

The Influence of Institutional Ownership and Managerial Ownership on Tax Avoidance with Firm Size as a Moderating Variable

Muhammad Azwan Anas^{1*)}

¹Faculty of Economics and Business, Universitas Sebelas Maret, Surakarta - Indonesia

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ABSTRACT

This study aims to examine the effect of institutional ownership and managerial ownership on tax avoidance, with firm size as a moderating variable. Tax avoidance is an important issue in taxation studies because it is related to corporate behavior in fulfilling tax obligations and may affect state revenue. Ownership structure is considered one of the corporate governance mechanisms that can influence managerial decisions, including tax-related policies. This research employs a quantitative approach using panel data from manufacturing companies listed on the Indonesia Stock Exchange during the 2020–2024 period. The sample consists of 357 firm-year observations obtained through purposive sampling. Tax avoidance is measured using the effective tax rate (ETR), while data analysis is conducted using multiple regression analysis with moderating variables. The results indicate that institutional ownership has a negative and significant effect on tax avoidance, suggesting that higher institutional ownership is associated with lower tax avoidance. Managerial ownership and firm size are found to have a positive and significant effect on tax avoidance. Furthermore, firm size does not moderate the relationship between institutional ownership and tax avoidance, but it moderates the relationship between managerial ownership and tax avoidance. Overall, the findings provide empirical evidence on the role of ownership structure and firm characteristics in explaining tax avoidance practices and may serve as a reference for future research and policy considerations related to corporate governance and taxation.

1. Introduction

Taxation plays a crucial role in a country's fiscal system, as it constitutes one of the primary sources of state revenue that must be optimized in its implementation. However, this objective often conflicts with corporate goals, which are primarily oriented toward profit maximization. Sari et al. (2020) argue that companies or organizations frequently perceive taxes as a burden that reduces net income. Consequently, taxpayers tend to seek ways to minimize their tax obligations, either through legal or illegal means. One commonly employed method is tax avoidance.

Tax avoidance refers to legally permissible strategies used to reduce tax liabilities in accordance with prevailing tax regulations. Although tax avoidance does not violate the law from a

juridical perspective, it often generates negative perceptions within society. This is because tax avoidance practices may significantly reduce state revenue through systematic yet legal efforts to circumvent tax obligations (Tahar & Rachmawati, 2020). From the corporate perspective, the positive impact of tax avoidance lies in the reduction of tax expenses borne by the company. However, its negative implications include potential financial penalties, increased scrutiny from tax authorities, and reputational damage (Ghina et al., 2024). Moreover, tax avoidance reduces fiscal revenue for the government. It is also regarded as a firm's ability to exploit gaps in tax regulations to maximize tax savings, thereby lowering tax payable and enhancing corporate cash flow (Yuliawati & Sutrisno, 2021).

A notable case related to tax avoidance occurred in 2019 involving PT Adaro Energy Tbk, a company listed on the Indonesia Stock Exchange (IDX). The company was alleged to have engaged in tax avoidance practices through transfer pricing by shifting substantial profits from Indonesia to entities located in low-tax or tax-free jurisdictions. These practices reportedly took place between 2009 and 2017. As a result, PT Adaro Energy Tbk was estimated to have paid approximately IDR 1.75 trillion, or around USD 125 million, less in taxes than it should have paid in Indonesia. This case illustrates tax avoidance conducted through transfer pricing mechanisms.

Tax research is indeed beneficial for governments; however, taxes are often perceived as an additional cost to shareholders, making tax avoidance advantageous from the shareholders' perspective (Qawqzeh, 2025). In this context, taxes are considered one of the main economic resources contributing to government revenue and financing public expenditures. Government objectives related to the development of national-scale infrastructure, both in terms of quantity and quality, depend heavily on sufficient tax revenue (Widaryanti, 2022).

While tax evasion constitutes illegal behavior, tax avoidance is defined as the use of legal methods to reduce personal or corporate income tax liabilities, considered lawful. Accordingly, organizations seek to maximize profits, and one of management's primary objectives is to enhance shareholder wealth. As a result, when balancing firm performance objectives and capital requirements, tax avoidance becomes an integral component of managerial strategy (Dang & Nguyen, 2022). As organizational expertise and complexity increases, tax avoidance practices tend to become more prevalent. Agency theory suggests that tax-related opportunistic behavior is associated with weak corporate governance, as managers are inherently motivated to minimize tax burdens (Jensen & Meckling, 1976). Consequently, tax avoidance issues have received considerable scholarly attention in recent years (Almaharmeh et al., 2024).

Institutional ownership holds a significant position within corporations, as the presence of external institutional shareholders increases the level of monitoring over management, thereby potentially reducing managerial opportunism, including tax avoidance practices (Pratomo & Rana, 2021). Institutional investors are also responsible for maximizing shareholder value, which may encourage them to actively seek legal strategies to minimize corporate tax liabilities. Furthermore, institutional owners generally possess better access to resources and expertise related to sophisticated tax planning techniques, often employing professional tax consultants to ensure tax efficiency without violating regulations. Empirical evidence from Maulina and Mu'arif (2024) indicates that institutional ownership has a significant effect on tax avoidance. In contrast, Nagara and Setiawati (2022) find no significant relationship between institutional ownership and tax avoidance.

In addition to institutional ownership, managerial ownership also plays a crucial role in corporate governance. Managerial shareholders bear responsibility for managing the company and enhancing profitability, as their compensation and bonuses are closely tied to firm performance. Given that dividends received from managerial shareholdings are relatively small, such ownership structures may not discourage managers from engaging in tax planning strategies, including tax

avoidance. Nagara and Setiawati (2022) find that managerial ownership significantly influences tax avoidance, whereas Lokahita and Saputri (2024) report no significant effect.

In this study, firm size is employed as a moderating variable, as it reflects a company's economic capacity and financial stability. Larger firms are more likely to engage in tax avoidance practices due to greater resources and operational complexity (Aini & Kartika, 2022). Firm size, measured by total assets at the end of the period, represents the scale of the company. Larger firms face greater demands for transparency and public scrutiny, which may encourage more cautious behavior and reduce deviations from good corporate governance practices (Purbowati, 2021).

Based on the foregoing discussion, this study aims to examine the effects of institutional ownership and managerial ownership on tax avoidance in manufacturing companies during the 2020–2024 period. Additionally, the moderating role of firm size in the relationship between ownership structure and tax avoidance has received limited attention in prior studies, making it an important aspect to explore. This research seeks to contribute to the literature by providing insights into the role of ownership structure in decision-making, managerial oversight, and the alignment of interests between shareholders and managers. Furthermore, the findings are expected to offer empirical evidence on how institutional and managerial ownership influence tax avoidance practices, particularly within manufacturing firms, as well as to illustrate the extent to which firm size moderates the relationship between ownership structure and tax avoidance.

2. Literature Review and Hypothesis Development

2.1 Literature Review

2.1.1 Agency theory

Agency theory describes a contractual relationship involving one or more principals who engage another party, known as the agent, to perform services on their behalf and delegate decision-making authority to the agent (Jensen & Meckling, 1976). In practice, principals and agents often prioritize their own interests, causing principals to question whether agents consistently act in accordance with their objectives (Wijaya et al., 2023).

In the taxation context, the government acts as an agent with the authority to maximize national welfare and public prosperity, while taxpayers function as principals who are motivated to maximize their economic and psychological well-being, including achieving a better standard of living. Agency problems arise due to opportunistic behavior by principals, namely taxpayers seeking to maximize personal welfare in ways that may conflict with the interests of the agent, represented by the government (Primasari, 2016).

2.1.2 Tax Avoidance

Tax avoidance refers to legally permissible strategies employed by taxpayers to reduce their tax obligations by exploiting gaps or ambiguities in tax regulations. Although tax avoidance does not explicitly violate tax laws, it operates within regulatory loopholes, making it difficult to identify and control (Damayanty & Putri, 2020). Firms generally seek to minimize tax expenses as part of their financial strategy, provided that such actions do not breach legal provisions that may result in tax sanctions.

Three primary principles of tax avoidance include deferring tax payments, selecting alternative tax rates where permissible, and utilizing differential tax treatments on income. Detecting tax avoidance remains challenging, as firms can engage in tax planning activities that reduce tax liabilities without violating established tax regulations. Consequently, this practice limits the government's ability to optimize tax revenue.

Previous studies commonly measure tax avoidance using the Effective Tax Rate (ETR). In this study, ETR is employed to assess tax avoidance by comparing tax expense to pre-tax income. This

ratio is considered an appropriate indicator of tax avoidance, as it reflects the relationship between accounting profit and tax obligations.

2.1.3 Institutional Ownership

Institutional ownership refers to share ownership held by institutions or organizations. The presence of institutional ownership enhances corporate monitoring mechanisms, making it a crucial component of corporate governance. From the agency theory perspective, institutional investors actively monitor managerial activities to ensure efficiency and alignment with organizational objectives. A higher level of institutional ownership encourages management to improve performance in order to maintain investor confidence, which may subsequently increase stock prices and firm value (A. D. Lestari & Hasnawati, 2023).

Institutional ownership is commonly measured as the proportion of outstanding shares held by institutional investors. Institutions with substantial ownership stakes, typically exceeding 5%, possess greater capacity to monitor managerial behavior. These institutions include foundations, banks, insurance companies, investment firms, pension funds, and other corporate entities. Higher institutional ownership promotes more effective supervision of management performance and decision-making (H. T. Lestari & Ovami, 2020).

The proportion of institutional ownership influences corporate tax policy. A higher concentration of short-term shareholders may increase tax avoidance risk, whereas an increase in long-term institutional ownership tends to reduce tax avoidance practices due to enhanced oversight and a long-term value orientation (Khurana, 2009). Institutional owners also play a critical role in strengthening compliance and influencing managerial conduct.

2.1.4 Managerial Ownership

Managerial ownership refers to share ownership held by company managers who actively participate in corporate decision-making. It represents the proportion of shares owned by directors and commissioners who simultaneously act as managers and shareholders (Ratih & Fitria, 2024).

With greater ownership stakes, managers are more cautious in making decisions, as these decisions directly affect their personal wealth. An increase in managerial ownership is expected to reduce the likelihood of tax avoidance, as managers prioritize corporate sustainability and avoid actions that may attract regulatory scrutiny, including tax audits (Pramudito & Sari, 2015).

Empirical evidence from Pramudito and Sari (2015) suggests that higher managerial ownership reduces a firm's tendency to engage in tax avoidance. Conversely, lower managerial ownership is associated with a higher propensity for tax avoidance practices.

2.1.5 Firm Size

Firm size is a measure of a company's size, including total sales, average sales volume, and total assets. Large companies generally have substantial total assets, which attracts investors, ultimately maintaining a high stock price (Viandita et al., 2013). One indicator of company size is the size of its assets. The greater the total assets, the greater the company's ability to generate profits. The greater the company's profits, the greater the dividend distribution. Furthermore, if a company's profit-generating capacity increases, its stock price will rise (Adiwiratama, 2012).

Firm size can be defined as the size of a company, as measured by its equity value, company value, or asset value. Companies with substantial assets receive more public scrutiny. Therefore, larger companies tend to spend more money disclosing broader information in an effort to maintain their legitimacy. Corporate legitimacy can be demonstrated through the disclosure of sustainability reports. Sustainability reports reveal how a company is accountable for its activities. (Bambang, 2001)

2.2 Hypothesis Development

2.1.1 Institutional Ownership and Tax Avoidance

Agency theory emphasizes the legal relationship between principals and agents, in which principals delegate authority to agents to act in their best interests (Jensen & Meckling, 1976). In firms with dispersed ownership, investors act as principals while managers serve as agents responsible for operational decisions.

Tax avoidance is less likely to occur when institutional ownership is oriented towards long-term investment. Long-term institutional shareholders provide effective monitoring, ensuring that managers act in the firm's long-term interests and avoid aggressive tax practices that could generate future risks. To prevent potential tax penalties and reputational damage, institutional investors are expected to exercise prudence in supervising managerial tax strategies.

Prior studies indicate that a higher proportion of short-term shareholders may increase tax avoidance risk, whereas long-term institutional ownership reduces such behavior (Khurana, 2009). Dewi (2019) finds that institutional ownership has a positive and significant effect on tax avoidance.

H1: Institutional ownership has a significant effect on tax avoidance.

2.1.2 Managerial Ownership and Tax Avoidance

Conflicts of interest between principals and agents give rise to agency conflicts, resulting in agency costs due to the need for monitoring mechanisms. One effective method to reduce agency costs is granting ownership stakes to managers, aligning their interests with those of shareholders (Jensen & Meckling, 1976).

Managers who hold company shares tend to exercise greater caution in decision-making, as they bear direct consequences of both successful and unsuccessful policies. Higher managerial ownership reduces incentives to engage in tax avoidance, as managers are more likely to consider long-term business sustainability and avoid tax-related risks (Pramudito & Sari, 2015), consistent with prior research, Pramudito and Sari (2015) conclude that increased managerial ownership lowers the likelihood of tax avoidance, while reduced managerial ownership increases tax avoidance tendencies.

H2: Managerial ownership has a significant effect on tax avoidance.

2.1.3 Firm Size as a Moderator of Institutional Ownership and Tax Avoidance

Greater regulatory attention toward large firms, combined with stronger monitoring by institutional investors, may constrain managerial opportunism. Large firms are subject to extensive internal and external scrutiny, which may weaken the moderating role of firm size on the relationship between institutional ownership and tax avoidance.

Andini et al. (2022) find that firm size does not strengthen the relationship between institutional ownership and tax avoidance. However, other studies report contrasting findings, indicating that firm size moderates the relationship between institutional ownership and tax avoidance (Yuni & Setiawan, 2019; Safitri & Arifin, 2024).

H3: Firm size moderates the effect of institutional ownership on tax avoidance.

2.1.4 Firm Size as a Moderator of Managerial Ownership and Tax Avoidance

Managerial ownership is measured as the proportion of shares held by managers, with the aim of aligning managerial and stakeholder interests (Widyastuti, 2018; Krisna, 2019). Decisions based on financial reporting directly affect managers when ownership stakes are present.

Large firms with substantial assets tend to face higher tax risks and maintain greater transparency in financial reporting (Handayani, 2018; Hutapea & Herawati, 2020). Significant managerial ownership in large firms may further reduce tax avoidance tendencies, as managers prioritize firm continuity and regulatory compliance (Pramudito & Sari, 2015). Dyreng et al. (2009) also documents that managerial ownership influences tax avoidance behavior.

H4: Firm size moderates the effect of managerial ownership on tax avoidance.

3. Data and Research Methods

3.1 Research Data

The population of this study consists of manufacturing companies listed during the 2022–2024 period, totaling 165 firms. Samples were selected using purposive sampling techniques, resulting in 119 firms observed over three years, yielding 357 firm year observations. Manufacturing firms were selected because they contribute a larger proportion of tax revenue compared to other sectors. Purposive sampling was applied to ensure that selected samples met specific criteria and minimized potential bias.

3.2 Research Method

This study aims to provide empirical evidence on the effect of institutional ownership and managerial ownership on tax avoidance, with firm size serving as a moderating variable. The research adopts a quantitative approach, utilizing secondary data in the form of annual reports obtained from the Indonesia Stock Exchange (www.idx.co.id) and audited financial statements published on the official websites of the sampled companies.

The time horizon of this study combines cross sectional and time series data, commonly referred to as panel data (pooled data). This approach allows for a more comprehensive analysis by capturing variations across firms and over time, thereby enhancing the robustness of the empirical findings.

3.3 Research Model

Research Model used in this study:

$$ETR_{i,t} = \alpha_0 + \beta_1 Institutional\ Ownership_{i,t} + \beta_2 Managerial\ Ownership_{i,t} + \beta_3 Firm\ Size_{i,t} + \beta_4 Leverage_{i,t} + \beta_5 ROA_{i,t} + \varepsilon_{i,t}$$

The research model used in this study examines the relationship between institutional ownership, managerial ownership and tax avoidance, by including company size as a moderating variable. Tax avoidance is measured using the Effective Tax Rate (ETR), which represents the ratio between income tax expense and pre tax income (accounting profit) as reported in the financial statements. The ETR is widely used as an indicator of tax avoidance, as it reflects the effectiveness of managerial strategies in managing corporate tax obligations. A lower effective tax rate compared to the statutory tax rate indicates that a firm has been more effective in minimizing its tax burden through legal means.

Furthermore, the effective tax rate provides valuable information for policymakers and corporate decision makers in evaluating the effectiveness of tax regulations and corporate tax planning strategies. Therefore, ETR serves as an appropriate proxy for assessing tax avoidance behavior in this study (Rahmawati & Mildawati, 2019).

4. Results and Discussion

4.1 Descriptive Statistics Results

Tabel 4.1. Statistik Deskriptif

Variable	Obs	Mean	Med	Maxi	Min	Std. Dev	Skewnes s
Tax_Avoidance	357	0.151	0.098	2.920	-0.854	0.904	0.469
Institusional_Ownership	357	0.736	0.654	10.06	0.000	1.028	7.133
Managerial_Ownership	357	0.369	0.0020	16.214	0.000	1.777	6.745
Size	357	21.165	19.515	31.023	6.776	5.834	0.004
IO*SIZE	357	17.843	2.211	1978	0.000	130.519	0.004
MO*SIZE	357	6.971	0.056	418.73	0.000	34.573	8.959
LEV	357	0.793	0.444	25.586	0.000	1.826	10.434
ROA	357	0.405	0.060	0.403	0.026	0.366	0,980

Based on the descriptive statistics presented in Table 4.1, the tax avoidance variable shows a mean value of 0.1517 and a median of 0.0984, indicating that the overall level of tax avoidance among firms in the sample tends to be relatively low. However, the maximum value of 2.92 and the minimum value of -0.85 suggest substantial variation in tax avoidance practices across firms. The standard deviation of 0.9048, together with a positive skewness of 0.47, indicates a moderately right-skewed distribution, while a kurtosis value of 2.31 suggests a distribution that is relatively close to normal. Nevertheless, the significant Jarque–Bera test result confirms that the tax avoidance data do not follow a normal distribution.

Institutional ownership exhibits a mean value of 0.7361, indicating that a substantial proportion of company shares are held by institutional investors. However, the extremely high maximum value of 10.07 and a standard deviation of 1.03 reflect the presence of firms with unusually high levels of institutional ownership. This condition is further evidenced by very high skewness (7.13) and kurtosis (60.21) values, indicating a highly non-normal distribution influenced by extreme outliers. A similar pattern is observed for managerial ownership. Although the mean value is 0.3692, the median is only 0.0020, suggesting that most firms allocate minimal ownership to management, while a small number of firms grant exceptionally large managerial ownership stakes. The high skewness (6.75) and kurtosis (49.04) values further confirm the non normality of this variable.

Firm size shows a mean value of 21.17 and a median of 19.52, indicating that the sampled firms are relatively large in scale and moderately homogeneous. The skewness value close to zero (0.0046) suggests a relatively symmetric distribution. However, the kurtosis value of 1.62 and the significant Jarque–Bera statistic indicate that, statistically, the firm size variable does not follow a normal distribution. This finding implies the presence of size variation among firms, although not as extreme as that observed in ownership variables.

For the moderating interaction variables, IO*SIZE and MO*SIZE, the mean values are 17.84 and 6.97, respectively, accompanied by very high standard deviations. The large gap between maximum values and medians indicates that the distributions of these interaction variables are highly dispersed and dominated by extreme values. The elevated skewness and kurtosis statistics suggest heavily right-skewed and non normal distributions, reflecting substantial heterogeneity in how ownership structure and firm size jointly influence tax avoidance behavior across firms.

Regarding control variables, leverage (DER) has a mean value of 0.7930 and a median of 0.4450, suggesting that, on average, firms employ a moderate level of debt financing. However, the

maximum value of 25.59 indicates the existence of firms with exceptionally high leverage levels, resulting in a highly non normal distribution, as reflected by skewness of 10.43 and kurtosis of 129.74. Profitability (ROA) demonstrates an even more pronounced imbalance, with a mean value of 405.04 and a median of 0.060, indicating the presence of extreme outliers in firm profitability. The exceptionally high skewness and kurtosis values further confirm that the ROA distribution deviates substantially from normality.

Overall, the Jarque–Bera test results for all variables yield probabilities below 0.05, leading to the conclusion that none of the variables in this study are normally distributed. This finding has important implications for subsequent econometric analysis, particularly in the selection of appropriate estimation techniques and robustness considerations.

Based on the results of the residual normality test, it can be concluded that the residuals of the regression model are normally distributed. This is evidenced by the residual mean value, which is very close to zero ($-3.17E-14$), indicating the absence of systematic bias in the model. The median residual value of -1.51 is also relatively close to zero, suggesting a balanced distribution of positive and negative residuals.

Furthermore, the skewness value of 0.43 indicates a slight rightward skewness, which remains within acceptable limits for the normality assumption. The kurtosis value of 2.19, which is close to the ideal value of 3 for a normal distribution, suggests that the residual distribution is neither excessively peaked nor overly flat. Visually, the residual histogram appears relatively symmetric and does not exhibit extreme deviations.

The Jarque–Bera statistic of 0.885 with a probability value of 0.642 (> 0.05) further supports this finding, indicating insufficient statistical evidence to reject the null hypothesis that the residuals are normally distributed. Therefore, it can be concluded that the normality assumption of the regression residuals has been satisfied, and the model is appropriate for hypothesis testing and further inference.

4.2 Multicollinearity Test

The multicollinearity test was conducted to examine whether strong correlations exist among the independent variables in the regression model. The assessment primarily focuses on the Centered VIF values, as these values reflect correlations among independent variables without being influenced by the constant term.

The results show that most independent variables have Centered VIF values below the commonly accepted threshold of 10, including institutional ownership (1.82), managerial ownership (1.76), firm size (1.07), the interaction variable IO*SIZE (1.04), leverage (DER) (1.00), and profitability (ROA) (1.01). These low VIF values indicate the absence of serious multicollinearity issues, suggesting that the regression coefficients can be estimated reliably.

However, the interaction variable MO*SIZE exhibits a Centered VIF value of 11.90, exceeding the threshold of 10, which indicates the presence of moderate multicollinearity. This issue is likely attributable to the mathematical construction of the interaction term between managerial ownership and firm size. Nonetheless, multicollinearity arising from interaction variables is often a mechanical consequence and does not necessarily bias coefficient estimates, although it may increase standard errors.

4.3 Hypothesis Testing Results

Table 4.2. The Results of Hypothesis Institutional Ownership and Managerial Ownership on Tax Avoidance with Firm Size as a Moderating Variable

Variable	ETR = $\beta_0 + \beta_1 IO_{i,t} + \beta_2 MO_{i,t} + \beta_3 SIZE_{i,t} + \beta_4 LEV_{i,t} + \beta_5 ROA_{i,t} + \beta_6 IO_{i,t} * SIZE_{i,t} + \beta_7 MO_{i,t} * SIZE_{i,t} + \epsilon_{i,t}$			
	Eks	Coeff	T-Test	P-Value
Constanta		-0.306	-1.645	0.100
IO	+	-0.243	-4.058 ***	0.000
MO	+	0.474	4.986 ***	0.000
SIZE	+	0.025	3.086 ***	0.002
Moderating Variable:	-			
IO*SIZE	+	0.012	0.350	0.726
MO*SIZE	-	-0.019	-4.237 ***	0.000
Control Variabel:	+			
LEV	-	0.083	3.332***	0.001
ROA	+	-2.830	-0.225	0.821
Observations (N)				357
Adjus. R_Squre				6.322
F-Statistic				6.322
Prob (F-Statistic)				0.000

Definitions: Description: **IO:** Institutional Ownership; **MO:** Managerial Ownership; **SIZE:** Firm Size; **IO*SIZE:** Interaction between Institutional Ownership and Firm Size; **MO*SIZE:** Interaction between Managerial Ownership and Firm Size; **LEV:** Leverage; **ROA:** Return on Assets

t-statistic significance indicator: * $p < 0,10$; ** $p < 0,05$; and *** $p < 0,01$.

Based on the regression results presented in Table 4.2, the model is jointly significant, and several independent variables exhibit significant partial effects on tax avoidance. The F-statistic value of 6.322386 with a Prob(F-statistic) of 0.000001 (< 0.05) indicates that institutional ownership, managerial ownership, firm size, the moderating variables IO*SIZE and MO*SIZE, leverage (DER), and profitability (ROA) collectively have a significant effect on tax avoidance. Thus, the regression model is deemed appropriate for explaining the relationship between the independent and dependent variables.

Partial testing (t-test) results show that institutional ownership has a coefficient of -0.2430 with a probability value of 0.0001 (< 0.05), indicating a negative and significant effect on tax avoidance. This finding suggests that higher levels of institutional ownership are associated with lower tax avoidance practices. Accordingly, the hypothesis stating that institutional ownership affects tax avoidance is supported.

Managerial ownership has a positive coefficient of 0.4747 with a probability value of 0.0000 (< 0.05), indicating a positive and significant effect on tax avoidance. This result implies that higher managerial ownership increases the likelihood of tax avoidance behavior. Therefore, the hypothesis regarding the effect of managerial ownership on tax avoidance is accepted.

Firm size exhibits a coefficient of 0.0250 with a probability value of 0.0022 (< 0.05), indicating a positive and significant effect on tax avoidance. This suggests that larger firms tend to engage in higher levels of tax avoidance. Thus, the hypothesis stating that firm size influences tax avoidance is supported.

Regarding the moderating variables, the interaction between institutional ownership and firm size (IO*SIZE) shows a coefficient of 0.000125 with a probability value of 0.7265 (> 0.05), indicating no significant moderating effect. Therefore, firm size does not moderate the relationship between institutional ownership and tax avoidance, and the corresponding hypothesis is rejected.

In contrast, the interaction variable between managerial ownership and firm size (MO*SIZE) has a negative coefficient of -0.0193 with a probability value of 0.0000 (< 0.05), indicating a negative and significant moderating effect. This finding suggests that firm size weakens the positive relationship between managerial ownership and tax avoidance. Accordingly, the hypothesis proposing the moderating role of firm size in the relationship between managerial ownership and tax avoidance is accepted.

Among the control variables, leverage (DER) shows a positive coefficient of 0.0834 with a probability value of 0.0010 (< 0.05), indicating that higher leverage levels increase the tendency of firms to engage in tax avoidance. Therefore, the hypothesis regarding the effect of leverage on tax avoidance is supported. Conversely, profitability (ROA) has a negative coefficient of $-2.83E-06$ with a probability value of 0.8215 (> 0.05), indicating no significant effect on tax avoidance. Thus, the hypothesis concerning the influence of profitability on tax avoidance is rejected.

The Adjusted R-squared value of 0.0947 indicates that approximately 9.47% of the variation in tax avoidance is explained by the variables included in the model, while the remaining 90.53% is attributable to factors outside the scope of this study. Although the explanatory power of the model is relatively modest, it remains statistically valid, as it satisfies the joint significance test and effectively captures the causal relationships among the variables.

5. Conclusion

This study aims to examine the effects of institutional ownership and managerial ownership on tax avoidance, with firm size acting as a moderating variable, in manufacturing companies during the 2020–2024 period. The results indicate that institutional ownership has a negative effect on tax avoidance, while managerial ownership and firm size have positive and significant effects. Firm size does not moderate the relationship between institutional ownership and tax avoidance; however, it significantly weakens the effect of managerial ownership on tax avoidance.

These findings support agency theory, suggesting that ownership mechanisms and firm characteristics influence corporate tax avoidance behavior. The results highlight the important role of institutional shareholder oversight in constraining tax avoidance practices. This study is subject to certain limitations, including the use of a single proxy for tax avoidance and a limited sectoral scope. Therefore, future research is encouraged to incorporate alternative tax avoidance measures and expand the research sample to other sectors to enhance the generalizability of the findings.

6. Contributions, Limitations and further research

This study contributes to the literature by providing empirical evidence on the effect of institutional and managerial ownership on tax avoidance in Indonesian manufacturing firms. The results show that institutional ownership reduces tax avoidance, while managerial ownership increases it. This study also adds insight by examining firm size as a moderating variable, finding that it only moderates the relationship between managerial ownership and tax avoidance. These findings highlight the role of ownership structure and firm characteristics in shaping corporate tax behavior and offer useful implications for policymakers and regulators.

This study has several limitations. First, it focuses only on manufacturing companies, limiting generalizability to other sectors. Second, tax avoidance is measured only by ETR, which may not capture all tax strategies. Third, the study examines only institutional and managerial ownership,

excluding other governance factors. Lastly, the use of secondary data may be subject to data limitations.

Future research should include other sectors or countries to improve generalizability. It is also recommended to use additional measures of tax avoidance, such as BTD or CETR. Further studies can include other variables like corporate governance, audit quality, or CSR, and apply different methods to better understand tax avoidance behavior.

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