

Determinants of Corporate Value with Earnings Management as Intervention Variables in Companies in the Industrial Sector for the Period 2019 to 2024

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ABSTRACT

This study aims to determine the influence of Debt to Equity Ratio, Return on Equity, and company size on the management of profit and company value. This study uses probability sampling with a targeted sampling technique; the sample used is 30 industrial sector companies listed on the Indonesia Stock Exchange (IDX) from 2019 to 2024. This type of research is quantitative with descriptive statistics, panel data regression analysis, panel data regression test methods, hypothesis tests, classical assumptions, and Sobel tests, with data processing using EViews 12 software. This study shows that the Debt to Equity Ratio and Return on Equity have an effect on earnings management, and company size has no effect on earnings management. The Debt to Equity ratio and the size of the company affect the value of the company; the Return on Equity and earnings management have no effect on the value of the company. With earnings management as an intermediate variable, it is not possible to mediate the variables of Debt to Equity Ratio, Return on Equity, and company size to company value. The implications of this study emphasize the importance of managing capital structure and profitability in increasing the value of a company.

Keywords: Price to Book Value; Debt to Equity Ratio; Return on Equity; Hard Size; Earnings Management



Received: 23 April, 2026

Accepted: 11 August, 2026

Available online: 12 August, 2026

DOI: 10.61242/ijabo.26.748

JEL Classification: G30, G32, M41



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INTRODUCTION

The current global economic development is running very fast and has a big impact on the progress of business in Indonesia. Increasing digitalization, including the existence of financial and investment applications, makes it easier for people and companies to manage assets and access capital markets. This condition also encourages the development of companies listed on the Indonesia Stock Exchange (IDX), including the industrial sector, which is one of the engines of national economic growth (Anisa & Siswanti, 2021). This industrial sector company consists of several sub-sectors of Aerospace & Defense, Building Products and Supplies, Electrical, Machinery, Trade Industry Diversification, Commercial Services, Professional Services, and Multisector Ownership. Companies in this sector are interested in investing and are a good option in the long run (Attoriq Suryana et al., 2024).

One of the important indicators that investors use in assessing the quality of a company is the company's value. The value of a company reflects investors' perception of the future prospects of the business. This value is generally measured using Price to Book Value (PBV), which is the ratio between the stock price and the company's book value. A high PBV value indicates that the company's growth is good, while a low PBV value indicates a poor company level. Factors that affect a company's value are capital structure, profitability, and firm size (Sugiarto et al., 2024).

A company's capital structure can be measured using the Debt to Equity Ratio (DER), also referred to as the company's ability to pay debt with its own capital. A low DER value will increase the value of the company, while a high value of the DER will decrease the value of the company. Previous Research (Nurhalisa et al., 2025) and (Anisa & Siswanti, 2021).

Profitability in this case can be measured by using Return on Equity (ROE) or also known as net return on equity, Return on Equity (ROE) in a high-value company, the company shows that its finances are doing very well and it will be a bigger and bigger point for investors to trust and feel satisfied with the company that will make the investment, By making big profits is the most important expectation (Inas et al., 2025).

The larger the size of the company, the larger the company's assets will be, so it can be said that the scale that shows the size of the company's business capitalization is also explained by total assets, total net sales, and average total assets (Maria & Widjaja, 2023). This study uses an intermediate variable, Earnings Management. Earnings Management is an accounting act approved by the manager by manipulating profits for a specific purpose (Ice et al., 2025). Earnings Management was chosen as an intervening variable because, based on agency theory, the pressures posed by debt levels (DER), profitability (ROE), and firm size encourage managers to adopt certain accounting policies such as maintaining the image of financial performance to meet the expectations of creditors or shareholders before these conditions are reflected in the company's value. Furthermore, based on signalling theory, the results of the accounting policy (reflected in the quality of reported profits) become signals that are captured and interpreted by investors, thereby indirectly influencing market perception of the company's value. Thus, Earnings Management is positioned as a connecting mechanism between the company's internal pressures (agency problems) and market response (signalling), which makes it a theoretically relevant intermediate variable in this research model.

The following is the development of average data on the value of Debt to Equity Ratio (DER), Return on Equity (ROE), firm size, Earnings Management (Discretionary Accrual), and company value measured using Price to Book Value (PBV) of companies in the industrial sector for the period 2019 to 2024.

Table 1. Average development of DER, ROE, FS, DA, and PBV in industrial sector companies for the period 2019 to 2024

Year	Variable				
	THE ER	EGGS	Total FS assets	(DA)	PBV
2019	0.81	0.14	28.10	-0.03	1.66
2020	0.65	0.08	28.06	-0.12	1.53
2021	0.63	0.11	28.13	-0.08	1.61
2022	0.71	0.11	28.24	-0.11	1.47
2023	0.68	0.11	28.29	-0.11	1.11
2024	0.67	0.12	28.30	-0.08	1.03

Sources: www.idx.co.id, Annual Report 2019 to 2024, processed by the author in 2025

Based on the description of the problem above, it can be concluded that for the period 2019 to 2024, the value of PBV shows a consistent decline. This condition explains that PBV is able to describe changes in market perception of the company dynamically, so that the value of the company has a strong position. It can be seen that the variables of DER, ROE, and firm size have fluctuated and even increased in certain periods, but the value of PBV has continued to decrease. Therefore, it can be said that the value of a company is not only determined by its financial performance but by how the market assesses the risks and the quality of the information conveyed by the company.

Then the DA value changes according to the fluctuations of DER and ROE; when there is an increase or decrease in ROE, the DA value actually experiences more negative changes. This means that there is an indication of Earnings Management practices carried out by the company's management; this phenomenon indicates the existence of an indirect mechanism by which financial pressures affect accounting policies before they are finally reflected in the company's value. Thus, empirically, the mediated role of Earnings Management that bridges the influence of financial determinants on a company's value can be seen as an indirect relationship and requires further statistical testing.

Previous research that uses Earnings Management as an intervening variable has generally been conducted on sectors with different characteristics from industry, such as food and beverage (Selfiyana, 2021) and general insurance (Burn, 2024), while research on the industrial sector itself, such as (Anisa & Siswanti, 2021) and (Maria & Widjaja, 2023), using a capital structure instead of Earnings Management as a mediating variable. This difference points to a research gap: the mediation mechanism through Earnings Management, which theoretically explains the signalling pathway over profit quality, has not been tested in the industrial sector. This study fills this gap by examining DER, ROE, and firm size simultaneously in an Earnings Management mediation model in the industrials sector for the period 2019–2024, a period that includes COVID-19 disruption and global monetary tightening and has not been tested in previous studies. Therefore, the author is interested in conducting a study titled "The Impact of Debt to Equity Ratio, Return on Equity, and Firm Size on Company Value with Earnings Management as Intervening Variables in Industrial Sector Companies for the Period 2019 to 2024"

LITERATURE REVIEW

Signalling Theory

Signalling theory explains that management conveys information on the company's condition to investors to reduce information asymmetry, ideally through a conservative accounting policy so that the profits generated are of high quality (Agustin Ekadjaja, 2021; Annisa Lukman A. Gaffar et al., 2022; Dewi & Meliza, 2023). In this study, the

quality of profit from Earnings Management is a signal to investors; profits that are managed opportunistically tend to be responded to negatively by the market, while credible profits increase investor confidence, which is ultimately reflected in the company's value (PBV).

Agency Theory

Agency theory describes the conflict of interest that arises due to the separation of ownership and management of a company, where the principal hires an agent to manage the company, but differences in interests and information asymmetry between the two can trigger agency problems (German & Erawati, 2020; Levina Clarinda, Liana Susanto, 2023). In this study, the conflict is reflected in the pressures of the debt level (DER) that encourages managers to maintain performance images to meet creditor expectations, profitability (ROE) that drives profit alignment, and firm size that influences agency costs and managerial discretionary space, which together drive Earnings Management practices in response to such pressures and ultimately potentially impact the value of the company.

Company Values

The value of the company is the success of the company in increasing the value of the shares; the higher the value of the company, the more investors will pay attention to and trust the company, and conversely, the lower the value of the company, the less investors will trust the company in investing capital. In opinion (Rizal Zaenal et al., 2025) Price to Book Value (PBV) is a ratio used to compare a company's stock market price to the company's book value per share. Price to Book Value (PBV) is chosen as an indicator of company value because it is able to represent the market's assessment of the company's equity, including future growth prospects and risks, with the advantage of being stable and easy to compare to peers. This selection is also relevant for the industrial sector that has a large number of tangible assets.

Debt to Equity Ratio (DER)

The Debt-to-Equity Ratio (DER) is a ratio to measure the division between a company's liabilities and its own capital that describes a company's ability to pay its debt (Idham Masri Ishak et al., 2024).

Return on Equity (ROE)

Return on Equity (ROE) is a profit prepared for the company's shareholders, with a measure indicated as a return on capital invested in the company. Return on Equity (ROE) can be said to be a comparison between net income and equity to assess the level of return on capital invested in a company's operations (Idham Masri Ishak et al., 2024).

Firm Size

Firm size is a company that can be classified in small-scale form in various ways; it can be measured through total assets, stock market value, and so on. (Farrah Annisya et al., 2025). This research is proxied with the natural logarithm of total assets. Based on agency theory, the larger the size of the company, the more complex the organizational structure and the greater the agency costs and managerial discretionary space in Earnings Management practices, thus also influencing the market assessment of the company's value.

Earnings Management

Earnings Management is the decision of management in the selection of accounting policies to obtain a certain level of profit, including increasing or decreasing the quality of profits so that the reported profit appears stable (Pratama et al., 2025). In this study, Earnings Management was proxied with Discretionary Accrual (DA), which was estimated using the Modified Jones Model (Nuramanda et al., 2023).

Based on the theoretical review that has been described and from the formulation of the problem used, the framework of thought of the related variables in this study is formulated, which is as follows:

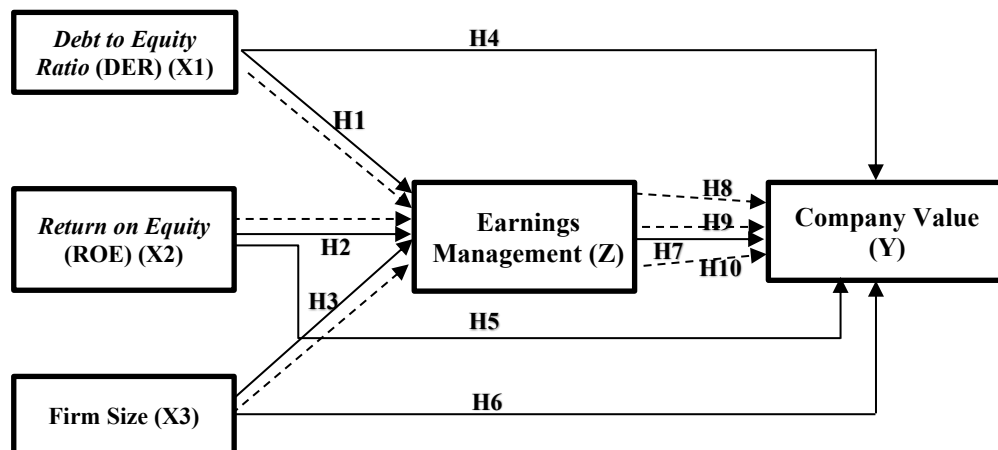


Figure 1. Research Constellation
 Source: References, processed by author, 2026

Hypothesis

- H1 : Debt-to-Equity Ratio has a positive impact on Earnings Management
- H2 : Return on Equity has a negative effect on Earnings Management
- H3 : Firm size has a negative impact on Earnings Management
- H4 : Debt-to-Equity Ratio has a positive impact on the company's value
- H5 : Return on Equity has a negative effect on the value of the company
- H6 : The size of the company negatively impacts the value of the company
- H7 : Earnings Management has a positive impact on company value
- H8 : Debt to Equity Ratio has a positive impact on the company's value through Earnings Management
- H9 : Return on Equity has a negative effect on the company's value through Earnings Management
- H10 : The size of the company has a negative impact on the company's value through Earnings Management

RESEARCH METHODS

This study uses a type of quantitative research that focuses on data taken from the company's annual financial statements, presented in the form of numbers as information for research. The data source for this study comes from secondary data, which the researcher obtained indirectly through documents, websites, the internet, data provider companies, and the Indonesia Stock Exchange. The population used in this study is companies engaged in industrial sectors listed on the Indonesia Stock Exchange (IDX) for the period 2019 to 2024. This study consists of 65 industrial sector companies, with

the research sample determined using the purposive sampling (non-probability sampling) technique, which is the determination of samples based on certain criteria that are relevant to the purpose of the research. The final sample used amounted to 30 industrial sector companies listed on the Indonesia Stock Exchange (IDX) for the period 2019 to 2024, with a balanced panel data structure. Criteria specified in this study:

Table 2. Research Example Criteria

No	Criteria	Quantity
1	Industrial sector companies are listed on the Indonesia Stock Exchange (IDX) from 2019 to 2024.	65
2	Companies that have complete financial statements for the period 2019 to 2024.	41
3	Companies in the industrial sector that did not suffer losses during the period 2019 to 2024.	30
Number of research samples		30
Total sample: 30 x 6 (period)		180

Source: References, processed by author, 2026

The third criterion in Table 2 excludes companies that suffered losses during 2019–2024, because the accrual pattern in loss conditions tends to be structurally different, so it has the potential to refract estimates of non-discretionary accruals when combined with companies with positive profits. The authors realize that this criterion has the potential to cause selection bias, considering that loss-making companies can actually have a greater incentive to do Earnings Management (for example, to avoid reporting losses). Thus, the results of this study are only representative of industrial sector companies that consistently recorded profits during the observation period, and these limitations are discussed further in the Limitations section of the Study.

Variable Operational Definition

Table 3. Variable Operation

Yes	Variable	Indicator	Formula	Scale
1	Company Values	- Market by share - Book value per share	$\text{Price to Book Value (PBV)} = \frac{\text{Market Per Share}}{\text{Book Value Per Share}}$	Ratio
2	Debt to Equity Ratio (DER)	- Total Debt - Total Equity	$\text{Debt to Equity Ratio (DER)} = \frac{\text{Total Debt}}{\text{Total Equity}} \times 100\%$	Ratio
3	Return on Equity (ROE)	- Net Profit - Total Equity	$\text{Return on Equity (ROE)} = \frac{\text{Net Profit}}{\text{Total Equity}} \times 100\%$	Ratio
4	Firm size	- Total Assets - TAC_{it} = Total company accruals in period t - NI_{it} = The company's net profit in period t - CFO_{it} = Cash flow from the company's operational activities in period t	$\text{Size} = \ln(\text{Total Assets})$ $\text{TAC}_{it} = \text{Net Profit ()} - \text{Cash Flow from Operations ()}$ $\text{NI}_{it} \text{ CFO}_{it}$	Ratio
5	Earnings Management	- TA_{it-1} = Total assets of the company i in the period t-1 - ΔREV_{it} = Revenue Change - ΔREC_{it} = Change in Receivables - PPE_{it} = Tangible Fixed Assets - β₁, β₂, β₃ = Regression Coefficient	$\frac{\text{TAC}_{it}}{\text{TA}_{it-1}} = \beta_1 + \beta_2 + \beta_3 \left(\frac{1}{\text{TA}_{it-1}} \right) \left(\frac{\Delta \text{REV}_{it}}{\text{TA}_{it-1}} \right) \left(\frac{\text{PPE}_{it}}{\text{TA}_{it-1}} \right)$	Ratio

-
- $T A_{it-1}$ = Total assets of the company i in the period $t-1$
 - $\Delta R E V_{it}$ = Revenue Change
 - $\Delta R E V_{it-1}$ = Change in Income i in Period $t-1$
 - $\Delta R E C_{it}$ = Change in Receivables
 - $\Delta R E C_{it-1}$ = Changes in Receivables i in Period $t-1$
 - $P P E_{it}$ = Tangible Fixed Assets
 - $P P E_{it-1}$ = Tangible Fixed Assets i in Period $t-1$
 - $\beta_1, \beta_2, \beta_3$ = Regression Coefficient
 - $D A_{it}$ = Discretionary Accrual
- $$N D A_{it} = \beta_1 + \beta_2 \left(\frac{1}{T A_{it-1}} \right) [R E V_{it} - R E V_{it-1}] - \beta_3 \left(\frac{P P E_{it}}{T A_{it-1}} \right) [R E C_{it} - R E C_{it-1}]$$
- $$D A_{it} = \left(\frac{T A C_{it}}{T A_{it-1}} \right) - N D A_{it}$$
-

Source: References, processed by author 2026

Data Analysis Techniques

The data analysis technique in this study uses panel data regression analysis testing. Regression analysis is an analysis method that aims to explain the causal relationship between variables. The determination of the panel data regression model was carried out by comparing three approaches, namely the Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM). The selection of the best model is carried out through three tests, namely: the Chow Test to choose between CEM and FEM, the Hausman Test to choose between FEM and REM, and the Lagrange Multiplier (LM) Test to choose between CEM and REM. Decisions are made based on probability values, with a significance limit of 0.05.

Classic Asumsi Test

The testing of the analysis requirements in this study was carried out through four stages, namely the normality test to find out whether the research data was normally distributed or not, using the Jarque-Bera (JB) test. Furthermore, a multicollinearity test was carried out to detect whether there is a high correlation between independent variables, with the criteria of data stating that there is no multicollinearity if the tolerance value is greater than 0.80. The heteroscedasticity test was carried out to ensure that the residual variance in the regression model was homogeneous, which in this study was tested using the Glejser method. Finally, an autocorrelation test was carried out to determine whether there was a correlation between the interference error in a certain period and the interference error in the previous period, which in this study was tested using the Durbin-Watson (DW) test.

Tes Sobel

The Sobel test to test the magnitude of the role of intervening variables in mediating the influence of independent variables on dependent variables (Amah et al., 2023).

Hypothesis Tests

Partial Regression Coefficient Test (T Test): The t-value table is obtained from the t-distribution table with an error rate of 5%. Then the Determinant Coefficient Test (Adjusted R) criteria is taken if the value of R^2 shows a small value, then the independent variable can explain the dependent variable even though it is very limited. If the value of

R2 shows a large value (close to the number 1) then the independent variable can explain the dependent variable.

RESEARCH RESULTS

Table 4. Description of Statistics

Statistics	THE ER	ROE	FS	DA	PBV
Red	0.691000	0.112833	28.18644	-0.086056	1.401167
Median	0.505000	0.100000	28.17500	-0.070000	0.830000
Maximum	5.970000	0.800000	33.79000	0.430000	9.050000
Minimum	0.010000	-0.440000	19.36000	-1.170000	0.050000
Std. Dev.	0.690188	0.135829	2.398896	0.154982	1.593355
Skewness	3.310317	0.893994	-0.884875	-3.971802	2.429546
Kurtosis	21.49065	8.990561	6.976041	28.89015	9.284401
Jarque-Bera	2893.028	293.1279	142.0569	5500.505	473.2835
Probability	0.000000	0.000000	0.000000	0.000000	0.000000
Sum	124.3800	20.31000	5073.560	-15.49000	252.2100
Sum Sq. Dev.	85.26842	3.302455	1030.092	4.299499	454.4415
Observations	180	180	180	180	180

Source: EViews 12 Output Results, data processed by the author, 2026

Based on Table 4, descriptive statistics from 180 observations show that DER ranges from 0.01–5.97 (mean 0.691 and SD 0.690), ROE ranges from –0.44–0.80 (mean 0.11 and SD 0.136), and firm size ranges from 19.36–33.79 (average 28.18 and SD 2.398). Earnings Management (DA) has an average of –0.086 with a range of –1.17 to 0.43 (SD 0.155), while company value (PBV) has an average of 1.40 with a range of 0.05–9.05 (SD 1.593). In general, the relatively high standard deviation values on DER and PBV indicate considerable variation in data between industrial sector companies during the observation period

Determination of Substructural Panel Data Regression Model Test Method 1

The following are the results of the selection of the data panel regression model test:

Table 5. Substructural Panel Data Regression Model Test Results 1

Models	Criteria	Determinants	Results	Method
Chow Tests	Odds > 0.05	EMC	0.0000<0.05	FEM
	Odds < 0.05	FEM		
Hausman Test	Odds > 0.05	REM	0.7551>0.05	REM
	Odds < 0.05	FEM		
LM Tests	Odds > 0.05	EMC	0.0000<0.05	REM
	Odds < 0.05	REM		

Source: Data processed by the author, 2026

Based on the results of the panel data regression model test in substructure 1, the best model is the Random Effects Model. This selection was based on test results that showed that REM was more suitable for use in this study than CEM and FEM.

Substructure Classical Assumption Test 1

The following are the results of the classical assumption test of substructure 1:

Table 6. Results of the Classical Assumption Test Substructure 1

Test Type	Indicators/parameters	Results	Criteria	Conclusion
Normality Test	Jarque Bera	0.604	> 0.05	H0 is accepted, and the data are distributed normally
Multicollinearity Test	DER-ROE correlation	0.024	< 0.80	Multicollinearity does not occur
	DER-FS Correlation	-0.165	< 0.80	
	ROE-FS Correlation	-0.123	< 0.80	
Heteroskedasticity Test	Prob DER	0.1702	> 0.05	No heterokedasticity occurs
	Prob ROE	0.0606	> 0.05	
	Prob FS	0.2221	> 0.05	
Autocorrelation Test	Durbin Watson	1.87559	Close 2	No Autocorrelation issues

Source: EViews 12 Output Results, data processed by the author 2026

Based on Table 6, the results of the normality test on Substructure 1 with the help of EViews 12 show that the probability value obtained is 0.604, which means that the value is greater than 0.05. Then H_0 is accepted, and the data are normally distributed. Then the variables in substructure 1 have no multicollinearity problem; it is stated that the value of each variable is less than 0.80. The results of the heteroscedasticity test showed that the probability value of the independent variable was greater than 0.05, indicating that H_0 was accepted, which means that there was no heteroscedasticity problem in this regression model. Furthermore, the results of the autocorrelation test showed a statistical Durbin-Watson value of 1.871159, which is close to 2, so it can be concluded that there are no autocorrelation problems in the substructure 1 model. Thus, all classical assumption tests on substructure 1 are met, so the panel data regression model is feasible to use for subsequent hypothesis testing.

Substructural Panel Data Regression Model Test Method 2

The following are the results of the test method of the data regression model of substructure panel 2:

Table 7. Substructural Panel Data Regression Model Test Results 2

Models	Criteria	Determinants	Results	Method
Chow Tests	Odds > 0.05	EMC	0.0000<0.05	FEM
	Odds < 0.05	FEM		
Hausman Test	Odds > 0.05	REM	0.0000<0.05	FEM
	Odds < 0.05	FEM		

Source: EViews 12 Output Results, data processed by the author 2026

Based on the results of the panel data regression test on Substructure 2, which involved the Common Effect Model, Fixed Effect Model, and Random Effect Model, the Fixed Effect Model was selected as the most suitable model. This decision was made based on test results that showed that FEM was better suited for this study.

Classical Assumption Test Substructure 2

The following are the results of the classical assumption test of substructure 2:

Table 8. Results of the Classical Assumption Test Substructure 2

Test Type	Indicators/parameters	Results	Criteria	Conclusion
Normality Test	Jarque Bera	0.647	> 0.05	H0 is accepted, and the data are distributed normally

Multicollinearity Test	DER-ROE correlation	0.024	< 0.80	Multicollinearity does not occur
	DER-FS Correlation	-0.165	< 0.80	
	ROE-FS Correlation	-0.123	< 0.80	
	DER-DA Correlation	0.218	< 0.80	
	ROE-DA Correlation	-0.180	< 0.80	
	FS-DA Correlation	-0.025	< 0.80	
Heteroskedasticity Test	Prob DER	0.1039	> 0.05	No heteroskedasticity occurs
	Prob ROE	0.3608	> 0.05	
	Prob FS	0.0974	> 0.05	
	Prob DA	0.2204	> 0.05	
Autocorrelation Test	Durbin Watson	1.793092	Close 2	No Autocorrelation issues

Source: EViews 12 Output Results, data processed by the author, 2026

Based on Table 9 of the results of the normality test on substructure 2 using EViews 12, a probability value of 0.647 (> 0.05) was obtained. Therefore, H_0 is accepted, so the data can be declared to be normally distributed. Then, the results of the multicollinearity test of the variables in substructure 2 indicate that there is no multicollinearity problem, as the value of each variable is less than 0.80. The results of the heteroscedasticity test on the probability value of the independent variable are greater than 0.05, indicating that H_0 is accepted, which means that there is no heteroscedasticity problem in this regression model. Autocorrelation testing showed a statistical Durbin-Watson value of 1.793092, which is close to 2, so it can be concluded that there are no autocorrelation problems in the substructure model 2. Thus, all classical assumption tests on substructure 2 are met, so the panel data regression model is feasible for subsequent hypothesis testing.

Hypothesis Test

The following are the results of the hypothesis test of substructure 1 and substructure 2:

Table 9. Hypothesis Test Results

Hypothesis	Coefficients	T-Statistics	Prob.	Conclusion
H1: DER to Earnings Management	0.267308	2.197533 > 1.973	0.0293 < 0.05	Ha is accepted, which means that the Debt to Equity Ratio (DER) has a positive and significant effect on Earnings Management.
H2: ROE against Earnings Management	-0.255626	-2.805402 > 1.973	0.005 < 0.05	Ha is accepted, which means that Return on Equity (ROE) has a negative and significant effect on Earnings Management.
H3: The company's size of Earnings Management	-0.096973	-0.055392 < 1.973	0.955 > 0.05	H_0 is accepted, meaning that the size of the company does not have a significant effect on Earnings Management.
H4: DER against PBV	0.261759	3.305211 > 1.973	0.0012 < 0.05	Ha is accepted, which means that the Debt to Equity Ratio (DER) has a positive and significant effect on the Price to Book Value (PBV).
H5: ROE against PBV	0.025201	0.476969 > 1.973	0.6341 > 0.05	H_0 is accepted, which means that Return on Equity (ROE) has no significant influence on Price to Book Value (PBV).
H6: Firm size against PBV	-16.84958	-3.243577 > 1.973	0.0015 < 0.05	Ha is accepted, which means that the size of the company has a negative and significant effect on the Price to Book Value (PBV).

H7: Earnings Management against PBV	-0.009551	-0.236583 > 1.973	0.8133 > 0.05	H0 is accepted, which means that Earnings Management does not have a significant influence on Price to Book Value (PBV).
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Source: EViews 12 Output Results, data processed by the author, 2026

Determinant Coefficient R (Adjusted R) Test

The following are the results of the determinant coefficient test (Adjusted R):

Table 10 Test Results of Determinant R Substructure 1 and 2

Sub.	Models	Adjusted R2	Percentage	Interpretation
1	DER, ROE, Firm size to Earnings Management	0.052120	5.21%	The clear power of the model is limited to 94.79% of Earnings Management variations explained by other variables outside the model
2	DER, ROE, Firm size, Profit to Company Value Management	0.733254	73.3%	The high model's clear power: 26.7% of the company's value variation is explained by other variables outside of fashion

Source: EViews 12 Output Results, data processed by the author 2026

Based on Table 10, the Adjusted R² value in substructure 1 of 0.052120 shows that the ability of the Debt to Equity Ratio (DER), Return on Equity (ROE), and firm size variables in explaining the Earnings Management variable is 5.21%. This value is relatively small, so it can be said that the model has limited clarity, while the remaining 94.79% is explained by other variables that are not studied, such as sales growth, managerial ownership, institutional ownership, audit quality, and other factors that are not included in this study.

Then the Adjusted R² value in substructure 2 of 0.733254 shows that the ability of the variables Debt to Equity Ratio (DER), Return on Equity (ROE), firm size, and Earnings Management in explaining the variable value of the company is 73.3%. This value is relatively high, so it can be said that the model has a strong, clear power, while the remaining 26.7% is explained by other variables outside the study model

Tes Sobel

Here are the results of the Sobel test:

Table 11. Sobel Test Results

Hypothesis	Statistic	P-Value	Conclusion
H8: DER → PBV via DA	-0.2352 < 1.96	0.814	The variable of Earnings Management is said to be unable to mediate the influence of the Debt to Equity Ratio (DER) on the value of the company through Earnings Management.
H9: ROE → PBV through DA	-0.2357 < 1.96	0.813	The Earnings Management variable is said to be unable to mediate Return on Equity (ROE) on the company's value.
H10: FS → PBV via DA	0.053 < 1.96	0.956	The variable of Earnings Management is said to be incapable of mediating the size of the company to the value of the company.

Source: EViews 12 Output Results, data processed by the author 2026

DISCUSSION

H1: The Impact of the Debt to Equity Ratio (DER) on Earnings Management

Ha is accepted, which means that the Debt to Equity Ratio (DER) (X1) has a positive and significant effect on Earnings Management (Z). Therefore, it can be concluded that when a company's debt is high, managers will face pressure in maintaining the company's financial performance, potentially implementing Earnings Management practices in an effort to maintain investor confidence and reduce risk in the creation of debt contracts. The results of the research by (Saputra et al., 2024) and (Selfiyan, 2021), which states that the Debt to Equity Ratio has a positive effect on Earnings Management.

H2: The Impact of Return on Equity (ROE) on Earnings Management

Ha is accepted, which means Return on Equity (ROE) has a negative and significant effect on Earnings Management. These findings support income smoothing in the framework of agency theory: when ROE is high, managers tend to hold back a portion of profits (through discretionary accruals that lower profits) as a reserve to maintain performance stability in future periods, instead of reporting maximum profits that are difficult to maintain consistency. In the industrial sector in 2019–2024, where profitability tends to fluctuate due to global economic uncertainty, incentives to flatten profits are more relevant than aggressive increases in profits. In accordance with the results of the research from (Davin, 2024) and (Nainggolan & Karunia, 2022) which states that Return on Equity has a negative effect on Earnings Management.

H3: The Effect of Firm Size on Earnings Management

H0 is accepted, which means the size of the company has no significant influence on Earnings Management. The insignificance of this relationship may reflect two forces that neutralize each other. On the one hand, agency theory predicts that large companies receive stricter external supervision (analysts, auditors, regulators), so that the space for managerial discretion is narrowed. On the other hand, large companies also have more sophisticated accounting resources and expertise to perform Earnings Management in a more difficult way to detect. These two forces can statistically negate each other's effects. This is in line with research conducted by (Saputra et al., 2024) and (Permatasari & Ayik, 2017) states that the size of the Company has no effect on Earnings Management.

H4: The Impact of the Debt to Equity Ratio (DER) on Company Value

Ha is accepted, which means that the Debt to Equity Ratio (DER) has a positive and significant effect on Price to Book Value (PBV). Based on signalling theory, a company's decision to use debt can be a signal of managers' confidence in the stability of cash flow in the future, because only companies that are confident that they are able to meet payment obligations dare to increase the portion of debt. This signal is captured positively by the market, thus increasing the valuation of the company. Aligned with research (Supandi & Goenawan, 2023) and (Sugiarto et al., 2024) which states that the Debt to Equity Ratio has a positive and significant effect on the value of the company.

H5: The Impact of Return on Equity (ROE) on Company Value

H0 is accepted, which means Return on Equity (ROE) has no significant influence on Price to Book Value (PBV). Profitability does not determine the increase in the value of the company, so it can indicate that investors, in determining funds for investments, not only look at the value of profitability but also consider other factors. In addition, the high and low indications of the company in making profits from its own capital do not make it a consideration for investors in valuing the company. In industrial sector companies, the period from 2019 to 2024 with unstable economic conditions can cause Return on Equity not to be the main indicator in investment decision-making. So this condition makes the company's resilience more important to investors than the level of return on equity. This is in line with research conducted by (Wulandari et al., 2021), (A, 2023), and (Savira & Ferdian, 2024) which states that there is no effect of return on Equity on the value of the company.

H6: The Impact of Firm Size on Company Value

Ha is accepted, which means that the size of the company has a negative and significant influence on the Price to Book Value (PBV). Based on agency theory, large-scale companies tend to have more complex organizational structures and wider ownership-control separations, which have the potential to increase agency costs and reduce capital allocation efficiency. In addition, in the capital-intensive industrial sector, large size is often followed by a large but less liquid fixed asset base, so that the book value grows faster than market growth expectations, which suppresses the PBV ratio. According to previous research (Nuradawiyah & Susilawati, 2020) and (Dianissa & Asmara, 2025) The size of the company has a negative and significant influence on the value of the company.

H7: The Influence of Earnings Management on Company Value

H0 is accepted, which means Earnings Management has no significant influence on Price to Book Value (PBV). This insignificance can be explained by two opposing forces in signalling theory: on the one hand, Earnings Management that is informative (revealing the manager's private information genuinely) has the potential to be responded positively by the market. Then opportunistic Earnings Management can reduce the credibility of profits and be responded to negatively. When these two types of practices are mixed in a research sample, the effects can neutralize each other so that the overall results are insignificant. This is in line with research conducted by (Selfiyan, 2021) and (Wulanda & Aziza, 2019) that Earnings Management has no effect and is not significant to the company's value.

H8: Debt-to-Equity (DER) to Company Value Ratio through Earnings Management

The statistical value is -0.2352, and the P-Value is 0.814, so the value of -0.2352 is smaller than 1.96, so the Earnings Management variable is said to be unable to mediate the influence of the Debt-to-Equity Ratio (DER) on the value of the company. Debt to Equity Ratio does not affect the company's value through Earnings Management practices, meaning that changes in the value of the company's debt do not encourage the company's management to carry out Earnings Management practices that have an impact on increasing or even decreasing the company's value. The high value of the company's debt will not change the company's management's decision to carry out Earnings Management practices. Therefore, changes in firm value cannot be solely explained by the magnitude of firm size. The relationship between the Debt to Equity Ratio and firm value is more

direct rather than being mediated by earnings management as an intervening variable. Other research (Selfiyen, 2021) and (Wahyuningtyas & Fitria, 2023) shows that earnings management cannot convey the impact of leverage on the value of the company.

H9: Return on equity (ROE) on company value through Earnings Management

The statistical value is -0.2357 , and the P-Value is 0.813 ; then the value is -0.2357 smaller than 1.96 , so the Earnings Management variable is said to be unable to mediate the Return on Equity (ROE) on the company's value. Return on Equity (ROE) is used to measure a company's ability to generate profits from shareholders' equity. A higher ROE indicates that the company is more effective in generating returns for its investors. The findings of this study show that ROE does not encourage companies to engage in earnings management practices that affect firm value. This suggests that investors tend to assess firm value based on the company's level of profitability. Conform to (Burn, 2024) and (Wahyuningtyas & Fitria, 2023) that Earnings Management is not an intervening variable and does not become an intermediary variable between profitability and company value.

H10: Firm size to Company Value through Earnings Management

The statistical value is 0.0539 , and the P-Value is 0.956 ; then the value of 0.0539 is smaller than 1.96 , so the Earnings Management variable is said to be unable to mediate the size of the company with the value of the company. The results of this study indicate that firm size does not encourage earnings management, and consequently does not affect changes in firm value through such practices. Firm size generally reflects the total assets owned by a company in conducting its operational activities. Larger firms typically possess more resources and exhibit greater stability, with broader access to funding sources. Therefore, investors tend to assess firm value based on the scale or size of the company, without considering earnings management as an intervening variable in the relationship between firm size and firm value. Research (Mazida & Purwantini, 2019) states that Earnings Management weakens the influence of firm size on the value of the company.

CONCLUSION

The results of the study show that Debt to Equity Ratio (DER) has a significant positive effect and Return on Equity (ROE) has a significant negative effect on Earnings Management, while firm size does not have a significant effect on Earnings Management. On the company's value, DER has a significant positive effect, the size of the company has a significant negative effect, while ROE and Earnings Management do not have a significant effect, and Earnings Management has also not been proven to mediate these three variables on the company's value, so the effect is direct. This research contributes by integrating agency theory and signalling theory in the industrial sector and shows the direction of relationships that differ from other sectors, emphasizing the importance of sectoral contexts. Managers are advised to manage debt structures in a targeted manner and avoid excessive profit alignment, while investors are advised to prioritize DER and firm size over ROE.

The limitations of the study include the potential selection bias due to the company's loss of spending from the sample and the limitations of the Sobel Test for panel data, so future research is suggested to use a bootstrapping approach or mediation

of panel data, including loss-making companies, and expanding the variables and scope of the sector.

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