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The Influence of Profitability, Leverage, and Fixed Asset Intensity on Tax Planning

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ABSTRACT

This study aims to analyze the effect of profitability, leverage, and fixed asset intensity on tax planning in manufacturing companies listed on the Indonesia Stock Exchange (IDX) for the 2021-2024 period. Tax planning is an effort undertaken by companies to legally minimize their tax burden in order to increase their profits. Factors such as profitability, leverage, and fixed asset intensity are suspected to influence corporate tax planning practices. The sampling method used purposive sampling, resulting in 83 companies with a total of 187 observational data. This study employed quantitative research with secondary data sources obtained from the companies' financial statements. The data analysis technique used panel data regression with the assistance of the EViews 13 program. The study was conducted to examine the effect of each independent variable on the dependent variable, namely tax planning. The results of this study indicate that profitability and leverage have no significant effect on tax planning. Meanwhile, fixed asset intensity has a positive effect on tax planning.

INTRODUCTION

Taxes are a major source of state revenue and play a crucial role in financing national development. For companies, taxes are viewed as a burden that can reduce net profits, thus encouraging them to employ various strategies to legally minimize tax liabilities through tax planning. Tax planning is part of tax management, designed to fulfill tax obligations in accordance with applicable regulations while striving for efficient tax payments to optimize corporate profits (Kusrina et al., 2026). In practice, companies utilize various alternative tax policies within the legal framework to reduce tax payable.

From an agency theory perspective, tax planning practices arise from differing interests between company owners (principals) and managers (agents). Managers, as the parties who

manage the company, have an interest in increasing after-tax profits to demonstrate good performance to shareholders. On the other hand, the complexity of tax strategies can create information asymmetry, potentially increasing agency costs. Therefore, companies need to implement effective tax planning strategies while still maintaining compliance with tax regulations to avoid the risk of sanctions and reputational damage.

The phenomenon of tax planning in manufacturing companies in Indonesia has become increasingly interesting to study, particularly in the post-COVID-19 pandemic period. In 2021–2022, many manufacturing companies took advantage of various government tax incentives to maintain cash flow stability. Furthermore, in 2023–2024, companies began adjusting their tax strategies to various policy changes, such as increases in Value Added Tax (VAT) rates, transfer pricing oversight, and optimization of fixed asset depreciation and loan interest expenses as tax deductions (Juwainah, Ria, & Mahdar, 2025; Satriyo, Khasanah, & Ningrum, 2024). This situation indicates that manufacturing companies, as capital-intensive industries, tend to utilize asset structure and financing structure as part of their tax planning strategies.

Several factors suspected of influencing corporate tax planning include profitability, leverage, and fixed asset intensity. Profitability reflects a company's ability to generate profits. The higher a company's profits, the greater its tax burden, thus providing an incentive for companies to engage in tax efficiency measures (Fitriani & Nurhayati, 2023). However, previous research on the effect of profitability on tax planning has shown inconsistent results. Research by Ramli (2023) found that profitability positively impacts tax planning because companies with high profits tend to engage in tax efficiency measures to maintain net profit levels. Conversely, research by Salsabila and Srimindarti (2022) showed that profitability negatively impacts tax planning because companies with high profits tend to be more cautious due to increased oversight by tax authorities. Conversely, research by Handayani and Wildani (2024) found that profitability has no effect on tax planning.

Besides profitability, leverage is also a factor often associated with tax planning practices. Leverage describes the level of debt used in a company's financing structure. The use of debt can incur tax-deductible interest costs, potentially reducing a company's taxable profit (Sains, Erwati, & Sitorus, 2021). Research by Sari and Nusron (2022) shows that leverage has a positive effect on tax planning because companies use debt as a tax shield strategy. However, research by Pratama and Jati (2023) found a negative effect of leverage on tax planning due to increased scrutiny from creditors and tax authorities. Meanwhile, research by Hidayat, Syah, and Putri (2024) states that leverage has no significant effect on tax planning.

Another factor is fixed asset intensity, which indicates the proportion of fixed assets to a company's total assets. High fixed asset intensity can result in a larger depreciation expense, thereby reducing a company's taxable profit (Asidik, 2024). Research by Mamun (2024) found that fixed asset intensity has a positive effect on tax planning because companies can

utilize depreciation expenses as a tax deduction. However, research by Ardianti and Mahaputra (2023) showed different results, namely that fixed asset intensity has a negative effect on tax aggressiveness because companies with large fixed assets tend to be more compliant with tax regulations. Meanwhile, research by Triwibowo (2025) stated that fixed asset intensity has no effect on tax planning.

Based on the phenomena and inconsistencies in previous research results, this study was conducted to analyze the influence of profitability, leverage, and fixed asset intensity on tax planning in manufacturing companies listed on the Indonesia Stock Exchange for the 2021–2024 period. This research is expected to provide empirical insights into the factors influencing corporate tax planning practices and provide considerations for company management, investors, and regulators in making decisions regarding corporate tax policy.

RESEARCH METHODS

The approach used is a quantitative research method, and the type of measurement in this study uses the Panel Data Regression Test with Eviews 13, which is a combination of cross - *sectional data* and time -*series data* . According to (Liu, 2023), the use of panel data provides advantages in the form of more information, greater variability, and reduced levels of collinearity between variables. Secondary data was obtained from annual financial reports, tax reports, and notes to financial reports published by companies through official websites and the Indonesia Stock Exchange, which were then used to measure variables such as profitability, *leverage* , and fixed asset intensity as proxies for tax planning. The sampling technique used a purposive sampling method based on certain criteria, such as companies that publish audited financial reports in rupiah, earn consistent profits, and have ETR data that can be calculated during the study period. The stages of data processing include collection, selection, tabulation, variable calculation, statistical processing, and interpretation of research results.

RESULTS AND DISCUSSION

Research Sample Selection

This study uses secondary data from manufacturing companies listed on the Indonesia Stock Exchange (IDX) for the 2021–2024 period. Sampling was conducted using a *purposive sampling method* based on several specific criteria. The selection process resulted in a sample of 83 companies with a total of 332 observations over four years. Details of the sample selection are presented in Table 1 below.

Table 1. Research Sample Selection

No.	Information	Number of Companies	Total Data
1	Sector companies manufacturing listed on the IDX for the 2021–2024 period	187	748
2	Companies that do not publish annual report finance complete 2021–2024	(9)	(36)
3	Companies that do not publish report finance in rupiah currency	(32)	(128)
4	Companies that do not consistent get profit positive during 2021–2024	(60)	(240)
5	Companies that do not fulfil criteria variables study	(3)	(12)
6	Amount company samples used	83	332

Source : Processed data researcher (2026)

Statistics Descriptive

Testing statistics descriptive done For give description general about data characteristics of every variables used in study This is the result of the statistical test. descriptive presented in Table 2.

Table 2. Statistical Test Results Descriptive

Variables	N	Minimum	Maximum	Mean	Standard Deviation
ETR (Tax Planning)	332	0.019350	2.997028	0.241342	0.200659
ROA (Profitability)	332	0.001756	0.782271	0.091847	0.082515
DER (Leverage)	332	0.033764	6.465892	0.644287	0.702490
Fixed Asset Intensity	332	0.003508	2.655578	0.349227	0.235101

Source : Data processed by EViews 13 (2026)

Based on Table 2, the variables planning proxied tax with *Effective Tax Rate* (ETR) has the average value is 0.241342 which shows that on average company sample pay tax around 24.13% of profit before tax. The minimum ETR value of 0.019350 was obtained by PT Wahana Inti Makmur Tbk in 2024, indicating existence practice planning intensive taxation. Meanwhile mark maximum amounting to 2,997,028 was obtained by PT Gudang Garam Tbk in 2024, which reflects burden large taxes relatively to profit.

Variables measured profitability with *Return on Assets* (ROA) has the average value is 0.091847, indicating that company sample mean capable produce profit amounting to 9.18% of its total assets. Variable proxied *leverage* with *Debt to Equity Ratio* (DER) has average value of 0.644287 with standard deviation 0.702490 which is more big from the average value

shows variation sufficient debt level tall between company. As for the intensity asset still own the average value is 0.349227, which means that the average is around 34.92% of total assets company is asset still.

Determination of Panel Data Estimation Model

Before do analysis regression , especially formerly model selection test was conducted for determine the most appropriate approach among *Common Effect Model* (CEM), *Fixed Effect Model* (FEM), and *Random Effect Model* (REM). The test results are presented in Table 3.

Table 3. Results of Estimation Model Selection Test

Testing	Objective	Probability Value	Selected Model
Chow Test	CEM vs FEM	0.0000 < 0.05	Fixed Effect Model (FEM)
Hausman test	FEM vs REM	0.3044 > 0.05	Random Effect Model (REM)
Lagrange Multiplier Test	REM vs CEM	0.0000 < 0.05	Random Effect Model (REM)

Source : Data processed by EViews 13 (2026)

Based on Table 3, the Chow Test produces mark probability 0.0000 < 0.05 so the selected model is FEM. Furthermore, the Hausman Test produces probability 0.3044 > 0.05, so the model is more appropriate is REM. Then, *the Lagrange Multiplier Test* produce probability 0.0000 < 0.05 so the best model is used in study This is *Random Effect Model* (REM). Use of the REM model with estimate *Generalized Least Squares* (GLS) are assessed capable overcome problem heteroscedasticity and autocorrelation so that testing assumptions classic No required (Akuntansi et al., 2026; Fitriana et al., 2022).

Panel Data Regression Results and Hypothesis Testing

Based on the estimation results using the *Random Effect Model* (REM), the panel data regression equation is obtained as follows:

$$\mathbf{ETR = 0.141015 - 0.014564\ ROA - 0.011948\ DER + 0.313158\ Fixed\ Asset\ Intensity + e}$$

The complete test results along with the conclusions of the hypothesis test are presented in Table 4 and Table 5.

Regression Test Results (Random Effect Model)

Variables	Coefficient	t- Statistics	Prob.	Note:
Constant (C)	0.141015	-	-	-
ROA (Profitability)	-0.014564	-0.099761	0.9206	Not Significant
DER (Leverage)	-0.011948	-0.655409	0.5127	Not Significant
Fixed Asset Intensity	0.313158	5,954290	0.0000	Significant (+)

Source : Data processed by EViews 13 (2026)

Adjusted R-Squared Value of 0.097096 shows that variables profitability, *leverage*, and intensity asset still in a way together capable explain variation planning tax amounting to

9.71%, while the remaining 90.29% explained by other factors outside the research model This.

Table 5. Conclusion of Hypothesis Testing

Ha	Hypothesis	Prob.	Conclusion
H1	Profitability (ROA) has an effect positive to planning tax (ETR)	0.9206	Rejected
H2	Leverage (DER) has an effect positive to planning tax (ETR)	0.5127	Rejected
H3	Fixed Asset Intensity influential positive to planning tax (ETR)	0.0000	Accepted

Source : Processed data researcher (2026)

Discussion

Influence Profitability to Tax Planning

Test results show that profitability (ROA) has mark probability of 0.9206 > 0.05 with coefficient regression negative of −0.014564. This is means profitability No influential significant to planning taxes, so that hypothesis first (H1) is rejected.

Findings This indicates that although in a way theoretical company with level profitability tall own incentive For do planning taxes to suppress burden higher taxes big, but in in practice company sample precisely tend choose For comply provision applicable taxation. Companies with high profits potential get supervision more strict from authority tax (Directorate General of Taxes), so that management more be careful in take policy aggressive taxation (Wiguna & Sinarwati, 2025). In framework theory agency, thing This can explained as form behavior more managers prioritize control risk and maintain reputation company in front holder share compared to with effort minimize burden tax in a way aggressive.

Research result This in line with findings Handayani and Wildani (2024) and Wiguna and Sinarwati (2025) also found that profitability No influential significant to planning taxes. Management decisions related to tax strategy more nature structural and long-term long as well as influenced by internal governance factors (*corporate governance*) and regulations specific industry, so that fluctuations profit annual No in a way automatic change policy taxation company.

The Effect of Leverage on Tax Planning

Test results show that *leverage* (DER) has mark probability of 0.5127 > 0.05 with coefficient regression negative of −0.011948. With Thus, *leverage* No influential significant to planning tax so that hypothesis second (H2) is rejected.

In a way theoretically , the height the use of debt should be push planning higher taxes intensive through mechanism *tax shield* , where interest charges can be reduced from income hit tax (Zulkarnaen & Amelia, 2021). However, the findings This show that in condition actual, company manufacturing on the IDX for the 2021–2024 period more consider risk financial problems caused by high debt, such as improvement burden fixed and potential difficulty liquidity. In framework theory agency , pressure from party creditors make manager tend more be careful and avoid practice planning risky taxes (Febyansyah & Wijaya, 2024).

In addition , the decision company For owed in the period post-pandemic more driven by need guard liquidity operations and expansion business than avoidance motives tax. Findings This consistent with research by Hidayat, Syah, and Putri (2024) and Febyansyah and Wijaya (2024) stated that that *leverage* No influential significant to planning tax.

Influence Fixed Asset Intensity to Tax Planning

Test results show that intensity asset still own mark probability of 0.0000 < 0.05 with coefficient regression positive of 0.313158. This is means intensity asset still influential positive and significant to planning taxes, so that hypothesis third (H3) is accepted.

Findings This show that the more tall proportion asset still company to its total assets, then the more the ETR value that reflects it is also large height activity planning taxes paid by companies said. In a way theoretical, thing This can explained through mechanism *tax shield* from burden depreciation. Companies with intensity asset stay high own burden large depreciation, and costs depreciation the nature *deductible expense* that can be reduce profit hit tax legally (Rahmanto, 2022). The more big mark asset the more you have, the more the potential is also great savings taxes that can be obtained through confession cost depreciation (Firmansyah, 2022; Rahmi et al., 2023).

In perspective theory agency, manager as agent own interest For maximize profit after taxes to increase performance company in the eyes owner. Therefore that, manager tend optimize management asset still through election method depreciation and policy revaluation assets that can minimize burden tax company. In addition, the company with asset still big generally is companies operating in the industry capital intensive with activity complex operations, so that own more flexibility big in implementing planning strategies efficient tax (Permadani & Pratiwi, 2025).

This finding is consistent with research by Mamun (2024), Pertiwi and Dwimulyani (2025), and Moh. Yuddy Yudawirawan (2024), who found that fixed asset intensity positively influences tax planning in manufacturing companies. This research provides additional empirical evidence that fixed asset management is a key tool for manufacturing companies in Indonesia in optimizing their tax strategies.

CONCLUSION AND SUGGESTIONS

This study aims to examine the effect of profitability, *leverage*, and fixed asset intensity on tax planning in 83 manufacturing companies listed on the IDX for the 2021–2024 period. results analysis panel data regression with *the Random Effect Model* (REM) model, can concluded as following:

First, **profitability (ROA) is not influential significant to planning tax** (prob. 0.9206 > 0.05). Manufacturing company tend comply regulation taxation and avoiding aggressive tax strategies For guard reputation and avoid risk sanctions from authority taxes, although own level high profitability.

Second, **leverage (DER) is not influential significant to planning tax** (prob. 0.5127 > 0.05). The height debt level is not push aggressiveness planning tax Because company more be careful consequence pressure creditors and considerations risk finance.

Third, **intensity asset still influential positive and significant to planning tax** (prob. 0.0000 < 0.05; coefficient 0.313158). Companies with proportion asset stay high own burden large shrinkage that can utilized as reducer profit hit taxes, so that the more tall intensity asset still , increasingly the intensity is also great planning taxes paid.

Study This own limitations in the form of mark Relative Adjusted *R-Squared* low by 9.71%, indicating Still Lots other factors that influence planning unpaid taxes entered to in the model. Research furthermore recommended For add variables like size company, *corporate governance*, liquidity, or ownership institutional as variables independent and moderation . In addition, for company and management expected can optimize management asset still as instrument planning legal and efficient taxes, as well as apply policy responsible taxation answer and appropriate with applicable regulations.

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