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Assessing the Impact of Fixed Asset Intensity and Financial Performance on Tax Avoidance Using a Quantitative Model: Independent Commissioners as Moderators

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ABSTRACT

Purpose: *This study aims to examine the effect of fixed asset intensity and financial performance on tax avoidance with independent commissioners as a moderating variable in consumer non-cyclicals sector companies listed on the Indonesia Stock Exchange (IDX) during the 2020–2024 period.* ***Methodology:*** *The research employs a quantitative approach using panel data analysis with the Random Effect Model (REM). The dependent variable is tax avoidance measured by the Effective Tax Rate (ETR), while the independent variables consist of fixed asset intensity and financial performance measured by Return on Assets (ROA). The moderating variable is the proportion of independent commissioners.* ***Results:*** *The results show that (1) financial performance has a significant effect on tax avoidance, (2) fixed asset intensity has no significant effect on tax avoidance, (3) independent commissioners have no direct significant effect on tax avoidance, (4) independent commissioners moderate the relationship between financial performance and tax avoidance, and (5) independent commissioners also moderate the relationship between fixed asset intensity and tax avoidance. Simultaneously, all independent variables and their moderating interactions have a significant effect on tax avoidance.* ***Findings:*** *These findings support agency theory, indicating that the supervisory role of independent commissioners can influence management behavior in managing corporate tax obligations.* ***Novelty & Originality:*** *The novelty of this study lies in the examination of independent commissioners as a moderating variable in the relationship between financial performance and fixed asset intensity on tax avoidance, a moderating role that has been rarely explored in prior research. Its originality emerges from the use of panel data analysis in the consumer non-cyclicals sector during the post-pandemic period.* ***Conclusions:*** *This study provides empirical evidence for accounting and taxation literature and serves as a reference for companies and regulators to enhance governance and tax transparency in Indonesia.* ***Type of Paper:*** *This paper is an empirical research paper.*

INTRODUCTION

Taxation plays a vital role in supporting a country's economic stability and development. According to the Indonesian Taxation Law No. 28 of 2007, tax is a mandatory contribution imposed by the state on individuals or entities without direct compensation, and it is utilized for the welfare of society. However, despite the government's continuous effort to optimize tax collection, tax compliance in Indonesia remains below potential. The World Bank (2025) reported that the gap between actual and potential tax revenue in Indonesia averages 6.4% of GDP, equivalent to approximately IDR 548 trillion in uncollected tax revenue. This gap indicates persistent tax avoidance practices among corporations that exploit regulatory loopholes to reduce their tax obligations legally.

Motivation in Writing the Paper

The issue of tax avoidance is not only relevant to fiscal policy but also to corporate governance and financial performance. Understanding the factors influencing tax avoidance behavior can provide valuable insight for regulators, investors, and corporate decision-makers. Companies often seek strategies to reduce tax expenses through efficient financial planning, including the management of fixed assets and profitability performance. Moreover, the presence of independent commissioners as part of corporate governance mechanisms is expected to enhance supervision and reduce opportunistic management behavior in tax planning. The motivation for conducting this study stems from the inconsistency of previous research findings and the need to clarify the moderating role of independent commissioners in the relationship between fixed asset intensity, financial performance, and tax avoidance.

Problem Statement

Although tax avoidance is legally permissible, it raises ethical and economic concerns as it affects the government's ability to generate revenue. Prior studies have shown mixed results regarding the influence of fixed asset intensity and financial performance on tax avoidance. Some researchers found that higher fixed asset intensity provides greater opportunities for depreciation-based tax planning, thus increasing tax avoidance (Liando, Sondakh, & Mintalangi, 2023). In contrast, other studies reported a negative relationship, suggesting that asset-intensive firms tend to have transparent financial reporting and lower tax avoidance (Asri & Mahfudin, 2021). Similarly, the relationship between financial performance and tax avoidance remains inconclusive, as profitability may either increase tax obligations or encourage firms to minimize tax burdens through avoidance strategies (Riawan & Putri, 2023).

The study is grounded in agency theory, which explains the conflict of interest between principals (shareholders) and agents (managers) in maximizing returns (Jensen & Meckling, 1976). Managers may engage in tax avoidance to enhance reported profits and, consequently, their compensation, even if such actions increase agency costs. Fixed asset intensity, defined as the proportion of fixed assets to total assets, influences tax avoidance through depreciation expenses that reduce taxable income (Sari, Yulyanti, & Afiqoh, 2022). Financial performance, measured by profitability ratios such as Return on Assets (ROA), reflects management's ability to generate earnings efficiently, which can influence the firm's approach to tax management (Herlani & Triyono, 2024). The role of independent commissioners, as emphasized in Indonesia's corporate governance framework, is crucial for monitoring managerial behavior and ensuring compliance with tax regulations (Nabila & Kartika, 2023). However, prior empirical evidence on whether independent commissioners effectively moderate these relationships remains inconsistent (Marzuqah, Ulum, & Widyastuti, 2025).

Purpose of the Research
Given these inconsistencies, this study aims to analyze the effect of fixed asset intensity and financial performance on tax avoidance, with independent commissioners as a moderating variable. Specifically, the research seeks to determine whether independent commissioners can strengthen or weaken the influence of these financial and operational factors on corporate tax avoidance practices. The findings are expected to contribute to the refinement of agency theory in the taxation context and provide empirical insights for enhancing corporate governance and fiscal transparency in Indonesia.

METHOD

Research Method

This study adopts a quantitative research design aimed at testing the effect of fixed asset intensity and financial performance on tax avoidance with independent commissioners as a moderating variable. The research was conducted on companies in the consumer non-cyclicals sector listed on the Indonesia Stock Exchange (IDX) during the 2020–2024 period. The location of the research is the official website of the Indonesia Stock Exchange (www.idx.co.id), where the companies' financial statements and annual reports were obtained. The research was carried out between September 2024 and March 2025.

The type of research used is explanatory quantitative research, which seeks to examine causal relationships among variables through statistical testing. The population of the study consists of all consumer non-cyclicals sector companies listed on the IDX from 2020 to 2024. The sampling technique applied was purposive sampling, which involves selecting samples based on specific criteria such as (1) companies consistently listed during the observation period, (2) companies that published complete financial statements and annual reports between 2020 and 2024, and (3) companies that disclosed information related to taxation and corporate governance variables. Based on these criteria, the final sample included companies that met the data completeness and consistency requirements.

The study employs secondary data obtained from official company publications, primarily in the form of audited annual reports and financial statements. Data collection was conducted through documentation techniques, where relevant financial and governance data were recorded, reviewed, and tabulated for further analysis. The data obtained were processed using EViews software, which is suitable for panel data regression analysis, enabling the researcher to observe both cross-sectional and time-series variations.

This research uses several variables, namely tax avoidance as the dependent variable, fixed asset intensity and financial performance as independent variables, and independent commissioners as the moderating variable. Tax avoidance is measured using the Effective Tax Rate (ETR), which is calculated by dividing total income tax expense by pre-tax income. A lower ETR indicates a higher level of tax avoidance (Bradshaw, 2019). Fixed asset intensity is measured by the ratio of fixed assets to total assets, reflecting the proportion of capital invested in fixed assets (Mustikasari et al., 2023). Financial performance is represented by Return on Assets (ROA), calculated as net income divided by total assets, indicating how efficiently the company utilizes its assets to generate profit (Herlani & Triyono, 2024). Independent commissioners are measured by the proportion of independent board members to the total number of commissioners (Nabila & Kartika, 2023).

Data analysis was carried out using several statistical methods to ensure the validity of the model. Descriptive statistical analysis was used to present data characteristics such as mean, minimum, maximum, and standard deviation. Classical assumption tests, including normality, multicollinearity, heteroskedasticity, and autocorrelation tests, were conducted to verify the regression model's reliability. The study employed panel data regression analysis using the Random Effect Model (REM), as determined through Chow, Hausman, and Lagrange Multiplier tests, which compared model suitability between common, fixed, and random effects. Hypothesis testing was performed using the t-test to assess partial effects and the F-test to determine simultaneous effects at a 5% significance level. The coefficient of determination (R^2) was calculated to measure the explanatory power of the independent variables.

All statistical analyses were conducted using EViews 12 software, while Microsoft Excel 2021 was used for initial data processing. The procedures and analytical techniques are presented in detail to ensure the study's replicability. The combination of rigorous sampling, standardized measurement, and robust statistical testing enhances the reliability of the research findings and allows other researchers to replicate similar studies under comparable conditions.

RESULTS AND DISCUSSION

RESULTS

Descriptive Statistical Results

Descriptive statistics provide an overview of the variables used in the study, including tax avoidance (ETR), fixed asset intensity (IAT), financial performance (ROA), and independent commissioners (KIN). Table 1 presents the descriptive analysis results for all variables examined during the 2020–2024 observation period.

Table 1. Descriptive Statistics of Research Variables (n = 50)

Variable	Minimum	Maximum	Mean	Standard Deviation
ETR (Tax Avoidance)	0.12	0.45	0.26	0.09
IAT (Fixed Asset Intensity)	0.10	0.78	0.42	0.18
ROA (Financial Performance)	0.02	0.23	0.11	0.06
KIN (Independent Commissioners)	0.25	0.67	0.45	0.10

Source: Processed data, 2024

The data indicate that the average effective tax rate (ETR) among sample companies is 26%, suggesting moderate levels of tax avoidance across the consumer non-cyclicals sector. Fixed asset intensity averages 42%, implying that these firms allocate nearly half of their total assets to fixed investments, which may influence depreciation-related tax deductions. The mean ROA of 11% reflects stable profitability, while the average proportion of independent commissioners (45%) aligns with the Indonesian Financial Services Authority (OJK) corporate governance standard requiring at least 30% independent members on the board.

Model Selection and Regression Testing

Panel data regression analysis was conducted to determine the most appropriate estimation model. The Chow test selected the Fixed Effect Model (FEM), while the Hausman and Lagrange Multiplier tests indicated that the Random Effect Model (REM) was more suitable (Prob. = $0.039 < 0.05$). Therefore, the REM model was used for hypothesis testing, as shown in Table 2.

Table 2. Random Effect Model Regression Results

Variable	Coefficient	t-Statistic	Prob.
C (Constant)	-0.0826	-2.174	0.034
ROA	-1.8197	-3.845	0.000*
IAT	0.3203	1.807	0.076
KIN	0.0551	0.468	0.639
ROA × KIN	2.1684	3.421	0.001*
IAT × KIN	-0.1214	-2.063	0.039*
Adjusted R²	0.31	F-Stat (Sig.)	0.004*

*Significance at α = 0.05
Source: Processed data, 2024

The results show that financial performance (ROA) has a significant negative effect on tax avoidance, indicating that companies with higher profitability tend to exhibit lower levels of tax avoidance. This finding supports Herlani and Triyono (2024), who argued that firms with strong profitability prefer to maintain tax compliance to uphold their corporate reputation. Fixed asset intensity, however, does not significantly influence tax avoidance, consistent with the findings of Sari, Yulyanti, and Afiqoh (2022), suggesting that depreciation expenses from fixed assets do not always lead to aggressive tax minimization.

Moderating Role of Independent Commissioners

The interaction terms reveal that independent commissioners significantly moderate both relationships. The interaction between ROA and KIN ($p = 0.001$) implies that independent commissioners strengthen the negative relationship between financial performance and tax avoidance. In other words, when the board's independence increases, highly profitable firms become less likely to engage in tax avoidance practices. This finding aligns with the agency theory proposed by Jensen and Meckling (1976), emphasizing that an independent board reduces agency conflicts by monitoring management decisions, including tax-related strategies.

Conversely, the interaction between fixed asset intensity and independent commissioners ($p = 0.039$) shows a significant negative moderating effect, indicating that the presence of independent commissioners weakens the tendency of firms with high fixed asset intensity to practice tax avoidance. This suggests that board independence plays a vital role in ensuring transparent asset management and discouraging aggressive tax planning through depreciation mechanisms (Nabila & Kartika, 2023).

Overall Model Interpretation

The Adjusted R^2 value of 0.31 demonstrates that approximately 31% of variations in tax avoidance can be explained by the model's independent and moderating variables, while the remaining 69% are influenced by other factors such as leverage, company size, or growth rate not included in this study. The F-test result ($p = 0.004 < 0.05$) confirms that all variables jointly have a significant effect on tax avoidance.

These findings contribute to the ongoing discussion in tax governance literature, highlighting that financial performance and corporate governance mechanisms jointly influence corporate tax behavior. The results reinforce the argument by Martin and Indrati (2024) that effective oversight through independent commissioners reduces opportunistic tax strategies and supports sustainable fiscal transparency.

The empirical findings of this study provide both theoretical and practical implications. From a theoretical standpoint, the results strengthen the agency theory perspective by demonstrating that independent commissioners mitigate the conflict between management and shareholders regarding tax decisions. Practically, the findings suggest that regulators and policymakers should continue enforcing governance structures that require independent board representation, as such mechanisms promote ethical corporate conduct and reduce tax aggressiveness. Future studies are recommended to expand the model by including variables such as firm leverage, ownership concentration, or executive compensation to improve explanatory power and deepen understanding of tax avoidance determinants in emerging markets.

DISCUSSION

Discussion of Results

The results of this study provide valuable insights into the complex relationship between fixed asset intensity, financial performance, and tax avoidance, as well as the moderating role of independent commissioners in consumer non-cyclicals sector companies in Indonesia. The discussion is presented in relation to empirical data, theoretical perspectives, and prior research findings, highlighting the study's contribution to the field of economics and taxation.

Financial Performance and Tax Avoidance

The regression results reveal that financial performance (ROA) has a significant negative effect on tax avoidance ($p = 0.000$). This indicates that firms with higher profitability tend to engage less in tax avoidance practices. This finding supports Herlani and Triyono (2024), who found that profitable firms are more likely to comply with taxation due to reputational considerations and the need to maintain legitimacy in the eyes of investors and regulators. The result is also in line with agency theory (Jensen & Meckling, 1976), which states that managers, as agents of shareholders, may prefer transparent reporting when financial results are strong to avoid agency conflicts and reputational risk.

However, this finding contrasts with studies by Riawan and Putri (2023) and Tristanti and Aisyaturrahmi (2023), which reported that higher profitability tends to increase tax avoidance because managers seek to minimize tax burdens to maximize net returns. The divergence in results may stem from differences in sectoral behavior and governance practices. In consumer non-cyclicals firms, where public scrutiny and government oversight are strong, management may prioritize compliance over aggressive tax planning.

This study thus contributes to the growing evidence that profitability's effect on tax avoidance is context-dependent. In emerging economies like Indonesia, the institutional environment and enforcement mechanisms may shape managerial incentives differently than in developed markets. The finding refines economic understanding by showing that higher profitability in regulated consumer sectors correlates with better fiscal responsibility and lower tax aggressiveness.

Fixed Asset Intensity and Tax Avoidance

The statistical analysis indicates that fixed asset intensity (IAT) does not significantly affect tax avoidance ($p = 0.076$). This result supports the findings of Sari, Yulyanti, and Afiqoh (2022), who also reported that asset intensity does not always lead to aggressive tax reduction. According to

Liando, Sondakh, and Mintalangi (2023), high fixed asset intensity increases depreciation expenses that can reduce taxable income; however, the absence of a significant relationship in this study implies that depreciation effects in the consumer goods sector are relatively stable and well-regulated.

From the theoretical standpoint, agency theory suggests that managers could exploit accounting flexibility related to asset depreciation to reduce tax obligations. Nonetheless, the insignificant result implies that internal controls and corporate governance mechanisms may effectively limit such behavior. This finding advances the literature by suggesting that in industries with standardized accounting treatment and limited discretion in asset valuation, the role of asset intensity in tax avoidance is less pronounced. It contributes new empirical evidence that the economic impact of capital investment decisions on tax behavior depends on sectoral characteristics and regulatory enforcement.

The Moderating Role of Independent Commissioners

A critical contribution of this research lies in identifying the moderating role of independent commissioners. The study found that independent commissioners significantly strengthen the negative effect of financial performance on tax avoidance (p = 0.001) and weaken the positive link between fixed asset intensity and tax avoidance (p = 0.039).

Table 3. Moderating Effect of Independent Commissioners on Tax Avoidance

Interaction Variables	Coefficient	Effect	Significance (p-value)	Moderating Conclusion
ROA × KIN	2.168	Strengthens the negative effect of ROA on ETR	0.001*	Significant
IAT × KIN	-0.121	Weakens the influence of IAT on ETR	0.039*	Significant

*Significance level α = 0.05
Source: Processed data, 2024

The result is consistent with the findings of Marzuqah, Ulum, and Widyastuti (2025), who demonstrated that independent commissioners improve board oversight and mitigate managerial opportunism. This outcome confirms the assumption of corporate governance theory, where the presence of independent board members serves as an internal monitoring mechanism to align managerial actions with shareholder and public interests (Nabila & Kartika, 2023).

By moderating the effect of financial performance, independent commissioners ensure that profitability does not tempt managers to exploit tax loopholes. Meanwhile, by moderating the effect of fixed asset intensity, they reduce the likelihood of manipulating depreciation policies for tax benefits. Hence, this study enriches both agency theory and corporate governance literature by empirically validating the dual moderating role of independent commissioners in taxation behavior.

Implications and Contribution to Economic Development

The findings of this study contribute to the broader discourse on economic governance and sustainable fiscal management. First, it demonstrates that effective corporate governance mechanisms—particularly board independence—play a crucial role in promoting corporate tax compliance, which directly supports national revenue mobilization and public welfare. Second, it provides empirical evidence that in emerging markets, firm-level governance and profitability are interlinked determinants of tax behavior, extending traditional models of tax avoidance which often ignore governance dimensions.

In terms of economic development, the research highlights that strengthening institutional frameworks such as independent board oversight can enhance fiscal transparency and trust in the corporate sector. The insights gained from this study can guide regulators, investors, and policymakers in formulating strategies to improve tax enforcement and encourage responsible corporate practices. Furthermore, by refining the understanding of how micro-level governance mechanisms influence macroeconomic outcomes, this study contributes new knowledge to the field of development economics, particularly in linking corporate behavior with national fiscal sustainability.

Overall, the study confirms that tax avoidance is not merely a financial decision but a governance outcome shaped by managerial ethics, oversight structures, and institutional integrity. The combination of strong profitability and independent supervision leads to responsible tax behavior—thereby.

CONCLUSION

This study aimed to examine the effect of fixed asset intensity and financial performance on tax avoidance, with independent commissioners serving as a moderating variable, using a sample of consumer non-cyclicals sector companies listed on the Indonesia Stock Exchange during 2020–2024. The empirical findings reveal that financial performance significantly and negatively affects tax avoidance, suggesting that firms with stronger profitability are less inclined to engage in tax minimization practices. Conversely, fixed asset intensity shows no significant influence on tax avoidance, implying that depreciation-related tax planning is less dominant in this sector. Furthermore, the presence of independent commissioners strengthens the negative relationship between financial performance and tax avoidance and weakens the potential effect of fixed asset intensity on tax avoidance, confirming their critical moderating role in promoting responsible tax behavior.

Theoretically, this research contributes to the development of agency theory and corporate governance theory by demonstrating that effective board independence reduces managerial opportunism in taxation decisions. The study extends existing models of tax avoidance by integrating governance mechanisms as moderating variables, thus offering a more comprehensive understanding of how internal control structures influence corporate fiscal conduct. The findings enrich the economic literature by linking firm-level governance characteristics with macroeconomic implications such as tax compliance and public revenue stability.

Practically, the study provides significant insights for regulators, policymakers, and corporate stakeholders. Strengthening the role of independent commissioners through stricter governance standards and transparent reporting systems can minimize tax aggressiveness while enhancing corporate accountability. Firms are encouraged to maintain a balance between profit maximization and fiscal responsibility to build investor trust and contribute to sustainable economic development. Future research can expand on these findings by incorporating additional moderating or mediating variables such as leverage, ownership concentration, or political connections, which may influence corporate tax behavior. Comparative studies across sectors or between emerging and developed markets are also recommended to generalize the results and refine theoretical models. By integrating broader institutional and behavioral perspectives, future studies can further develop a unified theory of corporate tax governance that connects micro-level decision-making with macroeconomic fiscal outcomes.

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