

FIRM SIZE AND DEBT AS DETERMINANTS OF TAX AGGRESSIVENESS: THE MODERATING EFFECT OF DIVIDEND POLICY

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Abstract

This study aimed to analyze the effect of firm size and leverage on tax aggressiveness, with dividend policy as a moderating variable, in consumer non-cyclical sector companies listed on the Indonesia Stock Exchange during the 2020–2024 period. The study employed a quantitative approach with an associative-causal design. The population consisted of 128 consumer non-cyclical companies, and a sample of 23 companies was selected through purposive sampling after outlier treatment, resulting in 115 observations over five years. Secondary data were collected from annual financial statements. The data were analyzed using panel data regression and Moderated Regression Analysis with the assistance of Microsoft Excel and EViews version 12. The results showed that firm size had no significant effect on tax aggressiveness, with a probability value of 0.170. Leverage had a significant negative effect on tax aggressiveness, with a regression coefficient of -0.120 and a significance value of 0.034. Dividend policy did not moderate the effect of firm size on tax aggressiveness, with a significance value of 0.740, but significantly moderated the effect of leverage on tax aggressiveness, with a regression coefficient of 0.570 and a significance value of 0.000. The F-test confirmed that firm size and leverage simultaneously affected tax aggressiveness with a significance value of 0.001. These findings implied that leverage served as a key determinant of tax aggressiveness, and that dividend policy strengthened the relationship between leverage and tax aggressiveness by encouraging companies to manage tax expenses more strategically.

Keywords: Tax Aggressiveness, Firm Size, Leverage, Dividend Policy

1. Introduction

Tax is one of the main sources of state revenue that plays an important role in supporting national development and public welfare. Based on Article 1 of Law of the Republic of Indonesia Number 28 of 2007 concerning General Provisions and Tax Procedures, tax is defined as a mandatory contribution to the state owed by individuals or entities, imposed by law, without direct compensation, and used for state needs for the greatest prosperity of the people (Amalia, 2021). From a corporate perspective, tax is often viewed as a burden that can reduce net income. The difference in interests between the government and companies creates a conflict in taxation, as the government seeks to increase state revenue, while companies tend to reduce their tax burden so that the profits earned remain optimal. This condition encourages companies to implement various tax planning strategies to reduce the tax obligations that must be paid, and these strategies may develop into tax aggressiveness practices when companies actively utilize regulatory loopholes to reduce their tax burden (Romdhon et al., 2021).



According to data from the Ministry of Finance, tax revenue in 2024 reached IDR 1,932.4 trillion, or 100.5 percent of the target, with year-on-year growth of 3.5 percent, mainly supported by an increase in domestic income tax and retail economic activity (Kemenkeu, 2025). Despite this achievement, tax aggressiveness remains a significant concern because it can affect state revenue, financial statement transparency, and corporate accountability. Tax aggressiveness is a corporate action aimed at reducing the tax burden through various tax management strategies, either through legal methods such as tax avoidance or illegal methods such as tax evasion. This practice does not always directly violate tax regulations, but the continuous use of regulatory loopholes indicates a company's tendency to engage in aggressive tax savings (Prawiro & Njit, 2022). The development of average ratios of publicly listed consumer non-cyclical sector companies during the 2020–2024 period illustrates the dynamics of tax aggressiveness in this sector, as presented in Table 1.

Table 1. Development of the Average Ratios of Publicly Listed Consumer Non-Cyclical Sector Companies, 2020–2024

Year	Tax Aggressiveness	Firm Size	Leverage	Dividend Policy
2020	0.2854	29.7874	0.4580	0.4949
2021	0.2702	29.8304	0.4521	0.4905
2022	0.2749	29.9032	0.4510	0.4907
2023	0.2628	29.9536	0.4211	0.5299
2024	0.3228	30.0212	0.4312	0.5844

Source: Processed data from financial statements (2025)

Table 1 presents the development of the average ratios of publicly listed consumer non-cyclical sector companies during the 2020–2024 period. The relationship between firm size, leverage, dividend policy, and tax aggressiveness show a non-linear pattern. Firm size increased from 29.7874 in 2020 to 30.0212 in 2024, while tax aggressiveness fluctuated and rose sharply to 0.3228 in 2024. This indicates that larger companies may have greater resources for tax planning, but they may also be more cautious due to stronger public and regulatory supervision. Leverage decreased from 0.4580 in 2020 to 0.4211 in 2023, then slightly increased to 0.4312 in 2024, while tax aggressiveness also increased in 2024. This suggests that leverage does not always increase tax aggressiveness because its effect depends on whether the debt generates deductible interest expenses as a tax shield. Meanwhile, dividend policy increased from 0.4949 in 2020 to 0.5844 in 2024, indicating that higher dividend payments may encourage companies to maintain after-tax profits through tax efficiency, although companies may also act more conservatively to protect their reputation and investor trust.

One of the factors presumed to influence tax aggressiveness is firm size. Firm size describes the scale of a company, which is generally measured by total assets or sales level. Large-scale companies usually have more complex operational activities, stronger resources, and greater capability to conduct tax planning. Large asset ownership may also generate depreciation and amortization expenses that can be used to reduce taxable income, thereby potentially encouraging tax aggressiveness practices (Liani & Saifudin, 2020). However, large companies also face higher public and regulatory scrutiny, so the effect of firm size on tax aggressiveness does not always move in the same direction. Previous studies have shown mixed results, with some finding a significant positive effect (Rochmah & Oktaviani, 2021), while others found no significant effect (Herliyana & Wenten, 2025).



The next factor is debt level or leverage. Debt level indicates the extent to which a company uses external financing to fund its operational activities. The use of debt can generate interest expenses that may serve as a deduction from taxable income, thereby potentially reducing the amount of tax payable (Liani & Saifudin, 2020). Companies with high debt levels tend to have greater interest expenses, but their effect on tax aggressiveness depends on the type of debt, financing structure, and the company's policy in utilizing interest expenses as a tax shield (Herliyana & Wenten, 2025). Previous studies have shown mixed results, with some finding a significant negative effect (Iriyanti & Latif, 2025), while others found no significant effect (Febrianti & Febriyanto, 2025).

Dividend policy is a company's decision regarding the distribution of profits to shareholders and the determination of how much profit will be allocated for the company's financing needs. When a company decides to distribute profits, the amount of retained earnings will decrease, thereby reducing the total available internal funds. Conversely, if the company decides to retain profits, its ability to increase internal funding sources will become greater (Solikin & Slamet, 2022). In relation to taxation, dividend policy may influence corporate tax behavior because companies that aim to maintain stable dividend payments tend to manage after-tax profits more carefully. This condition may encourage companies to implement tax planning strategies in order to reduce tax expenses and preserve the level of profit available for dividend distribution (Waluyo & Sahara, 2025).

The urgency of this research is driven by several critical factors. First, tax is one of the main sources of state revenue that plays an important role in supporting national development and public welfare, yet tax aggressiveness practices can reduce state revenue and affect financial statement transparency. Second, tax revenue in 2024 reached IDR 1,932.4 trillion, or 100.5 percent of the target, yet the extent to which firm size and leverage explain tax aggressiveness in the consumer non-cyclical sector remains underexplored. Third, the development of average ratios of publicly listed consumer non-cyclical sector companies during the 2020–2024 period shows a non-linear pattern between firm size, leverage, dividend policy, and tax aggressiveness, indicating that the relationships among these variables are complex and require further investigation. Fourth, empirical evidence regarding firm size, leverage, and dividend policy on tax aggressiveness remains inconclusive, with some studies reporting significant effects and others reporting insignificant or no relationship. Fifth, the moderating role of dividend policy in the relationship between firm size, leverage, and tax aggressiveness remains underexplored, with contradictory findings in prior research.

Previous research has shown significant but fragmented findings regarding the determinants of tax aggressiveness. Studies have demonstrated that firm size significantly influences tax aggressiveness (Rochmah & Oktaviani, 2021; Liani & Saifudin, 2020), that leverage affects tax aggressiveness (Iriyanti & Latif, 2025; Maulana et al., 2022), and that dividend policy influences tax aggressiveness (Solikin & Slamet, 2022; Waluyo & Sahara, 2025). However, other studies have reported contradictory findings, indicating that firm size does not significantly affect tax aggressiveness (Herliyana & Wenten, 2025; Romdhon et al., 2021), that leverage has no significant effect (Febrianti & Febriyanto, 2025), and that dividend policy does not moderate the relationship between leverage and tax aggressiveness (Erawati & Sularso, 2022). These inconsistencies suggest that the relationships among firm size, leverage, dividend policy, and tax aggressiveness remain underexplored, particularly in the context of consumer non-cyclical sector companies in Indonesia.



The research gap in this study lies in the limited understanding of how firm size and leverage jointly influence tax aggressiveness, particularly in the consumer non-cyclical sector in Indonesia. While individual studies have examined the direct effects of these factors on tax aggressiveness, the integrated framework connecting these factors with dividend policy as a moderating variable remains underexplored. Additionally, most previous studies have focused on various sectors or other periods, leaving a significant gap in knowledge regarding the dynamics of tax aggressiveness in consumer non-cyclical companies during the 2020–2024 period. Furthermore, empirical evidence on the determinants of tax aggressiveness in Indonesia remains limited, particularly in the context of increasing economic uncertainty and evolving tax regulations.

The novelty of this research lies in several aspects. First, this study focuses on consumer non-cyclical sector companies listed on the Indonesia Stock Exchange during the 2020–2024 period, representing a unique context characterized by economic uncertainty, commodity price volatility, and evolving tax regulations. Second, this study develops an integrative model that simultaneously examines the influence of firm size and leverage on tax aggressiveness, with dividend policy as a moderating variable, providing a more comprehensive understanding of the determinants of tax aggressiveness in the consumer non-cyclical sector. Third, this study contributes to the limited empirical evidence on tax aggressiveness in the consumer non-cyclical sector, providing insights into how firm size, leverage, and dividend policy collectively influence tax aggressiveness. Fourth, this study extends the application of Agency Theory to the context of tax aggressiveness in Indonesia, validating theoretical predictions in an under-researched institutional context. Fifth, this study provides actionable insights for investors, policymakers, tax authorities, and company management in designing effective strategies to enhance tax compliance and governance practices.

The purpose of this study is to examine the effect of firm size and leverage on tax aggressiveness in consumer non-cyclical sector companies listed on the Indonesia Stock Exchange during the 2020–2024 period, with dividend policy as a moderating variable. Specifically, this research aims to analyze the effect of firm size on tax aggressiveness, analyze the effect of leverage on tax aggressiveness, analyze the moderating role of dividend policy in the relationship between firm size and tax aggressiveness, and analyze the moderating role of dividend policy in the relationship between leverage and tax aggressiveness. The choice of this goal was driven by the limited understanding of how these factors collectively influence tax aggressiveness and the need for empirical evidence that can inform investors, policymakers, tax authorities, and company management in designing effective strategies to enhance tax compliance and governance practices.

The contribution of this research is multifaceted. From a theoretical perspective, this research contributes to the enrichment of literature on taxation and corporate governance by proposing and testing an integrative model that links firm size and leverage with tax aggressiveness, incorporating dividend policy as a moderating variable, extending the application of Agency Theory to the context of tax aggressiveness in Indonesia. The findings contribute to the understanding of how firm size, leverage, and dividend policy influence tax aggressiveness, providing a more nuanced theoretical framework for analyzing tax practices in the consumer non-cyclical sector. From a practical perspective, this study provides actionable insights for investors, policymakers, tax authorities, and company management in assessing and managing tax risk. For investors, the findings provide guidance on which factors should be considered in evaluating a company's tax



management practices. For policymakers and tax authorities, the results offer insights into the factors affecting tax compliance and the importance of governance mechanisms and dividend policy in shaping tax practices. For company management, the results offer insights into the importance of debt management and dividend policy in maintaining tax compliance and avoiding aggressive tax practices. For academics, this study contributes to the growing body of literature on taxation and corporate governance, providing a foundation for future research on tax aggressiveness.

2. Theoretical Background

2.1 Agency Theory

Agency Theory explains the contractual relationship between shareholders as principals and management as agents, in which the principals delegate authority to managers to operate the company and make business decisions on their behalf (Jensen & Meckling, 1976). In this relationship, both parties may have different interests, which can create agency conflicts. Shareholders generally expect management to maximize company value and provide reliable information about the company's performance, while management may have its own interests related to compensation, bonuses, or the achievement of certain financial targets. Management also has greater access to internal company information than shareholders, creating information asymmetry between the two parties. This condition may encourage opportunistic behavior by management, including earnings management or tax planning strategies aimed at reducing the company's tax burden and increasing reported profit (Liani & Saifudin, 2020). In this study, firm size, leverage, and dividend policy function as monitoring mechanisms and signals that reduce agency conflicts and information asymmetry between management and shareholders. Within the Agency Theory framework, firm size reflects the scale of operations and resources available for tax planning, while leverage reflects financing decisions that may affect taxable income through interest expenses. Dividend policy reflects profit distribution decisions that may influence management's incentive to manage after-tax profits. Accordingly, Agency Theory provides the theoretical foundation for this study by explaining how firm size, leverage, and dividend policy influence tax aggressiveness.

2.2 Tax Aggressiveness

Tax aggressiveness can be defined as a corporate action aimed at reducing the amount of tax payable in order to make tax-related expenditures more efficient and optimize company profits. This practice is often associated with tax avoidance, which is still carried out within the boundaries of applicable tax regulations, as well as tax evasion, which refers to illegal actions that violate tax laws. Therefore, tax aggressiveness covers a broad range of corporate tax behavior, from legal tax planning strategies to practices that may lead to non-compliance with tax regulations (Waluyo & Sahara, 2025). Tax aggressiveness does not only arise from taxpayer non-compliance with tax regulations, but may also be conducted through tax-saving strategies that remain within the legal framework. Companies often design their financial activities in certain ways to reduce tax expenses or obtain tax-saving benefits through tax avoidance procedures permitted by law (Maulana et al., 2022). From the perspective of Agency Theory, tax aggressiveness is strongly linked to agency conflicts that arise from information asymmetry between management and shareholders (Jensen & Meckling, 1976). In this study, tax aggressiveness is measured using the Cash Effective Tax Rate (CETR), which compares



cash tax paid to profit before tax. A lower CETR indicates more aggressive tax management, while a CETR closer to the statutory tax rate indicates better compliance. Empirical studies also support this relationship, with studies by Soelistiono and Adi (2022) finding that CETR is a more appropriate proxy for measuring tax aggressiveness because it reflects the actual tax payments made by the company.

2.3 Firm Size

Firm size describes the scale of a company, which can be classified based on the total assets owned. Large-scale companies generally have more adequate resources, giving them greater ability to manage taxes compared to smaller companies. These resources may generate various costs that can be utilized in tax planning. In addition, company assets are also considered potential resources that can be used in tax aggressiveness practices because of the expenses or costs attached to them (Herliyana & Wenten, 2025). Firm size can be measured using several indicators, including the natural logarithm of total assets and the natural logarithm of total sales. Total assets reflect all resources owned by the company, while total sales indicate the company's ability to generate revenue (Yahya et al., 2022). From the perspective of Agency Theory, larger firms face greater monitoring from investors, creditors, and regulators, encouraging higher transparency and reducing information asymmetry between management and shareholders (Jensen & Meckling, 1976). In this study, firm size is measured by the natural logarithm of total assets. Empirical studies also support this relationship, with studies by Rochmah and Oktaviani (2021) and Liani and Saifudin (2020) finding that firm size significantly influences tax aggressiveness.

2.4 Leverage

Debt level or leverage is an indicator that shows the extent to which a company uses funds from external parties to support its operational activities. The leverage ratio reflects the proportion of company assets financed through liabilities or debt (Herliyana & Wenten, 2025). A high level of leverage indicates that the company has a strong dependence on debt financing in running its business activities. Conversely, a low level of leverage shows that the company relies more on its own capital than borrowed funds to finance operational and investment activities (Soelistiono & Adi, 2022). The ideal percentage of total debt to total assets is around 40 percent, and Law No. 36 of 2008 Article 6 paragraph (1) letter a explains that interest expenses are classified as business expenses that can be charged as tax-deductible expenses in the calculation of income tax (Liani & Saifudin, 2020). From the perspective of Agency Theory, debt financing decisions may create conflicts of interest between principals and agents (Jensen & Meckling, 1976). In this study, leverage is measured using the Debt-to-Asset Ratio (DAR), which compares total liabilities to total assets. Empirical studies also support this relationship, with studies by Iriyanti and Latif (2025) and Maulana et al. (2022) finding that leverage significantly influences tax aggressiveness.

2.5 Dividend Policy

Dividend policy is a decision regarding how company profits are utilized, either distributed to shareholders or retained as internal financing for the company. When a company decides to distribute profits as dividends, retained earnings will decrease, which also reduces the total internal funds available to the company. Conversely, when the company chooses to retain profits, its ability to build and strengthen internal capital will



increase (Solikin & Slamet, 2022). Dividend policy may encourage managers to conduct earnings management in order to reduce the number of dividends distributed. This action is related to Agency Theory because management may use earnings management strategies to reduce taxable income (Erawati & Sularso, 2022). From the perspective of Agency Theory, dividend policy reflects profit distribution decisions that may influence management's incentive to manage after-tax profits (Jensen & Meckling, 1976). In this study, dividend policy is measured using the Dividend Payout Ratio (DPR), which compares total cash dividend to net income. Empirical studies also support this relationship, with studies by Waluyo and Sahara (2025) finding that dividend policy significantly influences tax aggressiveness.

2.6 Firm Size, Tax Aggressiveness

Firm size describes the scale of a company, which can be classified based on the total assets owned (Herliyana & Wenten, 2025). Large asset ownership can increase a company's production capacity and operational efficiency, which may lead to higher profits and greater tax obligations. However, company assets are subject to depreciation and amortization, which are recognized as expenses and can reduce taxable income. This condition provides companies with opportunities to minimize tax burdens through tax planning, indicating that larger firms tend to have greater potential to engage in tax aggressiveness (Liani & Saifudin, 2020). From the perspective of Agency Theory, larger firms face greater monitoring from investors, creditors, and regulators, encouraging higher transparency and reducing information asymmetry between management and shareholders (Jensen & Meckling, 1976). In this study, firm size is measured by the natural logarithm of total assets. Empirical evidence supports this relationship, with studies by Rochmah and Oktaviani (2021) finding that firm size significantly influences tax aggressiveness. However, other studies report contradictory findings, indicating that firm size has no significant effect on tax aggressiveness (Herliyana & Wenten, 2025). Based on the theoretical explanation and empirical findings, the hypothesis proposed in this study is as follows:

H1: Firm size has a significant effect on tax aggressiveness.

2.7 Leverage, Tax Aggressiveness

Debt level or leverage is an indicator that shows the extent to which a company uses funds from external parties to support its operational activities (Herliyana & Wenten, 2025). The company's level of debt affects the amount of interest expense or cost of debt that can be deducted for fiscal purposes in accordance with Minister of Finance Regulation No. 169/PMK.010/2015. The recognition of interest expense as a fiscal cost reduces taxable income, thereby lowering the amount of tax payable. This condition encourages companies to utilize debt financing as a strategy to obtain tax savings (Iriyanti & Latif, 2025). From the perspective of Agency Theory, debt financing decisions may create conflicts of interest between principals and agents (Jensen & Meckling, 1976). In this study, leverage is measured using the Debt-to-Asset Ratio (DAR), which compares total liabilities to total assets. Empirical evidence supports this relationship, with studies by Iriyanti and Latif (2025) finding that leverage significantly influences tax aggressiveness. However, other studies report contradictory findings, indicating that leverage has no significant effect on tax aggressiveness (Febrianti & Febriyanto, 2025). Based on the theoretical explanation and empirical findings, the hypothesis proposed in this study is as follows:

H2: Leverage has a significant effect on tax aggressiveness.



2.8 Dividend Policy Moderates the Relationship Between Firm Size and Tax Aggressiveness

Dividend policy is a decision regarding how company profits are utilized, either distributed to shareholders or retained as internal financing for the company (Solikin & Slamet, 2022). Dividend policy is hypothesized to moderate the effect of firm size on tax aggressiveness. Large companies generally have greater resources and flexibility in conducting tax planning. However, companies with high dividend policies tend to be more cautious in taking risky decisions, including tax aggressiveness, because they need to maintain cash flow stability, corporate reputation, and investor confidence (Waluyo & Sahara, 2025). From the perspective of Agency Theory, dividend policy reflects profit distribution decisions that may influence management's incentive to manage after-tax profits (Jensen & Meckling, 1976). Empirical evidence supports this relationship, with studies by Solikin and Slamet (2022) finding that dividend policy significantly moderates the relationship between firm size and tax aggressiveness. However, other studies report contradictory findings, indicating that dividend policy does not moderate this relationship (Erawati & Sularso, 2022). Based on the theoretical explanation and empirical findings, the hypothesis proposed in this study is as follows:

H3: Dividend policy moderates the effect of firm size on tax aggressiveness.

2.9 Dividend Policy Moderates the Relationship Between Leverage and Tax Aggressiveness

Dividend policy is a decision regarding how company profits are utilized, either distributed to shareholders or retained as internal financing for the company (Solikin & Slamet, 2022). Leverage reflects the extent to which a company uses debt in its financing structure. Higher debt creates interest expenses that can reduce taxable income and lower the company's tax burden. In companies with high dividend policies, management may be encouraged to optimize tax savings through interest expenses to maintain dividend payments (Waluyo & Sahara, 2025). From the perspective of Agency Theory, dividend policy reflects profit distribution decisions that may influence management's incentive to manage after-tax profits (Jensen & Meckling, 1976). Empirical evidence supports this relationship, with studies by Waluyo and Sahara (2025) finding that dividend policy significantly moderates the relationship between leverage and tax aggressiveness. However, other studies report contradictory findings, indicating that dividend policy does not moderate this relationship (Erawati & Sularso, 2022). Based on the theoretical explanation and empirical findings, the hypothesis proposed in this study is as follows:

H4: Dividend policy moderates the effect of leverage on tax aggressiveness.

3. Methods

3.1 Research Design

This study employs a quantitative approach to examine the effect of firm size and leverage on tax aggressiveness, with dividend policy as a moderating variable. Quantitative research is appropriate because this study uses numerical data and statistical analysis to test the relationship among variables (Sujarweni, 2025). The associative-causal research design enables the examination of causal relationships between independent variables (firm size and leverage) and the dependent variable (tax aggressiveness), with dividend policy as a moderating variable. The data used in this study are secondary data obtained from annual financial statements published on the official IDX website and the official websites of each company, spanning the years 2020–2024.



3.2 Population and Sample

The population in this study consists of all consumer non-cyclical sector companies listed on the Indonesia Stock Exchange (IDX) during the 2020–2024 period, totaling 128 companies. The sample was selected using purposive sampling based on several criteria: (1) companies listed consistently during the 2020–2024 period; (2) companies publishing complete financial statements during the observation period; (3) companies having positive profit before tax; (4) companies presenting financial statements in rupiah; and (5) companies providing complete data related to the research variables. Based on these criteria, 27 companies were selected before outlier treatment. After eliminating 4 companies as outliers, the final sample consisted of 23 companies with 115 observations (23 companies × 5 years), as presented in Table 2.

Table 2. Sample Determination

No	Criteria	Quantity
1	Consumer non-cyclical companies listed on IDX, 2020–2024	128
2	Companies not listed consistently during 2020–2024	(62)
3	Companies with incomplete financial statements	(21)
4	Companies with negative profit before tax	(14)
5	Companies with non-rupiah financial statements	(4)
6	Companies with incomplete research variable data	–
7	Companies selected before outlier treatment	27
8	Companies eliminated as outliers	(4)
9	Final sample of companies	23
10	Observation period (5 years × 23 companies)	115

Source: Processed data (2025)

3.3 Data Collection Techniques

The data collection technique used in this study is documentation. Documentation was carried out by collecting and reviewing financial statement data related to tax aggressiveness, firm size, leverage, and dividend policy. Secondary data were used because the data had been previously published and officially documented (Sujarweni, 2025). The data collection procedure involved several sequential steps: (1) identification of consumer non-cyclical companies listed on the IDX during the 2020–2024 period; (2) selection of companies meeting the predetermined purposive sampling criteria; (3) collection of tax aggressiveness data from financial statements, specifically cash tax paid and profit before tax; (4) collection of firm size data from financial statements, specifically total assets; (5) collection of leverage data from financial statements, specifically total liabilities and total assets; (6) collection of dividend policy data from financial statements, specifically total cash dividend and net income; and (7) documentation of all extracted data systematically organized into a panel dataset suitable for statistical analysis.

3.4 Operational Definition of Variables

Table 3. Operational Definition and Measurement of Variables

Variable	Definition	Measurement	Scale	Source
Tax Aggressiveness (Y)	A corporate action aimed at reducing the amount of tax payable in order to make tax-related	CETR = Cash Tax Paid / Profit Before Tax	Ratio	Soelistiono & Adi (2022)



Variable	Definition	Measurement	Scale	Source
	expenditures more efficient and optimize company profits (Waluyo & Sahara, 2025)			
Firm Size (X_1)	The scale of a company, which can be classified based on the total assets owned (Herliyana & Wenten, 2025)	Size = $\ln(\text{Total Assets})$	Ratio	Yahya et al. (2022)
Leverage (X_2)	An indicator that shows the extent to which a company uses funds from external parties to support its operational activities (Herliyana & Wenten, 2025)	DAR = $\frac{\text{Total Liabilities}}{\text{Total Assets}}$	Ratio	Soelistiono & Adi (2022)
Dividend Policy (Z)	A decision regarding how company profits are utilized, either distributed to shareholders or retained as internal financing for the company (Solikin & Slamet, 2022)	DPR = $\frac{\text{Total Cash Dividend}}{\text{Net Income}}$	Ratio	Waluyo & Sahara (2025)

Source: Developed for this research (2025)

3.5 Data Analysis Techniques

Data analysis in this study was conducted using panel data regression with the assistance of Microsoft Excel and EViews 12. Panel data regression is used because the data combine cross-section data from companies and time-series data from the 2020–2024 period. The analysis stages included descriptive statistics, panel data regression estimation (Chow test, Hausman test, and Lagrange Multiplier test), classical assumption tests, coefficient of determination analysis, simultaneous F-test, partial t-test, and Moderated Regression Analysis (MRA) to test the moderating effect of dividend policy.

Descriptive statistics were employed to describe the characteristics of the research data, including minimum and maximum values, average, and standard deviation of both the independent and dependent variables. The panel data regression estimation was conducted to determine the most appropriate model among the Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM). The Chow test was used to compare CEM and FEM, the Hausman test was used to compare FEM and REM, and the Lagrange Multiplier test was used to compare CEM and REM.

The panel data regression model used in this study was formulated as:

$$Y_{it} = \alpha + \beta_1 X_{1it} + \beta_2 X_{2it} + \varepsilon_{it}$$

To test the moderating effect of dividend policy, this study uses Moderated Regression Analysis (MRA). The MRA model is formulated as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 Z + \beta_4 X_1.Z + \beta_5 X_2.Z + \varepsilon$$



Where:

Y = Tax Aggressiveness

α = Constant

β_1 – β_5 = Regression coefficients

X_1 = Firm Size

X_2 = Leverage

Z = Dividend Policy

$X_1.Z$ = Interaction between Firm Size and Dividend Policy

$X_2.Z$ = Interaction between Leverage and Dividend Policy

ε = Error term

Hypothesis testing was conducted using several methods. The partial t-test was used to determine the individual effect of each independent variable on tax aggressiveness. The simultaneous F-test was used to examine the collective effect of independent variables on tax aggressiveness. The coefficient of determination (adjusted R^2) was used to determine the model's ability to explain variations in tax aggressiveness. All hypothesis tests were conducted at a significance level of 5% ($p < 0.05$).

4. Results and Discussion

4.1 Descriptive Statistics

Table 4. Descriptive Statistics of Research Variables

Variable	N	Mean	Std. Dev.	Minimum	Maximum
Tax Aggressiveness	115	0.2832	0.1990	0.0655	1.8896
Firm Size	115	29.8991	1.3603	27.3746	32.9378
Leverage	115	0.4426	0.1911	0.0671	0.8660
Dividend Policy	115	0.5180	0.4178	0.0017	2.5246

Source: Processed data from EViews 12 (2025)

Table 4 presents the descriptive statistics for all research variables based on 115 observations from 23 companies across five years (2020–2024). Tax aggressiveness had a minimum value of 0.0655, recorded by PT Wismilak Inti Makmur Tbk (WIIM) in 2020, and a maximum value of 1.8896, recorded by PT Millennium Pharmacon International Tbk (SDPC) in 2020. The mean value of tax aggressiveness was 0.2832, with a standard deviation of 0.1990, indicating that the data distribution was relatively low and homogeneous. Firm size had a minimum value of 27.3746, recorded by PT Sekar Laut Tbk (SKLT) in 2020, and a maximum value of 32.9378, recorded by PT Indofood Sukses Makmur Tbk (INDF) in 2024, with a mean of 29.8991 and a standard deviation of 1.3603, showing that the data were relatively evenly distributed around the average. Leverage had a minimum value of 0.0671, recorded by PT BISI International Tbk (BISI) in 2024, and a maximum value of 0.8660, recorded by PT Unilever Indonesia Tbk (UNVR) in 2024, with a mean of 0.4426 and a standard deviation of 0.1911, indicating a low level of data variation. Dividend policy had a minimum value of 0.0017, recorded by PT Multi Bintang Indonesia Tbk (MLBI) in 2020, and a maximum value of 2.5246, recorded by PT Delta Djakarta Tbk (DLTA) in 2020, with a mean of 0.5180 and a standard deviation of 0.4178, indicating that the data distribution was relatively low and tended to be homogeneous.



4.2 Panel Data Regression Estimation

Table 5. Panel Data Regression Model Selection Results

No	Panel Data Regression Model Selection Method	Significant Value	Prob. Chi-square & P Value	Model Test Result
1	Chow Test	CEM = > 0.05; FEM = < 0.05	0.2826	CEM
2	Hausman Test	FEM = < 0.05; REM = > 0.05	0.4540	REM
3	Lagrange Multiplier Test	REM = < 0.05; CEM = > 0.05	0.9310	CEM

Source: Processed data from EViews 12 (2025)

Table 5 presents the panel data regression model selection results. The Chow test produced a probability value of 0.2826, which is greater than 0.05, indicating that the Common Effect Model (CEM) is more appropriate than the Fixed Effect Model (FEM). The Hausman test produced a probability value of 0.4540, which is also greater than 0.05, indicating that the Random Effect Model (REM) performs better than the Fixed Effect Model (FEM). The Lagrange Multiplier test produced a probability value of 0.9310, which is greater than 0.05, indicating that the Common Effect Model (CEM) is more appropriate than the Random Effect Model (REM). Based on these three tests, the study determines that the Common Effect Model (CEM) is the most suitable for further analysis, employing a Generalized Least Squares (GLS) approach.

4.3 Simultaneous Test (F-Test)

Table 6. F-Test Result

F-statistic	6.325395
Prob(F-statistic)	0.000533

Source: Processed data from EViews 12 (2025)

Table 6 shows the simultaneous test results. Based on the results, the probability value of the F-statistic is 0.000533, which is lower than the significance level of 0.05. The calculated F-value is 6.325395, which is greater than the F-table value of 3.08. These results indicate that firm size and leverage simultaneously have a significant effect on tax aggressiveness. Therefore, the panel data regression model is considered feasible for estimation.

4.4 Partial Test (t-Test)

Table 7. Partial Test Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.535193	0.391830	1.365857	0.1747
Firm Size	0.008045	0.005817	1.382883	0.1695
Leverage	-0.120440	0.056132	-2.145651	0.0341

Source: Processed data from EViews 12 (2025)

Table 7 presents the partial test results. Based on the t-test results, firm size has a probability value of 0.1695, which is higher than 0.05. The calculated t-value of 1.382883 is also lower than the t-table value of 1.98157. Therefore, H1 is rejected, indicating that firm size has no significant effect on tax aggressiveness. Leverage has a probability value of 0.0341, which is lower than 0.05. The absolute calculated t-value of 2.145651 is greater than the t-table value of 1.98157. Therefore, H2 is accepted. The regression coefficient



of -0.120440 indicates that leverage has a significant negative effect on tax aggressiveness.

4.5 Moderated Regression Analysis (MRA) Test

Table 8. Moderated Regression Analysis (MRA) Test Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.222925	0.694678	0.320903	0.7488
Firm Size	0.013722	0.010243	1.339692	0.1830
Leverage	-0.647366	0.262178	-2.469190	0.0151
Dividend Policy	0.637396	0.700970	0.909306	0.3652
X1.Z	-0.007758	0.023301	-0.332956	0.7397
X2.Z	0.569816	0.141541	4.025798	0.0001

Source: Processed data from EViews 12 (2025)

Table 8 presents the Moderated Regression Analysis (MRA) test results. Dividend Policy (Z) has a coefficient value of 0.637396 with a significance value of 0.3652, which is greater than 0.05, indicating that it has no direct effect on tax aggressiveness. The interaction between Firm Size and Dividend Policy (X1.Z) has a coefficient value of -0.007758 with a significance value of 0.7397, which is greater than 0.05. This indicates that dividend policy does not moderate the effect of firm size on tax aggressiveness. Therefore, H3 is rejected. The interaction between Leverage and Dividend Policy (X2.Z) has a coefficient value of 0.569816 with a significance value of 0.0001, which is lower than 0.05. This indicates that dividend policy significantly moderates the effect of leverage on tax aggressiveness. Therefore, H4 is accepted.

4.6 Discussion

4.6.1 The Effect of Firm Size on Tax Aggressiveness

The results show that firm size has no significant effect on tax aggressiveness ($B = 0.008$; $p = 0.170$). Although the coefficient shows a positive direction, the relationship is not statistically significant. This finding is consistent with Herliyana and Wenten (2025) and Romdhon et al. (2021), who also concluded that firm size does not significantly affect tax aggressiveness. From the perspective of Agency Theory, company size does not always determine tax aggressiveness because managerial decisions and tax compliance practices depend more on management policies than on firm scale (Jensen & Meckling, 1976). The finding implies that in the consumer non-cyclical sector, firm size is not a primary determinant of tax aggressiveness, as both large and small companies are subject to the same tax obligations and supervision.

4.6.2 The Effect of Leverage on Tax Aggressiveness

The results show that leverage has a significant negative effect on tax aggressiveness ($B = -0.120$; $p = 0.034$). This finding is consistent with Iriyanti and Latif (2025) and Maulana et al. (2022), who also concluded that leverage significantly influences tax aggressiveness. From the perspective of Agency Theory, debt financing decisions may create conflicts of interest between principals and agents (Jensen & Meckling, 1976). The finding implies that in the consumer non-cyclical sector, higher leverage tends to reduce tax aggressiveness because companies with high debt are more cautious in maintaining financial stability, cash flow, and creditor trust. Companies with high debt levels tend to be more careful in tax decisions because they must maintain financial stability and reduce additional business risks.



4.6.3 The Moderating Role of Dividend Policy in the Relationship Between Firm Size and Tax Aggressiveness

The results show that dividend policy does not moderate the effect of firm size on tax aggressiveness ($B = -0.008$; $p = 0.740$). Although the coefficient is negative, the effect is not statistically significant. This finding is consistent with Erawati and Sularso (2022), who also concluded that dividend policy does not moderate the relationship between firm size and tax aggressiveness. From the perspective of Agency Theory, dividend policy reflects profit distribution decisions that may influence management's incentive to manage after-tax profits (Jensen & Meckling, 1976). The finding implies that in the consumer non-cyclical sector, dividend policy does not necessarily change the tax behavior of large firms because dividend distribution mainly reflects financial performance rather than tax planning strategy.

4.6.4 The Moderating Role of Dividend Policy in the Relationship Between Leverage and Tax Aggressiveness

The results show that dividend policy significantly moderates the effect of leverage on tax aggressiveness ($B = 0.570$; $p = 0.000$). This finding is consistent with Waluyo and Sahara (2025), who also concluded that dividend policy significantly moderates the relationship between leverage and tax aggressiveness. From the perspective of Agency Theory, dividend policy reflects profit distribution decisions that may influence management's incentive to manage after-tax profits (Jensen & Meckling, 1976). The finding implies that in the consumer non-cyclical sector, companies with dividend commitments may manage tax expenses more strategically to maintain dividend payments and investor confidence. The positive coefficient suggests that dividend policy strengthens the relationship between leverage and tax aggressiveness, indicating that companies with high dividend policies may be encouraged to optimize tax savings through interest expenses to maintain dividend payments.

5. Conclusion

This study aimed to examine the effect of firm size and leverage on tax aggressiveness in consumer non-cyclical sector companies listed on the Indonesia Stock Exchange during the 2020–2024 period, with dividend policy as a moderating variable. Using a quantitative approach with panel data regression and Moderated Regression Analysis on 115 observations from 23 companies selected through purposive sampling, the study successfully tested the proposed hypotheses.

The results indicate that firm size has no significant effect on tax aggressiveness, with a probability value of 0.170, indicating that H1 is not supported. This indicates that company size does not determine the level of tax aggressiveness because both large and small companies are subject to the same tax obligations and supervision. Leverage has a significant negative effect on tax aggressiveness, with a regression coefficient of -0.120 and a significance value of 0.034, indicating that H2 is supported. Higher leverage tends to reduce tax aggressiveness because companies with high debt are more cautious in maintaining financial stability, cash flow, and creditor trust.

Dividend policy does not moderate the effect of firm size on tax aggressiveness, with a significance value of 0.740, indicating that H3 is not supported. Therefore, dividend policy cannot strengthen or weaken the relationship between firm size and tax aggressiveness. Dividend policy significantly moderates the effect of leverage on tax aggressiveness, with a regression coefficient of 0.570 and a significance value of 0.000,



indicating that H4 is supported. This indicates that dividend policy influences the relationship between leverage and tax aggressiveness because companies that distribute dividends tend to maintain financial stability and shareholder trust. The simultaneous test using the F-test showed a significance value of 0.001, indicating that firm size and leverage collectively have a significant effect on tax aggressiveness.

The theoretical implications of this study extend the application of Agency Theory to the context of tax aggressiveness in Indonesia. The finding that firm size does not significantly influence tax aggressiveness suggests that company size alone does not determine tax behavior, as managerial decisions and tax compliance practices depend more on management policies than on firm scale. The finding that leverage significantly influences tax aggressiveness supports Agency Theory's emphasis on the role of debt financing decisions in creating conflicts of interest between principals and agents. The finding that dividend policy moderates the relationship between leverage and tax aggressiveness supports the argument that dividend distribution decisions influence management's incentive to manage after-tax profits. This study also contributes to the limited empirical evidence on the determinants of tax aggressiveness in the consumer non-cyclical sector, providing insights into how firm size, leverage, and dividend policy collectively influence tax aggressiveness.

Based on these findings, several recommendations can be proposed. For investors, the findings suggest that leverage and dividend policy should be considered as important indicators when evaluating a company's tax management practices. For policymakers and tax authorities, the results suggest that strengthening regulations on interest expense deductions and promoting transparent dividend policies can enhance tax compliance and reduce aggressive tax practices. For company management, the results suggest that maintaining appropriate levels of debt and dividend policy can enhance tax management and reduce tax risk. For academics, this study contributes to the growing body of literature on taxation and corporate governance, providing a foundation for future research on tax aggressiveness.

This study has several limitations that should be acknowledged. First, the study focuses only on consumer non-cyclical sector companies listed on the Indonesia Stock Exchange, which may limit the generalizability of the findings to other sectors or industries. Second, the study uses a five-year observation period (2020–2024), which may not capture long-term changes in tax practices. Third, the sample size is relatively small (23 companies, 115 observations) due to strict sampling criteria and outlier treatment, which may limit the statistical power of the analysis. Fourth, the study examines only a limited set of financial variables, without considering other potential determinants of tax aggressiveness such as profitability, capital intensity, or audit quality. Fifth, the model's explanatory power is moderate, indicating that other factors not included in the model may still influence tax aggressiveness.

For future research, it is recommended to expand the scope of study by involving other sectors or industries to improve the generalizability of the findings. Future studies may also extend the observation period to capture long-term changes in tax practices and increase the sample size to enhance statistical power. Additionally, future research may incorporate additional variables, such as profitability, capital intensity, and audit quality, to provide a more comprehensive understanding of the determinants of tax aggressiveness. Researchers should also consider employing qualitative or mixed-method approaches to gain deeper insights into the challenges and effectiveness of tax management practices in the consumer non-cyclical sector.



In conclusion, this study contributes to the growing body of literature on taxation and corporate governance by providing empirical evidence on the determinants of tax aggressiveness in consumer non-cyclical companies in Indonesia. The findings suggest that leverage significantly influences tax aggressiveness, while firm size does not. Dividend policy moderates the effect of leverage on tax aggressiveness but does not moderate the effect of firm size. As Indonesia continues to strengthen its tax system and corporate governance practices, understanding these factors becomes increasingly important for developing effective strategies to enhance tax compliance and protect state revenue.

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