistics

Table 2

Descriptive Statistics Result

	ETR	FD	CI	SG	ROA
Mean	0.208669	5.122218	0.337524	0.245766	0.122129
Median	0.221500	2.829500	0.229000	0.022000	0.065500
Maximum	0.771000	61.89200	0.864000	13.59200	0.603000
Minimum	0.000000	-0.450000	0.000000	-0.742000	0.000000
Std. Dev.	0.111082	7.058511	0.269601	1.265748	0.139713
Skewness	0.993903	4.869797	0.690759	9.572495	1.865355
Kurtosis	7.405946	35.91884	2.041066	101.3409	5.837254
Jarque-Bera	120.7127	6088.967	14.61208	51860.20	113.5024
Probability	0.000000	0.000000	0.000671	0.000000	0.000000
Sum	25.87500	635.1550	41.85300	30.47500	15.14400
Sum Sq. Dev.	1.517711	6128.177	8.940189	197.0605	2.400920
Observations	124	124	124	124	124

Source: Data processed using EViews 13

Across 124 observations, Table 1 reports a mean ETR of 0.208669, ranging from 0.000000 to 0.771000. The average Financial Distress value was 5.122218. Mean values for Capital Intensity, Sales Growth, and ROA were 0.337524, 0.245766, and 0.122129, respectively. Standard deviations describe the spread around each mean; Financial Distress and Sales Growth displayed the greatest variability. Overall, these statistics provide an initial profile of the distributions of all variables analyzed.

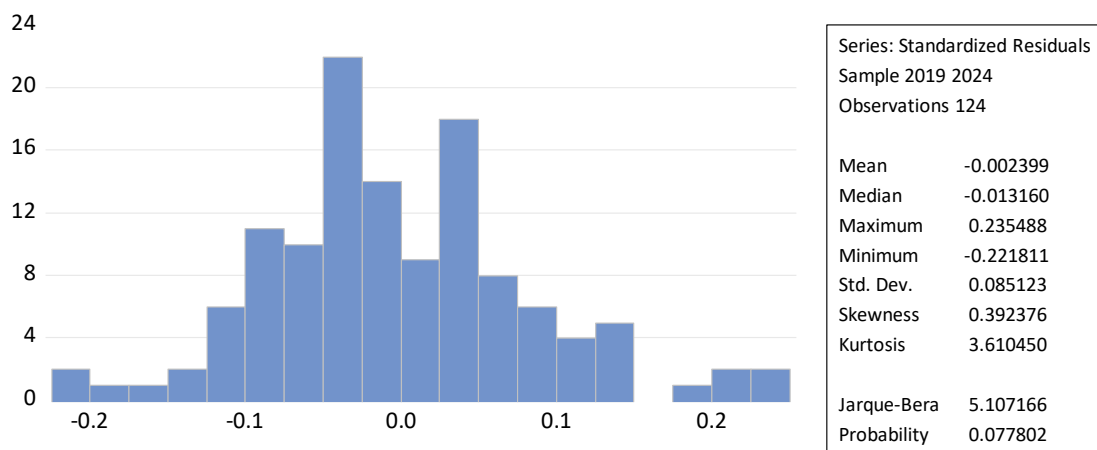


Figure 1. Normality Test Results
Source: Data processed using EViews 13

The normality assessment yielded a probability of 0.077802. Because this value exceeds the 0.05

criterion, the data satisfy the assumption of a normal distribution.

Multicollinearity Test Results

Table 3 reports the multicollinearity diagnostics applied in this research.

Table 3

Multicollinearity Test

Variable	FD	CI	SG	ROA
FD	1.000000	-0.131644	0.259133	0.211867
CI	-0.131644	1.000000	-0.130419	-0.323529
SG	0.259133	-0.130419	1.000000	0.021334
ROA	0.211867	-0.323529	0.021334	1.000000

Source: Data processed using EViews 13

None of the correlations between explanatory variables was greater than 0.90. The largest absolute association, -0.323529, occurred between Capital Intensity and ROA. The dataset therefore showed no indication of multicollinearity.

Heteroscedasticity Test Results

Table 4 displays the diagnostic results used to assess whether residual variance remained stable.

Table 4

Heteroscedasticity Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FD	-0.001102	0.000779	-1.413320	0.1602
CI	0.009910	0.027741	0.357242	0.7215
SG	-0.001772	0.003334	-0.531332	0.5962
C	0.070697	0.013550	5.217484	0.0000

Source: Data processed using EViews 13

Table 4 shows probabilities of 0.1602 for Financial Distress, 0.7215 for Capital Intensity, and 0.5962 for Sales Growth. Because each exceeds 0.05, heteroscedasticity was not detected in the model.

Panel Data Regression Model Selection

Selection among CEM, FEM, and REM was based on the statistical procedures described below.

Chow Test Result (Common Effect Model vs Fixed Effect Model)

The Chow test distinguishes the appropriate panel specification. A probability above 0.05 supports the uniform CEM specification, whereas a probability below that threshold favors FEM to accommodate entity-specific effects.

Table 5

Chow Test Results

Effects Test	Statistic	d.f.	Prob.
Cross-section F	3.830331	(22,98)	0.0000
Cross-section Chi-square	76.942829	22	0.0000

Source: Data processed using EViews 13

The probability reported in Table 5 is 0.000, demonstrating significant differences among entities. H₀ was therefore rejected, and FEM was preferred to CEM.

Hausman Test Result (Fixed Effect Model vs Random Effect Model)

Table 6 summarizes the Hausman comparison between FEM and REM. A probability below 0.05 supports FEM, while a value above 0.05 favors the more efficient REM estimator.

Table 6*Hausman Test Results***Correlated Random Effects - Hausman Test**

Equation: Untitled

Test cross-section random effects

	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Test Summary			
Cross-section random	1.925392	3	0.5880

Source: Data processed using EViews 13

The Hausman result in Table 6 produced a Chi-square probability of 0.5880, which exceeds 0.05. The null hypothesis was consequently retained, indicating that REM was more suitable than FEM.

Lagrange Multiplier Test Result (Common Effect Model vs Random Effect Model)**Table 7***Lagrange Multiplier Test Results*

	Test Hypothesis		
	Cross-section	Time	Both
Breusch-Pagan	21.81048 (0.0000)	1.242449 (0.2650)	23.05293 (0.0000)

Source: Data processed using EViews 13

Table 7 reports a Breusch-Pagan probability of 0.000 for the Lagrange Multiplier test. Since the value is below 0.05, H₀ was rejected and REM was selected over CEM. Considered together with the preceding specification tests, this outcome identifies REM as the appropriate regression model.

Random Effect Model Test Result**Table 8***Random Effect Model Test Results*

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FD	-0.004126	0.001278	-3.229703	0.0016
CI	-0.139526	0.045902	-3.039634	0.0029
SG	0.035998	0.005399	6.668035	0.0000
C	0.270450	0.022438	12.05310	0.0000

Source: Data processed using EViews 13

Based on the Random Effect Model (REM) estimation presented in Table 8, the estimated panel regression equation is expressed as follows:

$$\text{ETR} = 0.270450 - 0.004126\text{FD} - 0.139526\text{CI} + 0.035998\text{SG} + \varepsilon$$

The estimated equation indicates distinct contributions of the explanatory variables to ETR, the study's tax-avoidance proxy. The intercept of 0.270450 is the expected ETR when all predictors are held constant, while each coefficient indicates the direction and size of the corresponding association with ETR.

Financial Distress carried a coefficient of -0.004126 and a probability of 0.0016, making the association significant at 5%. Because a lower ETR signifies greater tax avoidance, the negative estimate means that increasing distress is associated with more avoidance.

Capital Intensity was likewise negative (-0.139526) and significant ($p = 0.0029$). Firms holding a larger share of property, plant, and equipment therefore tended to record lower ETR, consistent with greater use of lawful depreciation deductions in tax-minimization arrangements.

Sales Growth, by contrast, had a positive coefficient of 0.035998 and a probability of 0.0000. The significant rise in ETR implies lower tax avoidance, so companies with stronger sales

expansion were less inclined to pursue avoidance.

Hypothesis Test Result

Simultaneous Test (F Test)

The F-test examined the joint contribution of Financial Distress, Capital Intensity, and Sales Growth to Tax Avoidance. Prob(F-statistic) equaled 0.000000, below the 5% cutoff, demonstrating a statistically significant simultaneous effect. The Random Effects specification is therefore significant and capable of explaining variation in Tax Avoidance among the sampled energy companies.

Partial Test (t-test)

Individual effects were evaluated through the partial significance test, using 0.05 as the decision threshold. Each of the three explanatory variables (Financial Distress, Capital Intensity, and Sales Growth) was statistically significant, although their estimated directions were not identical.

Financial Distress was estimated at -0.004126 with $p = 0.0016$. As ETR is inversely interpreted in relation to avoidance, this negative association with ETR translates into a positive association with Tax Avoidance. Greater financial pressure thus appears to increase firms' propensity to reduce taxes in order to support liquidity and financial stability.

Capital Intensity produced a -0.139526 coefficient and $p = 0.0029$. Under the ETR measure, this negative estimate means that a larger commitment to property, plant, and equipment is associated with greater Tax Avoidance. Depreciable assets create lawful deductions through which taxable earnings may be reduced.

Sales Growth yielded a 0.035998 coefficient with $p = 0.0000$. A positive ETR response denotes reduced Tax Avoidance. Companies with expanding sales therefore appear better positioned to discharge their tax liabilities and have less motivation to avoid tax.

Result of R² Determination Coefficient Test

Table 9

Results of Panel Data Determination Coefficient Test

R-squared	0.349104
Adjusted R-squared	0.332832
S.E. of regression	0.070046
F-statistic	21.45379
Prob(F-statistic)	0.000000

Source: Data processed using EViews 13

An Adjusted R-squared of 0.332832 means that the three predictors jointly explain 33.28% of Tax Avoidance variation. The remaining 66.72% reflects variables outside the specification. Although the model is statistically informative, considerable variation is still associated with unobserved company-specific, governance, financial, or regulatory conditions.

Moderated Regression Analysis

Table 10

Results of REM Moderation Regression

Dependent Variable: ETR			
Method: Panel EGLS (Cross-section random effects)			
Date: 05/09/26 Time: 00:31			
Sample: 2019 2024			
Periods included: 6			
Cross-sections included: 23			
Total panel (unbalanced) observations: 124			
Swamy and Arora estimator of component variances			
Variable	Coefficient	Std. Error	t-Statistic Prob.

FD	-0.005686	0.001652	-3.441155	0.0008
CI	-0.172808	0.048056	-3.595943	0.0005
SG	0.037600	0.005208	7.219087	0.0000
LONG	-0.395924	0.128275	-3.086537	0.0025
FDROA	0.025098	0.011635	2.157170	0.0330
C	0.313961	0.026599	11.80336	0.0000

Source: Data processed using EViews 13

The FDROA interaction coefficient was 0.025098. Holding other factors constant, a one-unit increase in the Financial Distress–Profitability interaction raises ETR by 0.025098. Because higher ETR signifies less Tax Avoidance, profitability attenuates the positive effect of distress on avoidance. In other words, as profitability strengthens, financial pressure becomes less influential in encouraging avoidance; the corresponding hypothesis is therefore supported.

Discussion of Research Results

The Simultaneous Effect of Financial Distress, Capital Intensity, and Sales Growth on Tax Avoidance

Prob(F-statistic) was 0.000000, below the 5% criterion, confirming that Financial Distress, Capital Intensity, and Sales Growth jointly explain Tax Avoidance among IDX-listed energy companies during 2019–2024. Avoidance behavior is therefore associated with the combined condition of financial pressure, asset structure, and sales performance rather than with one corporate characteristic alone. The significant model supports evaluating these financial attributes collectively.

The Effect of Financial Distress on Tax Avoidance

The partial estimate for Financial Distress was -0.004126 with $p = 0.0016$, below 0.05. Financial Distress therefore has a significant relationship with Tax Avoidance. Because the dependent construct is represented by ETR, the negative coefficient means that greater distress lowers ETR and consequently increases avoidance. Financially constrained firms may use lawful planning to conserve liquidity and sustain operations.

These results imply that financial constraints induce management to pursue efficiency, including tax planning, to protect cash flow and business continuity. Distressed companies commonly confront weaker profitability, scarce financial resources, and mounting obligations to creditors and owners. Lawful reduction of tax outflows may consequently serve as one means of easing pressure while maintaining corporate stability.

Agency Theory interprets this result as a conflict between managers seeking to protect performance and operational continuity and the government seeking to maximize public receipts. Financial pressure sharpens that conflict and encourages priority for near-term financial health. Managers may therefore select legally permissible tax-minimization measures to limit cash outflows and improve earnings after tax.

The empirical results obtained here accord with earlier studies reporting that Financial Distress positively influences Tax Avoidance. and found that firms experiencing greater financial strain are more inclined to undertake tax avoidance as a strategy to preserve liquidity and reduce cash outflows. Similar evidence was reported by Na'imah et al. (2023), who argued that financial distress encourages firms to adopt legal tax planning strategies to alleviate financial strain while maintaining continuity of operations. These findings strengthen the argument that financial constraints increase management's incentive to minimize tax payments through tax avoidance (Ananda & Wahyuni, 2024; Fadhila & Andayani, 2022).

Company-level patterns further support the relationship: many firms with severe distress recorded ETR values below the applicable tax rate. Since a low ETR means that tax payments represent a smaller share than the statutory benchmark, it signals a greater avoidance tendency. Financial Distress can therefore be understood as a factor increasing Tax Avoidance among the sampled energy firms in 2019–2024.

The Effect of Capital Intensity on Tax Avoidance

Capital Intensity returned $p = 0.0029$, below 5%, and a coefficient of -0.139526 . It consequently has a significant relationship with Tax Avoidance. Since the outcome is measured by ETR, the negative estimate implies that more capital-intensive companies tend to display greater avoidance.

Companies with a high proportion of fixed assets can recognize larger depreciation charges against taxable income. Because tax rules allow depreciation as a deductible cost, substantial investment in property, plant, and equipment permits taxable profit to be lowered legally. Capital intensity therefore expands managerial flexibility in structuring tax plans that reduce corporate liabilities.

From an Agency Theory perspective, managers pursue firm value while protecting financial results, and efficient tax planning offers one route toward those goals. Fixed-asset-intensive companies can employ depreciation lawfully to decrease tax expense, retain cash, and improve after-tax returns. Access to depreciable assets may thus increase the incentive for avoidance that remains within existing regulation.

Findings of this study accord with those reported by Oktavia et al. (2021), who found that higher capital intensity increases the likelihood of tax avoidance because greater investment in property, plant, and equipment generates larger depreciation expenses that can be deducted from taxable income. These depreciation expenses provide firms with greater flexibility to implement tax planning strategies within the parameters permitted by prevailing tax rules. Differences in the magnitude of the relationship across studies may be explained by variations in industrial characteristics, observation periods, sample composition, and the proxies used to measure tax avoidance.

Capital Intensity emerges as an important determinant of Tax Avoidance for IDX-listed energy firms in 2019–2024. Companies with greater fixed-asset investment have more depreciation available as a planning mechanism and therefore a higher likelihood of engaging in lawful avoidance.

The Effect of Sales Growth on Tax Avoidance

Sales Growth was significant at $p = 0.0000$ and carried a coefficient of 0.035998 . As the tax-avoidance measure is ETR, this positive estimate represents a rise in ETR and therefore a decline in avoidance. Higher sales growth is consequently associated with less tax-avoidance activity.

Growing sales generally signify stronger operations and revenue generation, enabling a company to pay taxes more readily. Sustained expansion also tends to improve liquidity and financial position, diminishing the perceived need for aggressive minimization. The evidence therefore links higher Sales Growth with compliance rather than intensified avoidance.

Agency Theory also clarifies this pattern. Managers, acting as agents, must enhance firm value while preserving credibility with investors, creditors, regulators, and other stakeholders. Strong sales performance supports that credibility and reduces incentives to adopt aggressive arrangements that could generate legal or reputational exposure.

The results of this study accord with the findings of Riawan & Putri (2022), who reported that sales growth has a negative effect on tax avoidance. Their studies suggest that firms with stronger sales performance are more capable of fulfilling their tax obligations because improved profitability and operating cash flows reduce the motivation to engage in tax avoidance. However, the present findings differ from those reported by Riawan & Putri (2022), who found a positive relationship between sales growth and tax avoidance. These differences may stem from variations in research periods, industrial sectors, sample characteristics, and the measurement of tax avoidance employed in each study (Maryam et al., 2023).

Collectively, the results establish Sales Growth as a relevant determinant of avoidance in IDX energy companies during 2019–2024. Continued revenue expansion improves financial capacity to meet tax obligations and weakens the incentive to pursue tax avoidance.

CONCLUSION

This study assessed the effects of Financial Distress, Capital Intensity, and Sales Growth on Tax Avoidance, together with Profitability's moderating role, in IDX-listed energy firms during

2019–2024. Financial Distress and Capital Intensity were found to increase avoidance significantly, while Sales Growth significantly decreased it. Thus, financial pressure and a larger fixed-asset base create stronger incentives or opportunities to lower the effective burden, whereas better sales performance is associated with less avoidance.

Profitability significantly attenuated the positive Financial Distress–Tax Avoidance relationship, indicating that profitable companies are less likely to respond to financial pressure by avoiding tax. The evidence extends the literature by confirming profitability's moderating function within Indonesia's energy industry. Subsequent studies may account for the unexplained variation by incorporating governance quality, leverage, company size, institutional ownership, and other corporate or regulatory attributes.

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AUTHOR CONTRIBUTION STATEMENT

The first author undertook conceptualization, study design, data acquisition and analysis, interpretation, and preparation of the initial draft. The second author contributed methodological direction, analytical validation, interpretation, and manuscript revision. Every author read and approved the version submitted for publication.

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