

The Effect of Profitability, Leverage, and Inventory Intensity on Tax Management in the Consumer Non-Cyclicals Sector Listed on the IDX for the 2021-2024 Period

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ABSTRACT

This study aims to analyze the effect of profitability, leverage, and inventory intensity on tax management in Consumer Non-Cyclicals sector companies listed on the Indonesia Stock Exchange (IDX) for the 2021–2024 period. Tax management is proxied by the Effective Tax Rate (ETR), profitability is measured using Return on Assets (ROA), leverage is measured by the Debt to Equity Ratio (DER), and inventory intensity is measured by the ratio of total inventory to total assets. The study uses a quantitative approach with secondary data in the form of annual financial reports from the official IDX website. The sample was selected using a purposive sampling method and obtained 67 companies with a total of 268 observation data over 4 years. Data analysis used panel data regression with the Random Effects (REM) model through EViews 14 software. The results show that profitability (ROA) has a negative and significant effect on tax management, meaning that the higher the profitability, the lower the ETR value so that companies tend to carry out more effective tax management. Conversely, leverage (DER) and inventory intensity do not have a significant effect on tax management.

INTRODUCTION

Economic developments in the era of globalization have driven increasingly fierce business competition. Companies are required to manage resources effectively, including tax obligations. Taxes are a burden that can reduce corporate profits, so management seeks strategies to legally reduce the tax burden through tax management practices.

Tax management is a company's effort to manage its tax obligations so that tax payments can be made efficiently without violating applicable regulations (Devina & Pradipta, 2021). Firmansyah (2022) states that companies can utilize various financial and operational policies as strategies for tax management.

According to the OECD Revenue Statistics in Asia and the Pacific 2025 report, Indonesia's tax-to-GDP ratio in 2023 was only 12.0%, well below the Asia-Pacific average of

19.5% and the OECD average of 33.9%. This indicates that the contribution of tax revenue to Indonesia's GDP remains relatively low (OECD, 2025).

From an agency theory perspective (Jensen & Meckling, 1976), tax management practices arise from differing interests between management, as agents, and shareholders, as principals. This information asymmetry creates opportunities for tax management practices (Charista & Febrianti, 2023).

Various internal company factors, such as profitability, leverage, and inventory intensity, are thought to influence the extent to which a company implements tax management. High profitability encourages management to engage in tax planning to optimize net profit after tax (Agustin & Grilbert Rely, 2023). The use of debt (leverage) incurs interest expenses that can be used as a taxable income deduction, while high inventory intensity can incur costs that impact taxable profit (Firmansyah, 2022).

Previous research on these three factors has shown inconsistencies. This study aims to obtain empirical evidence regarding the influence of profitability, leverage, and inventory intensity on tax management in Consumer Non-Cyclicals companies listed on the IDX for the 2021–2024 period.

RESEARCH METHODS

This study uses a quantitative approach with a causal associative research design. The data used is secondary data in the form of annual financial reports sourced from the official website of the Indonesia Stock Exchange (www.idx.co.id).

The study population consisted of Consumer Non-Cyclicals sector companies listed on the Indonesia Stock Exchange (IDX) for the 2021–2024 period. Sampling was conducted using a purposive sampling method with the following criteria: (1) listed on the IDX during 2021–2024; (2) regularly publishing audited financial reports; (3) using Rupiah currency; and (4) making a profit during the observation period. Based on these criteria, 67 companies were selected with a total of 268 observation data.

The dependent variable in this study is tax management, proxied by the Effective Tax Rate (ETR), which is the ratio of income tax expense to pre-tax profit. A lower ETR indicates a more active company in tax management.

Independent variables include: (1) Profitability measured by Return on Assets (ROA), which is the ratio of net profit to total assets; (2) Leverage measured by Debt to Equity Ratio (DER), which is the ratio of total debt to total equity; and (3) Inventory Intensity measured by the ratio of total inventory to total assets.

Table 1. Operationalization of Research Variables

Variables	Measurement	Scale	Symbol
Tax Management (Y)	Tax Expense / Previous Profit. Tax	Ratio	ETR
Profitability (X1)	Net Profit / Total Assets	Ratio	ROA
Leverage (X2)	Total Debt / Total Equity	Ratio	DER
Inventory Intensity (X3)	Total Inventory / Total Assets	Ratio	IP

The data analysis method used is panel data regression, with a model selected through a series of diagnostic tests. The regression model used is:

$$ETR_{it} = \alpha + \beta 1ROA_{it} + \beta 2DER_{it} + \beta 3IP_{it} + \epsilon_{it}$$

The best model was selected using the Chow Test, Hausman Test, and Lagrange Multiplier (LM) Test. Furthermore, a partial test (T-Test) and a coefficient of determination (R²) test were performed. Data processing used EViews 14 software.

RESULTS AND DISCUSSION

Sample Selection Process

Table 2. Research Sample Selection Process

Criteria	Amount
Consumer Non-Cyclicals sector companies listed on the IDX	135
Inconsistent reporting of financial statements	(26)
Not using rupiah currency	(1)
Inconsistent profit	(38)
Does not meet the research variable criteria	(3)
Number of Sample Companies	67
Number of Research Periods	4
Total Observation Data	268

Descriptive Statistics

Table 3. Results of Descriptive Statistical Tests

Statistics	ETR	ROA	DER	IP
Mean	0.2311	0.0935	1.0130	0.1946
Max.	0.9588	1,1093	21,8375	1.0106
Min.	0.0002	0.0006	0.0410	0.0025
Std. Dev.	0.0915	0.0964	1.6257	0.1662
Observation	268	268	268	268

The average ETR value of 0.2311 (23.11%) is within the range of Indonesia's corporate income tax rate (22%–25%), indicating that companies, on average, bear a reasonable tax burden. The DER standard deviation of 1.6257 reflects very high capital structure heterogeneity among the sample companies.

Panel Data Regression Model Selection

The Chow test yields a Cross-section F probability value of 0.0000 (<0.05), indicating that the Fixed Effect Model (FEM) is superior to the Common Effect Model (CEM). Furthermore, the Hausman test yields a probability value of 0.6702 (>0.05), indicating that the Random Effect Model (REM) is more appropriate. The Lagrange Multiplier test confirms this with a Breusch-Pagan value of 0.0000 (<0.05), indicating that the selected model is the Random Effect Model (REM) and does not require classical assumption testing.

Panel Data Regression Analysis Results

Table 4. Results of Panel Data Regression Analysis (REM)

Variables	Coefficient	t-Statistic	Prob.
C	0.2561	22,5906	0.0000
ROA	-0.2256	-3,7821	0.0002*
DER	0.0016	0.4246	0.6715
IP	-0.0286	-0.7521	0.4527
Adj. R ²	0.0439 (R ² : 0.0547)		

*Significant at $\alpha = 0.05$

The regression equation formed: $ETR = 0.2561 - 0.2256 ROA + 0.0016 DER - 0.0286 IP + \epsilon$.

The Influence of Profitability on Tax Management

Profitability (ROA) has a negative and significant effect on tax management (ETR) with a coefficient of -0.2256 and a probability of $0.0002 < 0.05$, thus H1 is accepted. Every 1 unit increase in ROA will decrease ETR by 0.2256.

The higher a company's profitability, the lower its ETR, indicating a more active tax planning activity. Profitable companies have more resources to hire tax consultants and design efficient financial structures (Devina & Pradipta, 2021; Agustin & Grilbert Rely, 2023).

Within the framework of Agency Theory, management, as an agent, has a strong motivation to manage taxes efficiently to maintain after-tax profits and meet shareholder expectations (Charista & Febrianti, 2023). This finding aligns with Felicia, Veny, and Feliciano (2024) and Alvares and Yohanes (2021).

The Effect of Leverage on Tax Management

Leverage (DER) does not significantly influence tax management with a probability of $0.6715 > 0.05$, thus H2 is rejected. Although debt interest expense is tax deductible, its use as a tax management instrument is not automatic.

The decision to use debt is largely driven by operational funding needs. Consumer non-cyclical companies generally have stable cash flows, preventing significant leverage fluctuations. Highly leveraged companies also face increased scrutiny from creditors, encouraging tax compliance (Bela & Kurnia, 2023; Rahmawati & Nani, 2021).

The Effect of Inventory Intensity on Tax Management

Inventory intensity (IP) has no significant effect on tax management with a probability of $0.4527 > 0.05$, thus H3 is rejected. Inventory management in Consumer Non-Cyclicals sector companies is driven more by operational considerations than tax motives.

The tax impact of inventory costs is indirect because they are only recognized as a tax deduction when the inventory is sold. The heterogeneity of business models in this sector also weakens the relationship between inventory intensity and ETR (Charista & Febrianti, 2023; Firmansyah, 2022). This finding aligns with Bela and Kurnia (2023) and Apu and Ardini (2023).

Table 5. Hypothesis Conclusion

Ha	Hypothesis	Sig.	Results
H1	Profitability (ROA) affects ETR	0.0002	Accepted
H2	Leverage (DER) affects ETR	0.6715	Rejected
H3	Inventory Intensity (IP) affects ETR	0.4527	Rejected

CONCLUSION AND SUGGESTIONS

Based on the results of panel data regression analysis with a Random Effect Model on 67 Consumer Non-Cyclicals sector companies on the IDX for the 2021–2024 period, the following conclusions can be drawn.

1. Profitability (ROA) has a negative and significant effect on tax management (ETR). The higher a company's profitability, the lower its ETR, reflecting more active tax management practices.
2. Leverage (DER) has no significant impact on tax management. Debt use decisions are based more on operational funding needs than tax savings.
3. Inventory intensity has no significant impact on tax management. Inventory management is driven more by operational considerations than tax motives.

Further researchers are advised to add other variables such as company size, corporate governance, or fixed asset intensity, as well as expand the research sectors and period to obtain more comprehensive results.

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