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The Effect of Capital Intensity and Inventory Intensity on Tax Aggressiveness in Multinational Companies in the Manufacturing Sector Listed on the IDX

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Abstract

This study examines the influence of capital intensity and inventory intensity on tax aggressiveness in multinational manufacturing companies listed on the Indonesia Stock Exchange (IDX) during 2020–2024, using the effective tax rate (ETR) as a proxy for tax aggressiveness. Employing an associative quantitative approach, panel data from 14 companies (70 observations) selected through purposive sampling were analyzed using multiple linear regression via IBM SPSS 29. The results show that capital intensity has a positive and significant effect on ETR (coefficient +0.038), indicating that a higher proportion of fixed assets is associated with a higher reported ETR and thus lower tax aggressiveness—a finding that contradicts the depreciation shield hypothesis and suggests that fixed-asset investment among multinational manufacturers tends to be accompanied by compliance burdens that raise ETR. In contrast, inventory intensity has a negative and significant effect on ETR (coefficient −0.151), meaning that a higher proportion of inventory is associated with a lower ETR and greater tax aggressiveness, reflecting the potential of intensive inventory management to suppress taxable income through storage costs, inventory valuation practices, and cross-jurisdictional supply chain mechanisms. Both variables jointly exert a significant effect on tax aggressiveness, with the regression model explaining 32.1% of its variance. These findings confirm that the characteristics of multinationality—including international compliance pressures and consolidated accounting standards—shape tax behavior differently from that of domestic manufacturing firms, underscoring the need for a tax oversight approach based on asset structure profiling and supporting the development of a risk-based tax supervision framework as an early screening tool for identifying potentially aggressive tax behavior among multinational manufacturing firms.

INTRODUCTION

Taxation serves as a significant source of revenue for the state and is crucial in supporting development financing and the provision of public services. Taxes are mandatory financial contributions imposed on individuals and organizations as taxpayers, where the payment obligation is carried out directly and enforced by the state based on applicable legal provisions. (Suaidah & Rahayu, 2023). In Indonesia, tax revenue is the largest contributor to the structure of state income, accounting for more than 80% of total state revenue (Tamba, 2025). However, the optimization of tax revenue in Indonesia continues to face challenges due to tax avoidance

practices by multinational companies that exploit the complexity of cross border transactions. According to the State of Tax Justice, (2023), Indonesia is estimated to lose approximately US$2,736.5 million per year due to corporate tax abuse related to profit shifting practices by multinational companies. On the other hand, the production industry is among the sectors that possess the largest foreign investment contributions in Indonesia during the 2020–2024 period, resulting in a high intensity of inter affiliate transactions that potentially increases tax aggressiveness practices.

Tax aggressiveness has become an important issue in the field of corporate taxation. It refers to the efforts made by companies to reduce their tax obligations through various tax planning mechanisms, which may involve strategies that comply with legal provisions as well as those that are considered to violate tax regulations (A. K. Putri & Yustisia, 2024). This issue becomes increasingly complex in multinational companies (MNCs) due to cross border business activities that allow companies to exploit differences in tax systems between countries through profit shifting and Base Erosion and Profit Shifting (BEPS) practices. The OECD (2024) notes that profit shifting activities by multinational companies globally have reached USD 850 billion, highlighting the enormous potential for tax avoidance in international business activities.

Corporate tax aggressiveness behavior may be affected by several internal elements, one of which is capital intensity. Capital intensity denotes the ratio of a firm's expenditure on fixed assets in relation to its overall owned assets. Firms with significant capital intensity typically experience greater depreciation costs, that can lower taxable income and lower the amount of tax payable (Maulana et al., 2022). From the viewpoint of agency theory, management within a company has a vested interest in improving efficiency and firm value, one way being through asset management that can impact tax strategy. Study conducted by Najwa et al., (2024) suggests that capital intensity is a factor associated with the level of tax aggressiveness making it one of the important factors in explaining corporate tax decisions.

In addition to capital intensity, an additional element that can affect tax aggressiveness is inventory intensity. This variable represents the extent of a company's investment in inventory in relation to its overall assets. A high level of inventories can increase storage, maintenance, and inventory impairment costs, which ultimately can affect the company's profit level (Norma Lutfita Sari & Ajimat, 2023). Changes in profit can impact the sum of taxes a business is required to pay. However, research concerning the impact of inventory density on tax aggressiveness has yielded inconsistent results. Amyulianthy et al., (2025) and A. K. Putri & Yustisia, (2024) found that inventory intensity has no significant effect on tax aggressiveness, whereas Maulana et al., (2022) and Zainul et al., (2024) found a significant positive effect. These differing results indicate that the

relationship between inventory intensity and tax aggressiveness has not been fully explored and therefore requires further analysis.

Previous research on tax aggressiveness has mostly been conducted on manufacturing companies in general, specific sectors, or companies included in certain indices. Meanwhile, studies specifically addressing multinational companies in the manufacturing sector remain relatively limited. Yet the characteristics of MNCs, which involve cross border activities, can provide greater opportunities for employing tax management strategies through asset structure and inter affiliate transactions. Therefore, examining multinational companies is necessary to enhance understanding of the underlying factors associated with corporate tax aggressiveness. Beyond the focus on company characteristics, the research period of 2020–2024 is also relevant since it captures the period of the COVID-19 pandemic as well as the transition toward economic recovery and changes in international tax policies.

Based on these phenomena and the divergence of previous research findings, this research intends to investigate the effect of capital intensity and inventory intensity on tax aggressiveness in multinational manufacturing firms registered on the Indonesia Stock Exchange throughout the 2020–2024 study period. This study aims to offer empirical insights regarding how company asset characteristics relate to corporate tax behavior, and to serve as input for regulators in improving oversight of corporate tax practices.

Agency Theory

Agency theory, as presented by Jensen and Meckling as cited in (Darsani & Sukartha, 2021), agency theory clarifies the connection between owners (principals) and managers (agents), where supervisors are granted the power to manage company operations on behalf of the owners. In this relationship, the agent tends to have greater information and operational control than the principal. This situation opens the possibility for the agent to act in a manner not fully aligned with the principal's interests, thereby giving rise to a conflict of interest known as agency conflict.

Several internal variables such as capital intensity and inventory intensity can serve as instruments for managers to implement tax avoidance strategies (Patmalasari, 2025). These two variables reflect the existence of opportunities for managers to exploit accounting policies for particular purposes. Within agency theory, managers can use the management of fixed assets and inventories as tools for tax efficiency. However, in practice, actions taken beyond a certain level have the potential to give rise to the risk of deviation if left unmonitored. Therefore, it is assumed that these variables are associated with tax aggressiveness (M. D. Putri & Septiani, 2025).

Tax Aggressiveness

Tax aggressiveness is defined as a company's attempt to manage and reduce its tax obligations through various mechanisms, such as tax planning, tax evasion, and tax avoidance (Nurwati et al., 2023). Tax aggressiveness is a corporate action aimed at minimizing the amount of tax payable through tax planning by utilizing various alternative tax treatments. Although the strategies applied are not entirely in violation of applicable provisions, the use of schemes that tend to exploit regulatory loopholes may reflect a relatively high level of corporate tax aggressiveness. Recent studies in Indonesia indicate that tax aggressiveness can be influenced by company characteristics such as capital intensity and inventory intensity, where asset structure acts as one of the main factors in the strategy of reducing the tax burden. This research employs the Effective Tax Rate (ETR) as an indicator for assessing tax aggressiveness. A declining ETR indicates a greater tendency toward tax aggressiveness because companies reporting lower ETR values may engage in strategies aimed at minimizing taxable income (Suaidah & Rahayu, 2023;Krisna & Supadmi, 2023).

Capital Intensity

Capital intensity indicates the degree of a firm's investment in assets, particularly in the shape of tangible assets and inventory. Capital intensity describes how management utilizes fixed asset investments as a strategy to support the company's profit growth (Wahyuni, 2024). Fixed assets are one of the components with significant value in a company's balance sheet structure. Company investments in fixed assets create depreciation expenses that are recognized each period, which can reduce taxable profit by being treated as deductible expenses.. The decline in profit as a result of depreciation expenses subsequently reduces the tax base, such that the larger the depreciation burden borne by the company, the lower the tax obligation that must be paid (Fatahillah & Sastri, 2025). This mechanism is consistent with the classical depreciation shield argument, although Kusuma & Firnanti, (2023) find that the extent to which firms actually exploit this mechanism is also conditioned by firm-specific characteristics such as profitability and governance structure, which may vary significantly between domestic and multinational firms.

Inventory Intensity

Inventory intensity denotes the percentage of a company's total assets allocated to inventory, which represents the level of investment in current assets held by the company. A high level of inventories can be utilized as one of the tax planning strategies through the management of storage costs, inventory valuation, or an increase in ending inventory, which ultimately has the potential to reduce taxable income (M. D. Putri & Septiani, 2025). Agency theory explains that managers, as agents entrusted with managing the company, may have their own interests and seek to maximize personal utility alongside fulfilling their responsibilities, and therefore may exploit

inventory accounting policies to suppress taxable income and lessen the organization's tax load, ultimately potentially enhancing reported performance to the company owners.

Effect of Capital Intensity on Tax Aggressiveness in Multinational Companies

According to agency theory, management has an interest in improving company performance, one way being through fixed asset management that can provide tax benefits in the form of depreciation expenses. Higher capital intensity indicates greater investment in fixed assets, resulting in heightened depreciation costs that may reduce taxable income and encourage companies to utilize tax planning mechanisms. This is backed by the findings of Maulana et al., (2022), the connection between capital intensity and tax aggressiveness occurs because companies with higher fixed asset proportions generate greater depreciation expenses, that can help lower taxable income and minimize tax payments. Research conducted by Najwa et al., (2024) also demonstrates a notable relationship between capital intensity and tax aggressiveness is supported by theoretical arguments and previous research findings. Thus, the hypothesis put forward in this research is expressed as follows:

H1: Capital Intensity has an effect on Tax Aggressiveness in multinational manufacturing companies.

Effect of Inventory Intensity on Tax Aggressiveness

Inventory intensity describes the extent of a company's investment in inventory. A high level of inventory ownership may result in higher expenses, like storage and upkeep costs, as well as the risk of inventory impairment. These conditions may affect the company's taxable income (Kurniasih & Irawati, 2025; Oktaviani et al., 2021). Based on agency theory, management as the party responsible for managing company activities has the flexibility to determine inventory policies. These decisions are not solely connected to operational effectiveness but can also influence the company's efforts to manage and reduce its tax obligations. Research by Maulana et al., (2022) and Zainul et al., (2024) found that inventory intensity has a significant effect on tax aggressiveness. Nevertheless, research by Amyulianthy et al., (2025) and A. K. Putri & Yustisia, (2024) previous research has produced inconsistent outcomes related to the influence of inventory intensity on tax assertiveness. The existence of these differences indicates that the relationship between the two variables still needs to be explored further, particularly in multinational manufacturing companies. Based on the theoretical explanation and previous findings, the hypothesis formulated in this study is:

H2: Inventory Intensity has an effect on Tax Aggressiveness in multinational manufacturing companies.

Simultaneous Effect of Capital Intensity and Inventory Intensity on Tax Aggressiveness

Based on agency theory, managers have the authority to manage the company's asset composition through decisions regarding fixed assets and inventories. These decisions are aimed at increasing efficiency and can also influence the company's tax planning activities. Research conducted by Maulana et al., (2022) indicates that the intensity of capital and the intensity of inventory simultaneously influence tax aggressiveness in manufacturing companies. These findings suggest that the higher the percentage of fixed assets and inventories possessed by a corporation, the higher the chance for the company to exploit accounting and tax policies to reduce the tax burden. Drawing from the concepts and results of earlier research, the subsequent hypothesis is suggested:

H3: Capital Intensity and Inventory Intensity simultaneously have an effect on Tax Aggressiveness in multinational manufacturing companies.

RESEARCH METHODS

This study employs a quantitative methodology utilizing an associative approach to explore the relationship between the variables studied. The data analysis is carried out through statistical procedures to test the proposed relationships (Sugiyono, 2023). This associative research method is conducted to analyze the impact of capital intensity and inventory intensity on tax aggressiveness in multinational manufacturing companies listed on the Indonesia Stock Exchange (IDX) during the 2020–2024 period.

Table 1. Sample Criteria Table

No	Criteria	Total
1	Companies engaged in manufacturing and listed on the Indonesia Stock Exchange (IDX) from 2020 to 2024	228
2	Companies that are not multinational companies according to OECD & DJP criteria	(171)
3	Companies that do not have complete annual reports during the 2020–2024 period	(20)
4	Companies that experienced losses (negative profit) during the 2020–2024 observation period	(15)
5	Companies that do not have complete research variable data	(8)
	Total Sample Companies	**14**
	Total Research Observations (14 × 5)	**70**

Source: Author, 2026

The data used in this research are secondary data obtained from annual reports and financial statements published by companies through the official IDX website (https://www.idx.co.id). The determination of research samples applied the purposive sampling method by considering specific criteria that match the research requirements. This study applies

quantitative analysis employing multiple linear regression to examine the connection among variables, while data processing was conducted with the assistance of IBM SPSS 29.

The analytical approach employed in this study uses quantitative analysis, consisting of classical assumption testing, descriptive statistical analysis, and hypothesis testing. To provide a clear understanding and ensure accurate measurement of the research variables, each variable is defined operationally. These operational definitions describe the underlying concepts, measurement indicators, and measurement scales applied, allowing the variables to be analyzed quantitatively. The operational definitions of each research variable are presented in Table 2.

Table 2. Operational Definition of Variables

No	Variable	Definition	Measurement
1	Tax Aggressiveness (Y)	Tax aggressiveness pertains to the efforts made by companies to reduce their tax obligations through various tax planning strategies, including tax avoidance and the use of certain tax treatments. Although these strategies may be carried out within the boundaries of applicable regulations, the excessive exploitation of existing tax rules can reflect a higher tendency of companies to engage in aggressive tax practices (Nurwati et al., 2023)	Effective Tax Rate (ETR) ETR = Total Income Tax Expense / Pre-Tax Profit
2	Capital Intensity (X1)	Capital intensity refers to the ratio of a firm's investment in fixed assets compared to its overall assets. A higher level of fixed asset investment results in greater depreciation expenses, which can decrease reported profit and taxable income, potentially reducing the amount of tax payable by the company (Wahyuni, 2024; Fatahillah & Sastri, 2025).	Capital Intensity Ratio (CI) CI = Fixed Assets / Total Assets
3	Inventory Intensity (X2)	Inventory intensity reflects the proportion of a company's investment in inventory relative to its total assets. A higher level of inventory ownership may influence tax planning decisions through inventory management policies, including inventory valuation and the recognition of related costs, which can have an impact on taxable income (M. D. Putri & Septiani, 2025).	Inventory Intensity Ratio (II) II = Total Inventories / Total Assets

Source: Author, 2026

RESULTS AND DISCUSSION

Normality Test

The normality test is performed to assess whether the remaining values in the regression model adhere to a normal distribution. A regression model is regarded appropriate when the residuals are normally distributed. In this study, the normality assessment was performed utilizing One-Sample Kolmogorov-Smirnov Test method. The data underwent a processing stage to address normality issues using the winsorizing method to handle outliers (Zubedi et al., 2022). This method is a common procedure applied in accounting and finance research. After the Classical Assumption Test indicated the presence of autocorrelation problems, the Cochrane-

Orcutt (CO) procedure was applied as a correction method. The Cochrane-Orcutt procedure is one of the most commonly used methods to address autocorrelation in linear regression models (Gujarati & Porter, 2009).

Table 3. Normality Test Results

		Unstandardized Residual
N		69
Normal Parameters[a,b]	Mean	,0000000
	Std. Deviation	,01789460
Most Extreme Differences	Absolute	,085
	Positive	,085
	Negative	-,080
Test Statistic		,085
Asymp. Sig. (2-tailed)[c]		,200[d]

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

d. This is a lower bound of the true significance.

Source: Processed Data, 2026

The normality test conducted after the Cochrane-Orcutt transformation shows an Asymp. Sig. (2-tailed) value of 0.200. Given that the importance value is higher than 0.05 (0.200 > 0.05), H0 is accepted. Therefore, iIt can be inferred that the residuals in the regression model follow a normal distribution..

Multicollinearity Test

The multicollinearity test is performed to assess if there is a relationship between the independent variables employed in the regression model. A regression model is considered good when the independent variables do not have a high correlation with each other. In this study, multicollinearity was identified by analyzing the Tolerance and Variance Inflation Factor (VIF) values. A Tolerance value exceeding 0.10 and a VIF value under 10 suggest that the regression model is devoid of multicollinearity.

Table 4. Multicollinearity Test Results

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	CI	,881	1,135
	II	,881	1,135

Source: Processed Data, 2026

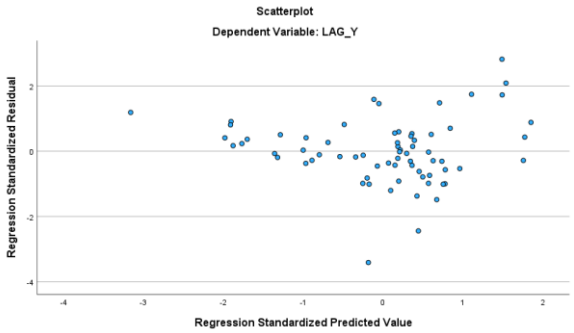
Based on the multicollinearity test results, the CI and II variables obtain a Tolerance value

of 0.881 and a VIF value of 1.135. Since the values meet the required criteria (Tolerance > 0.10 and VIF < 10), the regression model is deemed free of multicollinearity. This indicates that the independent variables do not have a high correlation with each other.

Heteroscedasticity Test

The heteroscedasticity test aims to analyze if the regression model exhibits unequal residual variance across observations. If the residual variance constant (homoscedastic), the model is deemed good. Conversely, if the variance varies (heteroscedastic), the estimation of regression coefficients becomes inefficient. In this research, the Scatterplot method was utilized to perform the heteroscedasticity test between standardized residual values and standardized predicted values.

Figure 1. Heteroscedasticity Scatterplott



Source: Processed Data, 2026

Based on the Scatterplot analysis in Figure 1, it can be seen that the data points (observations) are scattered randomly above and below the 0.00 line on the Standardized Residual axis. The points do not form any particular pattern such as a widening (funnel shape), narrowing, wave-like, or clustered pattern in one area. This condition indicates that the residual values have a constant variance across the predicted values. Therefore, the regression model fulfills the homoscedasticity assumption, meaning that there is no indication of heteroscedasticity in the multiple linear regression model.

Autocorrelation Test

The autocorrelation test seeks to identify if there is a relationship between the residual of a particular observation and the residual of the prior observation in the regression model. Autocorrelation commonly occurs in time series or panel data. Testing was carried out utilizing the Durbin-Watson (DW) statistic. If the DW value falls within the interval dU < DW < 4 − dU, it is concluded that there is no autocorrelation.

Table 5. Autocorrelation Test Before Transformation (Initial Model)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,597[a]	,356	,337	,0191562	1,357

Source: Processed Data, 2026

The initial model before transformation shows a DW value of 1.357. This value falls below dU (for N=70, k=2: dU ≈ 1.660), showing the existence of positive autocorrelation in the original model. Therefore, autocorrelation correction was performed using the Cochrane-Orcutt transformation method.

Table 6. Autocorrelation Test After Transformation

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,584[a]	,341	,321	,01816	1,956

Source: Processed Data, 2026

Following the implementation of the Cochrane-Orcutt transformation, the DW value increased to 1.956. This value falls within the interval dU (1.6601) < DW (1.956) < 4 − dU (2.3399), thus, it is determined that there is no autocorrelation present in the model following transformation.

Multiple Linear Regression Analysis

Coefficient of Determination

Table 7. Coefficient of Determination

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,584[a]	,341	,321	,01816

Source: Processed Data, 2026

The results of the analysis indicate an R value of 0.584, that suggests the relationship between inventory intensity, capital intensity, and tax aggressiveness is in the moderate category. The R Square value of 0.341 suggests that the autonomous variables can account for 34.1% of the changes in ETR. After considering the Adjusted R Square value, the explanatory ability of the regression model becomes 32.1%. This indicates that capital intensity (CI) and inventory intensity (II) simultaneously contribute to explaining 32.1% of the variation in tax aggressiveness (ETR). In the meantime, the rest 67.9% is influenced by other elements that are not considered in this research model, such as profitability, leverage, company size, independent commissioners, and other corporate governance factors.

T-Test

This study utilizes multiple linear regression analysis to examine the distinct impact of capital intensity and inventory intensity on tax aggressiveness (ETR). The t-test is conducted to

determine whether each independent variable has a statistically significant influence on the dependent variable.

Table 8. T-Test Results

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	,164	,006		25,717	<,001
	CI	,038	,017	,232	2,184	,033
	II	-,151	,035	-,462	-4,340	<,001

Source: Processed Data, 2026

The outcomes of the regression analysis indicate that the capital intensity variable has a coefficient value of 0.038, with a t-count value of 2.184 and a significance value of 0.033. Since the significance value is lower than the 5% significance level (0.033 < 0.05), H1 is accepted. This indicates that capital intensity has a positive and significant effect on tax aggressiveness (ETR) in the observed companies. Meanwhile, the inventory intensity variable has a regression coefficient of −0.151, a t-count value of −4.340, and a significance value below 0.001. Because the significance value is smaller than 0.05 (<0.001 < 0.05), H2 is accepted. These results indicate that inventory intensity has a negative and significant effect on tax aggressiveness (ETR) in the research sample

F-Test

The simultaneous test (F-test) is utilized to analyze if capital intensity and inventory intensity together have an influence on tax aggressiveness. The test involves comparing the F-statistic's significance value to the predetermined significance threshold of 0.05. If the significance value is below 0.05, H0 is rejected, indicating that the independent variables concurrently influence the dependent variable

Table 9. F-Test Results

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	,011	2	,006	17,100	<,001[b]
	Residual	,022	66	,000		
	Total	,033	68			

Source: Processed Data, 2026

The ANOVA test outcomes suggest that the regression model has an F-count value of 17.100 with a significance value below 0.001. Since the significance value is less than 5% significance level (< 0.001 < 0.05), H0 is rejected. Therefore, it can be inferred that capital intensity (X1) and inventory intensity (X2) simultaneously have a significant effect on tax aggressiveness (ETR). These findings also indicate that the regression model used in this study is feasible and has a good level of fit for explaining and predicting tax aggressiveness.

DISCUSSION

Effect of Capital Intensity on Tax Aggressiveness in Multinational Manufacturing Companies

Based on the H1 test results, capital intensity is discovered to exert a positive and notable influence on tax aggressiveness, as shown by the coefficient value of 0.038 and a significance value of 0.033 (< 0.05). Therefore, H1 is accepted. The positive coefficient indicates that companies with higher investment in fixed assets tend to report higher ETR values. Since a higher ETR reflects lower tax aggressiveness, this suggests that firms with greater capital intensity are less likely to engage in aggressive tax practices.

This outcome does not align with the depreciation shield argument, which is commonly used in prior studies, where higher fixed asset investment is expected to reduce ETR through higher depreciation expenses. However, this finding is supported by Fitriani & Indrati (2023) and Aprilin & Yuniarti (2024), who also report that capital intensity has a positive effect on tax aggressiveness. Overall, these results provide evidence that capital intensity does not always function as a mechanism to reduce ETR through depreciation benefits, but in certain contexts may instead be associated with higher ETR and lower tax aggressiveness.

From the viewpoint of agency theory proposed by Jensen and Meckling (1976), this outcome can be clarified through the existence of agency conflicts between shareholders as principals and managers as agents, which arise due to information asymmetry. In this case, although managers have authority over fixed asset investment decisions, such authority is not always directed toward minimizing tax burdens through depreciation strategies. Instead, under performance pressure and monitoring from principals and regulators, managers tend to prioritize financial reporting that appears stable and acceptable, which may result in higher ETR and lower tax aggressiveness. This view is also supported by Diviariesty (2024), who emphasizes that capital intensity is not always a direct determinant of tax aggressiveness, but rather that internal corporate governance holds significant importance in shaping managerial fiscal behavior.

However, this discovery contrasts with Maulana et al. (2022), who argue that capital intensity is associated with tax aggressiveness because firms with higher fixed asset proportions have greater opportunities to reduce tax burdens through depreciation expenses. Similarly, Najwa et al. (2024) also find that capital intensity significantly affects tax aggressiveness, suggesting that fixed asset investment can be used as a systematic tax planning tool. The acceptance of H1 confirms that agency theory offers a relevant lens for explaining how capital intensity relates to tax aggressiveness, although the direction of the relationship found in this study indicates that

managerial discretion over fixed asset investment is constrained by external oversight rather than freely directed toward the depreciation shield benefit assumed in earlier literature.

Effect of Inventory Intensity on Tax Aggressiveness in Multinational Manufacturing Companies

The outcomes of the second hypothesis examination (H2) indicate that inventory intensity has a negative and significant effect on tax aggressiveness, as shown by the regression coefficient value of −0.151 and a significance value <.001. Theres mean, H2 is accepted. However, the negative coefficient suggests that a rise in inventory intensity is associated with a decrease in the ETR value, which in turn reflects a higher level of tax aggressiveness. In other words, multinational manufacturing companies with higher inventory intensity tend to report a lower ETR, indicating the existence of inventory expense management that has the potential to suppress taxable income. This finding requires more in depth mechanistic elaboration to be comprehensively understood. The outcomes of this research align with the conclusions of Amyulianthy et al. (2025), who discovered that inventory intensity does not reliably influence tax aggressiveness.

These results are reinforced by the findings of Maulana et al. (2022) and Zainul et al. (2024), who found a significant positive effect that needs to be explained contextually. Both studies used different proxies, but the direction is consistent with the findings of this study: higher inventory intensity is correlated with greater tax aggressiveness. By contrast, research by A. K. Putri & Yustisia (2024) and Amyulianthy et al. (2025) that found no significant effect is possibly due to differences in sample composition. Previous studies generally used samples of manufacturing companies in general without distinguishing the characteristics of multinationality. Multinational companies face greater tax compliance complexity than domestic companies because they must comply with tax provisions in multiple jurisdictions and international standards developed through the Base Erosion and Profit Shifting (BEPS) initiative (Hanappi & Whyman, 2023). This condition can affect the company's scope of action in implementing tax planning strategies. Consequently, the acceptance of H2 lends support to agency theory's prediction that managers, acting as agents entrusted with inventory-related accounting policy, can direct this discretion toward suppressing taxable income when oversight from principals is limited, thereby translating into a lower ETR and a higher level of tax aggressiveness.

Simultaneous Effect of Capital Intensity and Inventory Intensity on Tax Aggressiveness

Testing of the third hypothesis (H3) through the F-test yielded an F-count value of 17.100 with a significance level of < 0.001, so H3 is accepted. Capital intensity and inventory intensity are simultaneously proven to have a significant effect on tax aggressiveness in multinational manufacturing companies for the period 2020–2024. An Adjusted R Square value of 0.321

indicates that both variables together can clarify 32.1% of the variation in tax aggressiveness, while the other 67.9% is affected by factors not included in the model.

However, an Adjusted R Square value of 32.1% also indicates that tax aggressiveness is multidimensional in nature and cannot be reduced solely to asset intensity variables. Krisna & Supadmi (2023) state that a company's asset structure is an important determinant in the tax burden reduction strategy, but there are other factors that also contribute significantly, such as profitability, leverage, company size, corporate governance, and specific multinational characteristics such as thin capitalization and transfer pricing. This aligns with the results of Nurwati et al. (2023), who affirm that tax aggressiveness is a phenomenon influenced by various factors simultaneously.

Within the agency theory framework, the management of asset structure by management both through investment in fixed assets and inventory policies reflects managerial discretion that has implications for the company's tax position. M. D. Putri & Septiani (2025) agency theory suggests that these variables reflect conditions where managers may have the opportunity to take advantage of accounting policies for specific objectives, including those related to their own interests. However, in practice, actions taken beyond a certain level have the potential to give rise to deviation risks if left unsupervised. This underscores the importance of adequate oversight of asset investment policies in multinational companies, given the complexity of cross border business structures that can broaden the scope of tax strategies. Taken together, the acceptance of H3 reinforces the central proposition of agency theory that tax aggressiveness in multinational manufacturing firms arises from the discretionary latitude available to managers across multiple, interacting dimensions of asset structure, rather than from a single isolated mechanism, thereby validating the joint theoretical framework adopted in this study.

CONCLUSION

This study shows that a company's asset structure plays a key role in shaping tax behavior among multinational manufacturing firms listed on the IDX between 2020-2024. Capital intensity has a positive and significant effect on ETR, meaning that firms with more fixed assets tend to report higher ETR and lower tax aggressiveness. This result goes against the common assumption that firms with more fixed assets can lower their taxes through depreciation expenses, most likely because multinational firms face stricter cross-border tax oversight that limits how far they can use depreciation to reduce their tax burden. Inventory intensity, on the other hand, has a significant negative effect on ETR, indicating that firms with larger inventory holdings tend to be more tax aggressive, possibly through inventory valuation practices and cross jurisdictional supply chain arrangements. Together, these two opposing effects suggest that tax aggressiveness in

multinational firms does not follow a single pattern it depends on which type of asset is involved and the international tax regulations that apply to it.

These findings should nonetheless be interpreted with some caution. The sample size was relatively small, covering only 14 firms, and the observation period overlapped with the COVID-19 pandemic, which may have affected firms' tax decisions in ways this study could not fully capture. In addition, using ETR as the sole measure of tax aggressiveness means that more complex tax strategies, such as transfer pricing, are not directly reflected in the results.

Despite these limitations, this study contributes to the still limited research on multinational tax aggressiveness in Indonesia, particularly by showing that capital intensity works in the opposite direction from what is usually expected when firms use depreciation to reduce their taxes a pattern linked to multinational characteristics such as consolidated accounting standards, the arm's length principle, and compliance pressures from BEPS regulations. Practically, these results suggest that tax authorities could benefit from an oversight approach based on asset structure, giving particular attention to multinational firms with high inventory intensity. Future studies are encouraged to include additional factors such as thin capitalization, transfer pricing, corporate governance, and macroeconomic conditions to build a more complete picture of tax aggressiveness in multinational companies

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