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The Moderating Effect of Firm Size on The Influence of Ownership Structure on Earnings Management Practices

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Abstract:

Earnings management refers to the choice of accounting policies or real actions taken by manager to influence earnings in order to achieve specific reported earnings numbers. This study aims to examine the effect of ownership structure on earnings management practices and to analyze the role of firm size as a moderating variable. The theory employed in this study is agency theory. The research was conducted on all manufacturing companies in the consumer goods sector listed on the Indonesia Stock Exchange for the period 2021-2023. The sample was selected using a purposive sampling method, resulting in 52 companies that met the criteria, with a total of 156 observations. The data analysis technique used in this study is moderated regression analysis. The results show that institutional ownership, foreign ownership, and public ownership have negative effects on earnings management. Firm size weakens the negative effect of institutional ownership and public ownership on earnings management. However, firm size does not moderate the relationship between foreign ownership and earnings management. The findings of this study highlight the importance of ownership structure as an effective monitoring mechanism especially for larger firms. These results can serve as a consideration for stakeholders in enhancing corporate governance and monitoring effectiveness.

Keywords: *Earnings Management, Institutional Ownership, Foreign Ownership, Public Ownership, Firm Size.*

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1. Introduction

According to Scott (2015: 445), earnings management involves the selection of accounting policies or the actual measures taken by managers that influence reported earnings to meet particular profit numbers. Scott (2015: 445) identifies two categories within accounting policy choices, namely accounting policy selection itself and discretionary accruals. The motivations for earnings management are usually divided into three categories: capital market incentives, contractual arrangements, and regulatory pressures (Healy & Wahlen, 1998). Healy & Wahlen (1998) found that there are two perspectives in examining earnings management practices: earnings management from the opportunistic behavior perspective and earnings management

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from the efficient contracting perspective. Earnings management from the opportunistic behavior perspective reflects managerial actions aimed at obtaining personal gains, particularly through performance-based bonuses, by adjusting reported earnings to meet predetermined thresholds (Healy, 1985).

Jensen & Meckling's agency theory (1976) provides a conceptual framework for understanding how companies manage profits. According to this theory, an agency relationship is an contract in which one or more principals hire another person (agent), to perform certain tasks in the interests of the owners. This theory also explains that earnings management practices can occur due to conflicts of interest between owners and management. The potential for agency conflicts arises because managers may prioritize their personal interests over maximizing shareholder value.

Earnings management is an accounting method that arose due to conflicts of interest between managers and company owners. These conflicts stem from information asymmetry, allowing managers to alter financial reports to conceal the actual situation and make profits appear better than they are. External pressures such as market expectations and applicable regulations also encourage this practice, as was the case with Enron in 2001 and WorldCom in 2002, which ultimately led to bankruptcy and regulatory changes. Excessive earnings management can damage market confidence, cause immense losses, and potentially lead to accounting fraud. Consequently, establishing effective corporate governance systems is essential to guarantee that performance reports of the company are more transparent and accountable. Company ownership structures, particularly external ownership such as institutional, foreign, and public ownership, are considered to be effective ways to reduce earnings management practices through improve oversight.

Institutional ownership is often associated with increased monitoring capacity because institutional investors have information and resource advantages that enable them to reduce opportunistic earnings management practices (Agustian & Yuliandhari, 2014; Anwar & Buvanendra, 2019). Several studies found that institutional ownership has a negative effect on earnings management, indicating that increased institutional ownership leads to a decrease in the level of earnings management practiced by companies (Anwar & Buvanendra, 2019; Immanuel & Hasnawati, 2022; Sukirno *et al.*, 2017; Farida & Kusumadewi, 2019; Utami *et al.*, 2021), meanwhile, other studies have reported both positive and neutral effects on earnings management (Pambudi, 2020; Zakia *et al.*, 2019; Gultom & Wati, 2022; Arlita *et al.*, 2019; Kablan, 2020; Riyanto & Titik, 2023).

Foreign ownership can also encourage higher standards of governance and objective oversight (Nguyen *et al.*, 2021). Foreign investors have independence and objectivity in company activities, so their participation in corporate governance will align the interests of managers and lead to common goals. Several studies have found a negative influence of foreign ownership on earnings management, indicating that increased foreign ownership correlates with decreased earnings management practices by the company (Nguyen *et al.*, 2021; Farida & Kusumadewi, 2019; Tran *et al.*, 2023),

meanwhile, other studies report both positive and neutral effects on earnings management (Hossain, 2020; Ekpulu & Omoye, 2018; Tran & Dang, 2021; Nguyen, 2020; Gultom & Wati, 2022).

Public ownership is also believed to encourage transparency and accountability through broader market oversight mechanisms (Kablan, 2020). A higher proportion of public shareholding enhances public access to company information and increases transparency regarding corporate activities. Some studies have found a negative effect of public ownership on earnings management, meaning that a higher level of public ownership structure increases public investor oversight of the company, thereby reducing earnings management practices (Kablan, 2020; Utami *et al.*, 2021). Meanwhile, other studies have reported either a positive or no effect on earnings management (Sugara *et al.*, 2022; Edastami & Kusumadewi, 2022; Utami *et al.*, 2021).

The inconsistency of previous research findings shows that company characteristics, particularly firm size, can play a moderating role in the relationship between external ownership structure and earnings management. Large companies tend to have higher complexity, a broader scale of operations, and higher agency costs, thereby potentially increasing the likelihood of earnings management practices (Zakia *et al.*, 2019). However, large companies also tend to be subject to stricter regulatory oversight and greater public scrutiny, which can minimize opportunistic behavior by managers. This dual nature of firm size highlights the importance of examining the role of firm size as a moderating variable. This study also uses profitability and leverage as control variables to control for other factors that may influence the relationship between the independent variable (ownership structure) and the dependent variable (earnings management practices), in addition to the influence of firm size.

Manufacturing companies in the consumer goods industry in Indonesia provide an important context for studying earnings management practices. This sector plays a significant role in the national economy. It is characterized by relatively stable demand but faces challenges such as cost fluctuations and financial performance pressures. Additionally, the research period used, 2021–2023, coincides with the post-pandemic recovery phase following the COVID-19 pandemic, presenting further challenges such as supply chain disruptions and shifts in consumer preferences. The post-pandemic recovery period (2021–2023) places significant pressure on companies to maintain performance, which may increase the tendency to engage in earnings management practices.

The novelty of this study lies in the addition of public ownership as an independent variable, so that the independent variables include institutional, foreign, and public ownership. This study also adds firm size as a moderating variable due to the inconsistency of previous research results. This study uses a proxy for earnings management, namely discretionary accruals according to the Modified Jones model, unlike Hossain (2020), who uses DWCA.

This study aims to examine the effect of institutional ownership, foreign ownership, and public ownership on earnings management practices, as well as to analyze the role of firm size as a moderating variable in this relationship.

2. Theoretical Background

Agency Theory
Jensen & Meckling (1976) describe the agency relationship as an agreement in which one or more individuals (principals) ask others (agents) to provide services on their behalf, including the delegation of decision-making authority. Jensen & Meckling (1976) defined agency costs as the total of: (1) Expenditures for supervision by the principal, (2) Expenditures for binding by the agent, and (3) Residual loss. Scott (2015: 23) mentioned that there are two types of information asymmetry, namely adverse selection and moral hazard. Adverse selection occurs when managers have internal information relevant to the company's performance and future securities returns that investors do not have. Meanwhile, moral hazard arises when managers have more information related to the level of effort expended, while investors cannot directly observe or assess that performance. Agency theory focuses on efforts to resolve two main problems that can arise in the relationship between principals and agents. First, there is a conflict of interest between principals and agents that leads to differences in objectives, as well as constraints in monitoring and verifying the actions of agents by principals, which are usually difficult and costly. Second, there are issues related to risk sharing that arise due to differences in risk preferences between principals and agents. This conflict between principals and agents is known as the agency problem.

Earnings Management
Earnings management, according to Scott (2015: 445), is an accounting policy choice or actual action taken by managers that affects earnings in order to achieve certain reported earnings objectives. This practice is carried out in four forms, namely taking a bath, income maximization, income minimization, and income smoothing. Healy (1985) found that one of the main drivers of managers in adjusting accruals to maximise incentives is the bonus scheme. Scott (2015: 454) also found that one of the main drivers of managers in adjusting accruals to maximise incentives is the bonus scheme. Healy (1985) found that one of the main drivers for managers in adjusting accruals to maximise incentives is the bonus scheme. Scott (2015: 454) also mentions other motivations for engaging in earnings management, such as other contractual motivations, meeting investors' expected profits, and stock offerings. Watts & Zimmerman (1990) add that these motivations can be explained through the bonus plan hypothesis, debt or equity hypothesis, and political cost hypothesis. Earnings management is viewed as a managerial strategy to influence investors' and other stakeholders' perceptions of company performance.

The Effect of Institutional Ownership on Earnings Management
Jensen & Meckling's agency theory (1976) asserts that earnings management arises from conflicts of interest between management and shareholders. Institutional

ownership is the percentage of voting rights held by institutions, and functions as a supervisory mechanism to suppress earnings management practices through increased transparency and external control. Empirical research shows a negative relationship between institutional ownership and earnings management (Dechow *et al.*, 2012; Agustian & Yuliandhari, 2014; Anwar & Buvanendra, 2019; Farida & Kusumadewi, 2019; Utami *et al.*, 2021; Immanuel & Hasnawati, 2022). Higher institutional ownership can lead to greater external control over companies, reducing agency costs and enhancing oversight of management, which in turn minimizes earnings management practices.
Hypothesis 1: *Institutional ownership has a negative effect on earnings management.*

The Effect of Foreign Ownership on Earnings Management
Jensen & Meckling's agency theory (1976) asserts that earnings management arises from conflicts of interest between management and shareholders, caused by information asymmetry. Foreign ownership refers to the proportion of shares held by foreign investors, such as individual companies, legal entities, and foreign-owned state-owned enterprises. Foreign ownership serves as a monitoring mechanism to curb earnings management practices through increased transparency, compliance with international reporting standards, and external control. Empirical research indicates that foreign ownership has a negative impact on earnings management (Mohd Ali *et al.*, 2008; Hermann *et al.*, 2003; Farida & Kusumadewi, 2019; Nguyen *et al.*, 2021; Tran *et al.*, 2023). The higher the proportion of foreign ownership, the lower the tendency for companies to engage in earnings management. This reflects strict supervision, demands for high reporting standards, and a desire to maintain an international reputation.
Hypothesis 2: *Foreign ownership has a negative effect on earnings management.*

The Effect of Public Ownership on Earnings Management
Jensen & Meckling's agency theory (1976) states that the agency relationship is a contract between managers (agents) and shareholders (principals), where conflicts of interest arise because managers do not always act to maximize company value. Public ownership refers to the proportion of shares held by public investors, functioning as a supervisory mechanism that curbs earnings management practices through transparency and external control. Empirical research shows a negative relationship between public ownership and earnings management (Herni & Susanto, 2008; Utami *et al.*, 2021). A high level of public ownership tends to increase oversight by regulators and market analysts, raise disclosure expectations, and limit companies' tendency to engage in earnings management.
Hypothesis 3: *Public ownership has a negative effect on earnings management.*

The Role of Firm Size in Moderating the Relationship Between Institutional Ownership and Earnings Management
Jensen & Meckling's (1976) agency theory states that the agency relationship is a contract between managers (agents) and shareholders (principals), where conflicts of interest can give rise to earnings management practices. Institutional ownership is viewed as an effective corporate governance mechanism because institutional

shareholders have the ability and incentive to monitor management. However, Jensen & Meckling (1976) emphasise that agency costs, such as monitoring costs, binding costs, and residual losses, tend to increase with firm size. Larger companies tend to increase organisational complexity and agency costs, thereby reducing the effectiveness of institutional investor oversight. Empirical research shows that firm size has a positive effect on earnings management (Zakia *et al.*, 2019). The supervisory function of institutional ownership over earnings management becomes weaker in large companies with higher agency costs compared to small companies.
Hypothesis 4: *Firm size weakens the negative effect of institutional ownership on earnings management.*

The Role of Firm Size in Moderating the Relationship Between Foreign Ownership and Earnings Management
Jensen & Meckling (1976) define agency theory states that conflicts of interest between managers (agents) and shareholders (principals) trigger earnings management practices, where conflicts of interest between owners (principals) and managers (agents) are caused by information asymmetry and agency costs, which tend to be higher in large companies due to increased operational complexity. Foreign ownership functions as a monitoring mechanism that can minimize earnings management through monitoring skills, access to technology, and managerial experience. However, the high level of complexity and monitoring costs limit the effectiveness of foreign ownership monitoring. Empirical research shows that firm size has a positive effect on earnings management (Zakia *et al.*, 2019). The supervisory function of foreign ownership over earnings management is weaker in large companies with higher complexity and agency costs than in small companies.
Hypothesis 5: *Firm size weakens the negative effect of foreign ownership on earnings management.*

The Role of Firm Size in Moderating the Relationship Between Public Ownership and Earnings Management
Jensen & Meckling (1976) define agency theory states that conflicts of interest between managers (agents) and shareholders (principals) trigger earnings management practices, which tend to increase in large companies due to operational complexity and higher agency costs. Public ownership functions as a monitoring mechanism that can minimize earnings management through investor participation. However, the effectiveness of this monitoring mechanism is limited in large companies due to the dispersion of shareholders, limited access to information, high agency costs, and limited coordination. Empirical research states that firm size increases agency costs and political costs, making oversight by public shareholders less effective (Jensen & Meckling, 1976; Watts & Zimmerman, 1990).
Hypothesis 6: *Firm size weakens the negative effect of public ownership on earnings management.*

3. Methodology

This study employs a quantitative approach to examine the effect of ownership structure (institutional, foreign, and public ownership) on earnings management, with firm size as a moderating variable. The study population consists of all manufacturing companies in the consumer goods industry listed on the Indonesia Stock Exchange (IDX) from 2021 to 2023, totaling 163 companies. The sample was selected using purposive sampling, with a total of 52 companies. During the analysis process, a number of outlier data were excluded to maintain the accuracy and validity of the research results. A total of 39 observations were excluded, leaving 117 observations that could be used in the analysis. The data source for this study was secondary data obtained through documentation using quarterly financial reports and annual reports of manufacturing companies in the consumer goods industry listed on the IDX from 2021 to 2023. Data analysis was conducted using moderated regression analysis (MRA) with the assistance of SPSS statistical software version 25. The data analysis process began with descriptive statistical analysis, classical assumption tests, and moderated regression analysis (MRA).

4. Empirical Findings/Result

Description of Research Data

The purpose of descriptive statistical analysis is to provide an overview or description of the research data that can be seen from the minimum, maximum, mean, and standard deviation values for each variable.

Tabel 1. Descriptive Statistics of Research Variables

	N	Minimum	Maximum	Mean	Std. Deviation
Earnings Management/DACCit (Y)	117	0,000	0,164	0,042	0,034
Institutional Ownership (X_1)	117	0,000	0,972	0,613	0,290
Foreign Ownership (X_2)	117	0,000	0,993	0,110	0,232
Public Ownership (X_3)	117	0,009	0,613	0,254	0,172
Firm Size (M)	117	18,395	25,952	22,442	1,596
Profitability (Z_1)	117	-0,573	0,328	0,039	0,095
Leverage (Z_2)	117	-30,153	29,317	1,271	5,793

Source: SPSS 25.0 for Windows 2025 output

Based on the descriptive statistical test in Table 1 above, the total of 117 observations used in this study were obtained from data on 52 manufacturing companies in the consumer goods industry listed on the Indonesia Stock Exchange (IDX) over the three-year study period from 2021 to 2023.

Traditional assumption test

Test of normalcy

The normality test is one of the classical assumption tests that aims to test whether the residuals (disturbances) of the regression model are normally distributed or not. The normality test can be performed using the One-Sample Kolmogorov-Smirnov Test method, by examining the value of the Asymp. Sig. (2-tailed). The decision that can

be made is that if the value of the Asymp. Sig. (2-tailed) from the normality test is greater than 0,05, then the residuals are normally distributed (sig > 0,05). Here are the results of the normality test:

Table 2. Results of the Normalcy Test

	Unstandardized Residual
N	117
Test Statistic	0,080
Asymp. Sig. (2-tailed)	0,064[c]

Source: SPSS 25.0 for Windows 2025 output

Based on Table 2 above, the results of the normality test using the One-Sample Kolmogorov-Smirnov Test method show a Kolmogorov-Smirnov value of 0,080 with an Asymp. Sig. (2-tailed) value of 0,064, which means that the residual values are normally distributed because the sig value is > 0,05.

Test of Multicollinearity

According to Ghozali (2018: 107), the multicollinearity test in this regression model aims to test whether there is correlation between the independent variables in this regression model. The results of the multicollinearity test can be seen from the tolerance and variance inflation factor (VIF) values. The decision that can be made is that if the tolerance value is > 0,10 and the VIF value is < 10,00, then the regression model in this study shows no multicollinearity. The results of the multicollinearity test are shown as follows:

Table 3. Results of the Multicollinearity Test

Variable	Collinearity Statistics		Description
	Tolerance	VIF	
Institutional Ownership (X_1)	0,197	5,079	No Multicollinearity
Foreign Ownership (X_2)	0,261	3,836	No Multicollinearity
Public Ownership (X_3)	0,472	2,118	No Multicollinearity
Firm Size (M)	0,945	1,059	No Multicollinearity
Profitability (Z_1)	0,881	1,135	No Multicollinearity
Leverage (Z_2)	0,953	1,050	No Multicollinearity

Source: SPSS 25.0 for Windows 2025 output

Based on Table 3 above, the results of the multicollinearity test show that the six variables tested, namely institutional ownership (X_1), foreign ownership (X_2), public ownership (X_3), firm size (M), profitability (Z_1), and leverage (Z_2) have tolerance values > 0,10 and VIP < 10,00, indicating no multicollinearity.

Test of Heteroscedasticity

The heteroscedasticity test according to Ghozali (2018: 137) aims to test whether there is unequal variance of residuals from one observation to another in a regression model. In the heteroscedasticity test, the Glejser test method can be used to determine the significance value (p-value) of each independent variable. The decision rule used is that if the significance level (p-value) > 0,05, then there is no heteroscedasticity. The following are the results of the heteroscedasticity test in this study:

Table 4. Results of the Heteroscedasticity Test

Variabel	t	Sig.	Keterangann
Institutional Ownership (X_1)	-1,026	0,307	No Heteroscedasticity
Foreign Ownership (X_2)	-0,726	0,469	No Heteroscedasticity
Public Ownership (X_3)	-1,264	0,209	No Heteroscedasticity
Firm Size (M)	-1,023	0,309	No Heteroscedasticity
Profitability (Z_1)	0,667	0,506	No Heteroscedasticity
Leverage (Z_2)	0,532	0,596	No Heteroscedasticity
Institutional Ownership* Firm Size (X_1M)	0,823	0,412	No Heteroscedasticity
Foreign Ownership* Firm Size (X_2M)	0,545	0,587	No Heteroscedasticity
Public Ownership* Firm Size (X_3M)	0,989	0,325	No Heteroscedasticity

Source: SPSS 25.0 for Windows 2025 output

Based on the results of the heteroscedasticity test using the Glejser test in Table 4 above, it can be seen that each independent variable has a significance value (p-value) > 0,05, namely the institutional ownership variable of 0,307, the foreign ownership variable of 0,469, public ownership variable of 0,209, firm size variable of 0,309, profitability (Z_1) variable of 0,506, leverage (Z_2) variable of 0,596, institutional ownership and firm size interaction variable (X_1M) of 0,412, foreign ownership and firm size (X_2M) variable is 0,587, and the interaction variable of public ownership and firm size (X_3M) is 0,325. The results of this test indicate that there is no heteroscedasticity.

Autocorrelation Test

According to Ghozali (2018: 111), the autocorrelation test aims to test whether there is a correlation between the errors that commonly appear in the observation residuals and other observations in the regression model. The results of the autocorrelation test using the Durbin-Watson Test (DW Test) indicate that there is no positive or negative autocorrelation if du < dw < 4-du. The results of the Durbin-Watson Test are presented in Table 5, as follows:

Table 5. Results of the Autocorrelation Test

k	N	dl	du	4-du	*Durbin-Watson*
9	117	1,537	1,866	2,134	2,291

Source: SPSS 25.0 for Windows 2025 output

Based on Table 5 above, the Durbin-Watson value is 2,291. The Durbin-Watson value of 2,291 with k = 9 and N = 117 is greater than the upper limit (du) of 1,807 and greater than 4-du of 2,134. This result does not meet the requirement that du < dw < 4-du, meaning there is no positive or negative autocorrelation. Therefore, the autocorrelation test is conducted using the run test as follows:

Table 6. Results of the Autocorrelation Test with Run Test

	Unstandardized Residual
Test Value[a]	-0,00427
Cases < Test Value	58
Cases >= Test Value	59
Total Cases	117
Number of Runs	65
Z	1,022
Asymp. Sig. (2-tailed)	0,307

Source: SPSS 25.0 for Windows 2025 output

The results of the autocorrelation test using the run test in Table 6 above show an Asymp. Sig. (2-tailed) value or significance of 0,307. A significance value of 0,307 indicates that the significance value is > 0,05, which means that there is no autocorrelation or that the autocorrelation test is passed.

Model Feasibility Test Results

Coefficient of Determination

The coefficient of determination value according to Ghozali (2018: 97) is used as a measure of how much variation in the dependent/bound variable can be explained by the independent/free variable in a regression model. A small Adjusted R-Square (R2) value indicates that the ability of the independent variables to explain the dependent variable is limited. Conversely, an Adjusted R-Square (R2) value close to 1 means that the independent variables provide almost all the information needed to predict the dependent variable. The results of the coefficient of determination analysis are presented in Table 7.

Table 7. Adjusted R Square Test Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0,851a	0,724	0,700	0,00935305

Source: SPSS 25.0 for Windows 2025 output

Based on Table 7 above, the coefficient of determination test with an Adjusted R - Square (R2) of 0,700 indicates that 70% of the variation in earnings management values can be significantly influenced by institutional ownership, foreign ownership, public ownership, firm size, profitability, leverage, the the interaction variable of institutional ownership and firm size, the interaction variable of foreign ownership and firm size, and the interaction variable of public ownership and firm size. Meanwhile, the remaining 30% of the variation in earnings management values is influenced by other factors not examined in this study.

F Test Results

The F test is conducted to examine the simultaneous effect of independent variables on the dependent variable. If the independent variables simultaneously influence the dependent variable, then the regression equation model meets the appropriate criteria or is a good fit. The F-test is performed by examining the significance value in the ANOVA table. If the significance value of $F \leq \alpha$ (0,05), then the model is considered

valid or the independent variables can explain the dependent variable (Ghozali, 2018: 101). The results of the model validity test are presented in Table 8.

Table 8. Anova Test Results

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	0,025	9	0,003	31,128	0,000[b]
	Residual	0,009	107	0,000		
	Total	0,034	116			

Source: SPSS 25.0 for Windows 2025 output

Based on Table 8 above, the model feasibility test (F test) shows a calculated F value of 31,128 with a significance of 0,000, which is smaller than α = 0,05. This result indicates that the model used in this study is feasible. This test result implies that all variables—institutional ownership, foreign ownership, public ownership, firm size, profitability, leverage, the the interaction variable of institutional ownership and firm size, the interaction variable of foreign ownership and firm size, and the interaction variable of public ownership and firm size are capable of predicting or explaining the phenomenon of earnings management. This testing model can be used for further analysis because its goodness of fit results are good and valid.

Hypothesis Test Results (t-test)

In this research, the regression analysis used is moderated regression analysis (MRA). Moderated regression analysis (MRA), according to Ghozali (2013: 229), is a special application of multiple linear regression to determine the relationship between two variables influenced by a third variable or moderating variable, where the regression equation contains an interaction term. Moderated regression analysis (MRA) in this study was used to explain the effect of the moderating variable, namely firm size, in strengthening or weakening the relationship between the independent variables (institutional ownership, foreign ownership, and public ownership) and the dependent variable (earnings management). The MRA equation in this study is as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 M + \beta_5 Z_1 + \beta_6 Z_2 + \beta_7 X_1 M + \beta_8 X_2 M + \beta_9 X_3 M + e$$

The results of the moderated regression analysis (MRA) are presented in Table 9.

$$Y = 0{,}534 - 0{,}344X_1 - 0{,}311X_2 - 0{,}743X_3 - 0{,}019M - 0{,}017Z_1 + 0{,}000Z_2 + 0{,}013X_1M + 0{,}011X_2M + 0{,}029X_3M + e$$

Results of Moderated Regression Analysis

Table 9. Results of Moderated Regression Analysis

		Unstandardized Coefficients		Standardized Coefficients		
	Model	B	Std. Error	Beta	t	Sig.
1	(Constant)	0,534	0,120		4,453	0,000
	KI (X_1)	-0,344	0,126	-5,836	-2,735	0,007
	KA (X_2)	-0,311	0,134	-4,218	-2,320	0,022
	KP (X_3)	-0,743	0,127	-7,458	-5,857	0,000
	UP (M)	-0,019	0,005	-1,761	-3,448	0,001
	ROA (Z_1)	-0,017	0,010	-0,096	-1,722	0,088
	DER (Z_2)	0,000	0,000	0,021	0,402	0,689
	KI*UP (X_1M)	0,013	0,006	4,881	2,199	0,030
	KA*UP (X_2M)	0,011	0,006	3,473	1,866	0,065
	KP*UP (X_3M)	0,029	0,006	6,496	4,974	0,000

Source: SPSS 25.0 for Windows 2025 output

Based on the results of the moderated regression analysis (MRA) in Table 9 above, the following can be explained:

1) The constant of 0,534 indicates that if the variables of institutional ownership (X_1), foreign ownership (X_2), public ownership (X_3), and firm size (Z) are constant or equal to zero, then the value of earnings management/DACCit (Y) is 0,534.
2) The regression coefficient for the institutional ownership variable (X_1) is -0,344, meaning that every 1% increase in institutional ownership tends to decrease the earnings management value (Y) by 0,344% assuming all other independent variables remain constant.
3) The regression coefficient for the foreign ownership variable (X_2) is -0,311, meaning that for every 1% increase in foreign ownership, the earnings management value (Y) tends to decrease by 0,311% assuming all other independent variables remain constant.
4) The regression coefficient for the public ownership variable (X_3) is -0,743, which means that for every 1% increase in public ownership, there is a tendency for earnings management (Y) to decrease by 0,743% assuming other independent variables remain constant.
5) The regression coefficient for the firm size variable (M) is -0,019, which means that for every 1 percent increase in firm size, there is a tendency for earnings management (Y) to decrease by 0,019 percent, assuming all other independent variables remain constant.
6) The regression coefficient of the profitability variable (Z_1) is -0,017, which means that every 1 percent increase in profitability tends to decrease the value of earnings management (Y) by 0,017 percent, assuming that other independent variables remain constant.
7) The regression coefficient for the leverage variable (Z_2) is 0,000, meaning that a 1% increase in leverage tends to decrease earnings management (Y) by 0,000%, assuming all other independent variables remain constant.
8) The regression coefficient of the interaction variable between institutional ownership and firm size is 0,013, which means that every 1 percent increase in the interaction value between institutional ownership and firm size tends to

increase the value of earnings management (Y) by 0,013 percent, assuming that other independent variables remain constant.

9) The interaction variable between foreign ownership and firm size does not moderate the negative effect of foreign ownership on earnings management.
10) The regression coefficient for the interaction variable between public ownership and firm size is 0,029, meaning that a 1% increase in the interaction value between public ownership and firm size tends to increase the earnings management value (Y) by 0,029% assuming other independent variables remain constant.

Based on the test results in Table 9, the following can be stated:

1) The data analysis results support hypothesis 1 (H_1), which states that institutional ownership has a negative effect on earnings management (t count = -2,735; sig 0,007)
2) The results of the data analysis support hypothesis 2 (H_2), which states that foreign ownership has a negative effect on earnings management (t count = -2,320; sig 0,022)
3) The results of the data analysis support hypothesis 3 (H_3), which states that public ownership has a negative effect on earnings management (t count = -5,857; sig 0,000).
4) The results of the data analysis support hypothesis 4 (H_4), which states that firm size weakens the negative effect of institutional ownership on earnings management (t count = 2,199; sig 0,030).
5) The results of the data analysis do not support hypothesis 5 (H_5). These results indicate that firm size cannot weaken or strengthen the negative influence of foreign ownership on earnings management (t count = 1,866; sig 0,065).
6) The results of the data analysis support hypothesis 6 (H_6), which states that firm size weakens the negative influence of public ownership on earnings management (t count = 4,974; sig 0,000).

5. Discussion

The Effect of Institutional Ownership on Earnings Management

The results of the study indicate that institutional ownership has a negative effect on earnings management, meaning that the greater the proportion of shares owned by institutions, the lower the tendency for companies to engage in earnings management practices. This finding aligns with Jensen & Meckling (1976) agency theory, which also states that institutional ownership is considered an effective oversight mechanism to prevent earnings management practices. Institutional ownership can reduce agency costs by limiting information asymmetry and preventing managers from engaging in earnings management practices. Therefore, an increase in the proportion of institutional ownership is expected to reduce the likelihood of managers engaging in earnings management practices for personal gain. These results are consistent with the research of Agustian & Yuliandhari (2014), Utami *et al.* (2021), and Immanuel & Hasnawati (2022) which show that high institutional ownership enables greater oversight of company management, thereby reducing the likelihood of earnings management.

The Effect of Foreign Ownership on Earnings Management
The results of the study indicate that foreign ownership has a negative effect on earnings management. These results show that the greater the proportion of shares owned by foreigners, the lower the tendency for companies to engage in earnings management practices. These results are consistent with Jensen & Meckling (1976) agency theory, which states that a strong ownership structure can serve as a tool to monitor managers' opportunistic behavior. The presence of foreign shareholders is considered capable of addressing such conflicts of interest through stricter and more independent oversight mechanisms, as foreign shareholders typically possess professional expertise, international reporting standards such as IFRS, and more disciplined management controls. These results are consistent with Hermann *et al.* (2003) on Alzoub (2013), Nguyen *et al.* (2021), and Tran *et al.* (2023), where the presence of foreign ownership has been proven to strengthen oversight, improve earnings quality, and minimize opportunistic behavior by managers.

The Effect of Public Ownership on Earnings Management
The results of the study indicate that public ownership has a negative effect on earnings management. These results show that the greater the proportion of shares owned by the public, the lower the tendency for companies to engage in earnings management practices. Although dispersed in nature, the sensitivity of public investors to the integrity of financial reports encourages transparency and accountability in company management. These findings support Jensen & Meckling (1976) agency theory, which emphasizes that oversight can occur indirectly through market mechanisms. These results are consistent with Kablan (2020), and Utami *et al.* (2021), who show that the higher the public ownership structure, the less likely a company is to engage in earnings management practices, such as opportunistic income smoothing.

The Role of Firm Size in Moderating the Relationship Between Institutional Ownership and Earnings Management
The results show that the interaction variable between institutional ownership and firm size has a positive effect, which means that firm size weakens the negative effect of institutional ownership on earnings management. This result implies that the effectiveness of oversight by institutional shareholders over earnings management can be influenced by the size of a company, where larger companies tend to have higher operational complexity compared to smaller companies. Operational complexity in large companies limits institutional shareholders' ability to conduct comprehensive oversight. The results show that the interaction variable between institutional ownership and firm size has a positive effect, which means that firm size weakens the negative effect of institutional ownership on earnings management. This result implies that the effectiveness of oversight by institutional shareholders over earnings management can be influenced by the size of a company, where larger companies tend to have higher operational complexity compared to smaller companies. Operational complexity in large companies limits institutional shareholders' ability to conduct comprehensive oversight. The results of this study are supported by Zakia *et al*.

(2019), who show that the larger the firm size, the greater the likelihood of earnings management due to increased complexity, information asymmetry and agency costs. Almazan *et al*. (2005) also explain that the effectiveness of supervision by active institutional shareholders tends to decline in companies with high firm-specific monitoring costs. This condition generally occurs in companies with high corporate complexity, as monitoring costs become higher.

This condition generally occurs in companies with high corporate complexity, as monitoring costs become higher. This results in weak oversight of earnings management by institutional owners in large companies with high complexity and higher agency costs compared to small companies, in line with agency theory which states that agency costs increase with firm size (Jensen & Meckling, 1976).

The Role of Firm Size in Moderating the Relationship Between Foreign Ownership and Earnings Management

The results of the study indicate that the interaction variable of foreign ownership and firm size has no effect on earnings management, meaning that firm size cannot moderate the influence between foreign ownership and earnings management practices. These results show that the existence of firm size, cannot strengthen or weaken the negative influence of foreign ownership on earnings management practices. In both large and small companies, the ability of foreign ownership to suppress earnings management practices tends to be consistent. The effectiveness of supervision by foreign shareholders is not significantly influenced by the complexity of the company, as foreign shareholders generally implement strict control and performance management evaluation systems. The results of this study are in line with the findings of Choi & Park (2019), which show that foreign ownership is able to maintain a monitoring mechanism without being influenced by firm size. This occurs because foreign investors are believed to have weak relationships with company management, meaning that foreign shareholders do not have special interests with company management, allowing foreign shareholders to conduct supervision objectively and independently. However, these findings are not in line with agency theory, which states that increased complexity will reduce the effectiveness of oversight.

The Role of Firm Size in Moderating the Relationship Between Public Ownership and Earnings Management

The results of this study indicate that the interaction between public ownership and firm size on earnings management shows a positive effect, which means that the larger the firm size, the weaker the negative effect of public ownership on earnings management. The complexity of large companies and the dispersed nature of public ownership make oversight mechanisms less effective, thereby increasing the potential for opportunistic behaviour by management. These results are supported by the findings of Zakia et al. (2019) which show that the larger the size of the company, the more likely it is that earnings management will occur due to increased complexity, information asymmetry and agency costs. In large companies, limited access to information, high agency costs, and limited coordination reduce the ability of public

shareholders to monitor and limit earnings management practices. Shleifer & Vishny (1997) explain that public (minority) shareholders often experience high monitoring costs in large companies. This results in the supervisory function of public ownership over earnings management becoming weak in large companies that have greater complexity and higher agency costs than in small companies. These findings are consistent with Jensen & Meckling's (1976) agency theory, which emphasizes that the larger the company, the higher the agency costs and information asymmetry.

6. Conclusions

This research shows that external ownership structures, namely institutional, foreign and public ownership, have a negative effect on earnings management. This means that the greater the proportion of institutional, foreign and public ownership, the less likely managers are to engage in earnings management. These results support agency theory, which states that ownership structure can be used as an effective monitoring mechanism to minimize earnings management practices. Firm size has been shown to moderate the negative relationship between institutional and public ownership and earnings management, where in large firms the effectiveness of oversight mechanisms by institutional and public investors weakens due to increased operational complexity and information asymmetry. Conversely, the results of the study found that firm size does not moderate the negative relationship between foreign ownership and earnings management. This occurs because foreign investors are believed to have a weak relationship with company management, where foreign shareholders have no special interests with company management, allowing foreign shareholders to conduct objective and independent supervision. Therefore, the effectiveness of supervision by foreign investors remains consistent and is not affected by firm size.

The researchers also acknowledge the limitations of this study, such as the testing of dependent variables requiring quarterly financial report data from 2013 to 2023. However, the limited availability of quarterly data resulted in the loss of a number of observations that ultimately could not be included in the analysis. In addition, there were many outlier data that needed to be excluded in the regression testing, which could affect the estimation results. Researchers are then advised to use data with a wider period of time or complement data from various sources, so that the number of observations obtained is more representative. Furthermore, it can consider the use of annual data or interpolation methods to overcome the limitations of the availability of quarterly data. Finally, researchers are further advised to apply stricter data collection methods so that the data obtained is more homogeneous and minimizes the chance of outliers.

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