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The Impact of Ownership Concentration on the Cost of Equity Capital with Earnings Management as a Mediating Variable

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Abstract

This study investigates the impact of ownership structure and earnings management on equity costs and explores whether earnings management mediates the relationship between ownership concentration and equity costs in technology companies listed on the Indonesia Stock Exchange (IDX) from 2019 to 2023. Ownership structure is assessed based on the largest shareholders, while earnings management is measured through discretionary accruals using the Modified Jones Model. The sample comprises 13 companies with 65 observations, selected through purposive sampling and analyzed using multiple linear regression with EViews 8. The findings indicate that while ownership concentration can lower equity costs, it does not influence earnings management, and earnings management does not affect equity costs. Additionally, earnings management does not mediate the link between ownership concentration and equity costs, as major shareholders prioritize transparency in financial statements. Future research should consider different variables and include other sectors, such as mining and banking, to provide a more comprehensive and relevant understanding of equity costs across various industries and offer improved recommendations for companies and investors.

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INTRODUCTION

In the realm of corporate financial management, effectively managing the cost of capital is essential as it influences both investment and funding decisions derived from various equity sources, such as stocks and bonds, as well as from creditor investments (Nuraini & Murtanto, 2022). The cost of capital is categorized into two main types: the cost of equity capital and the cost of debt capital, each impacting the company's capital structure and risk profile. According to Salehi et al. (2020), the cost of equity is particularly significant in corporate funding and investment decisions because it helps ensure that financial resources are adequately allocated, determines the cost of funding, and assesses the effect of these resources on the company's risk and profitability.

The capital market provides an opportunity for companies to obtain external funding, which allows companies that need additional funds to accelerate their growth and increase their profitability. The capital market also serves as a platform for buyers and sellers to meet and negotiate. Sufficient information, especially about the condition and prospects of the company, is very important to make the right bidding decision (Fasihat et al., 2023). In investing, investors consider the amount of return to be received, which is always associated with risk (Hasibuan et al., 2023). When the risk of investing in certain securities is high, investors usually expect greater returns as compensation. This relationship between risk and return is an important factor in investment decisions in the capital market (Fasihat et al., 2023). Lestari et al. (2023) the rate of return that investors demand based on investment risk is called the cost of equity. Fasihat et al. (2023) and Indarti & Widiatmoko (2021) argue that a low cost of equity indicates that investors consider the company's risk to be low, so they expect a smaller return on investment. This suggests that investors believe in the company's stability and consistent profit potential, so they do not require high returns to compensate for risk. However, a high cost of equity can hinder the development of the company, because the higher the cost, the less profit that can be retained to increase the company's equity (Zabrina & Widiatmoko, 2022).

The capital market in Indonesia presents a dynamic and intriguing area for research. Its expansion attracts investors and offers opportunities for portfolio diversification to mitigate risk. This study examines the impact of ownership structure on the cost of equity capital and explores whether earnings management mediates the relationship between ownership concentration and equity costs, providing empirical insights from Indonesia's capital market, particularly within the technology sector on the Indonesia Stock Exchange.

The cost of equity is important in corporate finance management, especially in the fast-changing technology sector. The technology sector has specific characteristics such as high volatility, rapid growth, and uncertainty related to innovation. Technology companies must quickly adapt to market and technological changes, which can cause fluctuations in share value and price. In addition, technology companies also compete in global markets with regulatory risks, high transaction costs, and economic uncertainty affecting investment decisions.

ATIC is a company in the technology sector known to experience conditions of increasing shares. This is due to the capital increase carried out by the company through the issuance of new shares of around 440 million shares with a nominal value of Rp 100 per share with a target of obtaining around 396 billion rupiah (CNBC Indonesia, 2019). In addition, ATIC is also targeting to raise funds of Rp 133.86 billion through a private placement, with a target issuance of as many as 148.75 million shares or equivalent to 6.87% of the issued and fully paid capital on the website https://investasi.kontan.co.id (2019). In addition to increasing capital, raising investment funds can also increase the cost of equity, as was done by the Director of KREN who had raised investment funds for share sale and purchase activities, share pledges, and share sale and purchase rights agreements, which ultimately resulted in investors not getting returns from the invested funds (Mis Fransiska Dewi, 2023).

High cost of equity usually arises due to information asymmetry between the agent and the principal. When a conflict of interest occurs, management may manipulate or not present accurate financial statements, which may lead to information asymmetry between shareholders and management. As a result, shareholders will demand higher returns to overcome this additional risk, which in turn increases the cost of equity (Faysal et al., 2020). Conflicts of interest often arise in companies with a separation between ownership and control, creating an agency relationship between the principal and the agent. According to Faysal et al. (2020), there are two types of conflicts of interest that can occur in corporate governance: conflicts between managers and external shareholders, and between majority and minority shareholders. Jensen & Meckling (1976) state that ownership concentration can align the interests of shareholders and managers thereby reducing agency conflicts.

Research on the relationship between ownership concentration, earnings management, and cost of equity has attracted considerable scholarly attention, yet several significant gaps remain to be addressed.

The first debate emerges from contradictory findings regarding the influence of ownership concentration on earnings management. La Rosa et al. (2020) and Dong et al. (2020) discovered that high ownership concentration actually encourages earnings management practices due to pressure from majority shareholders to achieve specific profit targets, even though manipulative practices. However, this view is challenged by Ahmad et al. (2023), who argue that concentrated ownership structures should reduce earnings management by preventing resource waste and promoting projects that enhance the quality of earnings management practices. This debate becomes more complex with Felicya & Sutrisno's (2020) findings showing no relationship between ownership concentration and earnings management.

The second gap is evident in the inconsistent findings regarding the impact of ownership concentration on the cost of equity. On one side, Dakhlaoui & Gana (2020) and La Rosa et al. (2020) found that concentrated ownership can lower equity costs through more effective monitoring by majority shareholders. However, Hashmi et al. (2023) revealed that this effect heavily depends on the level of ownership concentration - 5% and 10% concentrations show no significant impact, while 20% concentration actually increases equity costs. These findings are further contested by Tintia & Muslih (2020) and Arimbi & Indarti (2021), who found no effect at all, arguing that manager-shareholders are not serious about minimizing company financial risk.

The third gap emerges in the debate over the role of earnings management in determining equity costs. A group of researchers (La Rosa et al., 2020; Kiswanto & Fitriani, 2019; Saleh et al., 2022) consistently found a positive relationship between earnings management and cost of equity - higher levels of earnings management correspond to higher equity costs for companies. However, these findings are disputed by Sutarman et al. (2022), who found no effect, arguing that investors have already factored in the possibility of earnings management practices and continue to trust the accuracy of presented financial statements.

These gaps become increasingly crucial to investigate within the context of Indonesia's technology sector, which exhibits unique characteristics such as high volatility, rapid growth, and innovation-related uncertainty. La Rosa et al. (2020) found that earnings management roles and ownership attributes together can influence changes in equity costs, with effects varying depending on ownership type. Pressure from majority shareholders to manipulate financial statements can create uncertainty for investors, ultimately driving up equity costs as investors demand higher returns to compensate for the additional risks they face. Therefore, this research aims to fill these gaps by comprehensively analyzing the relationship between these three variables in the context of Indonesia's technology sector, with the expectation of making significant contributions to both financial management theory and practice.

This study makes several significant contributions that advance both theoretical understanding and practical applications in the field of corporate finance and governance. From a contextual perspective, it provides valuable empirical evidence from Indonesia's technology sector, an environment characterized by unique attributes such as high volatility, rapid growth, and innovation-related uncertainty. This sector-specific focus offers unprecedented insights into how ownership concentration, earnings management, and cost of equity relationships operate within a dynamic industry context, filling a crucial gap in existing literature that often overlooks sector-specific nuances.

The research also contributes methodologically through its comprehensive analytical framework. By examining both direct relationships and mediating effects, it provides a more nuanced and complete understanding of how ownership concentration influences cost of equity through the mechanism of earnings management. This integrated approach moves beyond simple bilateral relationships to capture the complex interplay between these critical financial variables, offering a more sophisticated model for future research in this domain.

From a practical standpoint, the study's findings offer substantial value across multiple areas of business and finance. For policymakers in emerging markets, it provides evidence-based insights for developing more effective regulatory frameworks. Corporate governance practitioners can benefit from improved understanding of how ownership structures influence financial outcomes, while investors gain valuable insights for decision-making, particularly within the technology sector. Additionally, risk management professionals can better understand and address challenges related to ownership structure and earnings management based on the study's findings.

Perhaps most significantly, the research advances theoretical understanding by contributing to agency theory. By demonstrating that traditional agency theory predictions may not always hold in specific contexts, particularly within emerging markets and technology sectors, it suggests the need for more nuanced theoretical frameworks. This theoretical contribution opens new avenues for research and challenges scholars to develop more context-sensitive models of corporate governance and financial behavior. Together, these contributions not only enhance our understanding of corporate finance dynamics

but also provide practical tools for improving business practices and decision-making in rapidly evolving market environments.

Hypotheses Development

According to agency theory, ownership concentration can be an effective alternative in encouraging active supervision of company management. High ownership concentration can strengthen the control held by major shareholders or certain groups (La Rosa et al., 2020). High ownership concentration enhances the quality of financial statements by decreasing earnings management practices. This occurs because concentrated ownership boosts the control exerted by major shareholders, leading to more rigorous oversight of management and limiting opportunities for managers to manipulate earnings. Previous research, including that by (Ahmad et al., 2023), has shown that a well-structured ownership concentration can help companies avoid resource waste on unprofitable activities and motivate them to engage in projects that improve their earnings management practices. However, Hashmi et al. (2023) state that concentrated ownership of 5% and 10% does not increase the cost of equity, but concentration of 20% can increase it. In other words, very high ownership concentration can lead to an increase in the cost of equity.
H_1 : Ownership concentration can affect earnings management.

Ownership concentration refers to the distribution of ownership of company shares among shareholders by certain groups and is relatively dominant compared to others (Zulkarnain et al., 2023). When share ownership is highly concentrated in the hands of individuals or small groups, it can have a significant impact on corporate decision-making and power dynamics within the company. La Rosa et al. (2020) found that majority shareholders in companies that have a concentrated ownership structure will supervise so that management can manage the company in accordance with shareholder goals. Previous studies such as Chu et al. (2019); Wijaya et al. (2023), Hashmi et al. (2023); Dakhlaoui & Gana (2020) concluded that ownership concentration is considered to reduce the cost of equity. However, Dong et al. (2020) found that high ownership concentration can increase earnings management, as management may feel pressured to achieve the profit targets set by major shareholders, even if they have to use manipulative practices.
H_2 : Ownership concentration has an effect on the cost of equity

The concept of accrual earnings management focuses on adjusting accounting entries and estimates in accordance with Generally Accepted Accounting Principles (GAAP). With this approach, managers can use discretion in the recognition of revenues and expenses, the timing of recognition of assets and liabilities, and the estimation of the allowance for future expenses. This allows them to influence the financial statements without changing the actual financial condition of the company. Kiswanto & Fitriani (2019) concluded that managers tend to use earnings management to pursue a lower cost of equity, even though this can lead to unethical practices and ultimately increase the company's cost of equity.
H_3 : Earnings management has an effect on the cost of equity

High ownership concentration levels can create uncertainty for investors, especially if there are concerns about the influence and motivations of major shareholders. Agency theory suggests that companies with dispersed ownership structures often experience significant conflicts of interest between shareholders and managers. In contrast, companies with high ownership concentration can enhance the control exercised by major shareholders or specific groups over decision-making (La Rosa et al., 2020). According to (La Rosa et al., 2020), both earnings management and ownership characteristics can simultaneously influence changes in the cost of equity, with the effect varying by ownership type. They argue that significant shareholders may pressure managers to manipulate financial statements to achieve personal targets or interests. This conflict intensifies earnings management practices and increases uncertainty for investors, leading to higher equity costs as investors seek greater returns to offset the added risks associated with these conflicts and management practices.
H_4 : Earnings management is assumed to mediate the relationship between ownership concentration and cost of equity.

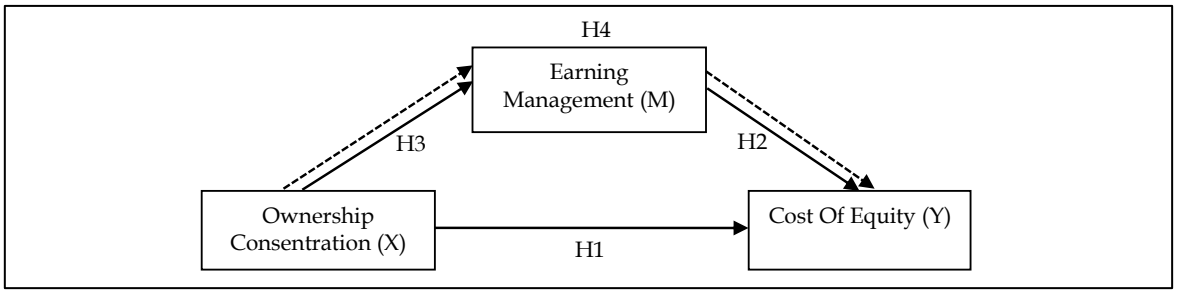

Figure 1. Theoretical Framework

METHOD

This study employs a quantitative approach, focusing on analyzing numerical data through statistical methods to assess the impact of ownership structure on the cost of equity, and to evaluate how earnings management mediates the relationship between ownership concentration and the cost of equity in technology sector companies listed on the IDX from 2019 to 2023. The research utilizes secondary data sourced from the companies' annual reports. The study population includes all technology sector companies listed on the IDX during the specified period. Using purposive sampling, 65 companies were selected as the research sample.

The dependent variable in this study is the cost of equity capital, which represents the expected rate of return anticipated by investors when investing in a company. This cost is assessed using the Ohlson measurement model, where the cost of equity capital is determined by the discount rate used by investors to evaluate future cash flows (Ohlson, 1995). Historically, research has shown that a negative cost of equity capital generally correlates with a stable rate of return for investors.

$$r = (Bt + Xt + 1 - Pt)/ Pt)$$

The independent variable in this study is ownership concentration, which refers to the distribution of ownership of company shares among shareholders by certain groups and is relatively dominant compared to others (Zulkarnain et al., 2023). Ownership concentration measured as the percentage of common stock held by the largest type of major shareholder.

Mediating variables are variables that clarify the relationship between the independent and dependent variables. Mediating variables can affect the direction and intensity of the relationship (Baron & Kenny, 1986; MacKinnon et al., 2007). In this study, earnings management serves as a mediating variable. Earnings management involves adjusting earnings before the preparation of financial statements to benefit management (Felicya & Sutrisno, 2020). It is represented by discretionary accruals and assessed using The Modified Jones Model (Dechow et al., 1995).

$$DAit = TACit/Ait - 1 - NDAit - 1$$

Variables for Measuring Cost of Equity Capital Using the Ohlson Model. The Ohlson Model (Residual Income Model) is used to calculate the cost of equity capital (COE) by integrating accounting and market value information. Below are the variables and formulas:

Core Formula: $P_t = BVPS_t + \frac{EPS_{t+1} - r \cdot BVPS_t}{1 + r}$

Where:

P_t: Stock price of the company in year t.

$BVPS_t$: *Book Value per Share* (book value per share) in year t.

EPS_{t+1}: *Earnings per Share* (earnings per share) in year $t + 1$.

r: Estimated *Cost of Equity Capital (COE)*.

The COE (r) is calculated iteratively by solving the equation above. The value of r that satisfies the equation represents the estimated cost of equity capital. Supporting Variables:

1. Book Value of Equity: Total equity of the company.
2. Net Income: Post-tax net income.
3. Number of Outstanding Shares: Shares outstanding.
4. Stock Price: Year-end stock price.

Variables for Measuring Earnings Management Using the Modified Jones Model. The Modified Jones Model is employed to measure discretionary accruals as a proxy for earnings management. Calculation Steps:

Total Accruals (TA):

$$TA_t = \Delta WorkingCapital_t - Depreciation_t$$

Regression to Derive Non-Discretionary Accruals:

$$\frac{TA_t}{A_{t-1}} = \alpha_1 \left(\frac{1}{A_{t-1}}\right) + \alpha_2 \left(\frac{\Delta Rev_t - \Delta AR_t}{A_{t-1}}\right) + \alpha_3 \left(\frac{PPE_t}{A_{t-1}}\right) + \epsilon_t$$

Where:

ΔRev_t: Change in revenue in year t.

ΔAR_t: Change in accounts receivable in year t.

PPE_t: *Property, Plant, and Equipment* in year t.

A_{t-1}: Total assets in year $t-1$.

This study uses panel data analysis with a mediation analysis approach. The model consists of three equations:

Direct Effect of Ownership Concentration (X) on COE (Y):

$$Y_{it} = \beta_0 + \beta_1 X_{it} + \beta_2 Control_{it} + \epsilon_{it}$$

Effect of Ownership Concentration (X) on Earnings Management (M):

$$M_{it} = \gamma_0 + \gamma_1 X_{it} + \gamma_2 Control_{it} + \nu_{it}$$

Mediating Effect of Earnings Management (M) on the X-Y Relationship:

$$Y_{it} = \delta_0 + \delta_1 X_{it} + \delta_2 M_{it} + \delta_3 Control_{it} + \omega_{it}$$

Where:

Y_{it}: *Cost of Equity Capital* (estimated via the Ohlson Model).

X_{it}: Ownership concentration (measured using the *Herfindahl Index* or the percentage of largest share ownership).

M_{it}: *Discretionary Accruals* (estimated via the Modified Jones Model).

$Control_{it}$: Firm size (*ln(Total Assets)*), leverage (*Debt-to-Equity Ratio*), profitability (*ROA*), and industry dummies.

Hypothesis Testing Methodology

Mediation Test Using the Baron & Kenny Approach:

Step 1: Prove that X significantly affects Y (coefficient β1 is significant).

Step 2: Prove that X significantly affects M (coefficient γ1 is significant).

Step 3: Prove that M significantly affects Y after controlling for X (coefficient δ2 is significant).

Step 4: If the effect of X on Y (δ1) decreases significantly compared to β1, partial/full mediation is confirmed.

Panel Data Analysis using Hausman test. Hausman test is using to select between the *Fixed Effect Model (FEM)* and *Random Effect Model (REM)*.

RESULT AND DISCUSSION

Selection Test of Regression Model

Table 1. Results of chow test Model 1

Effect Test	Statistic	Prob.
Cross-section F	14.520	0.000
Cross-section Chi-square	96.550	0.000

Source: Data Processed (2024)

The Chow test results presented in the table provide crucial insights into the model selection process for panel data analysis. The test statistics show highly significant results, with a Cross-section F value of 14.520 and a Cross-section Chi-square value of 96.550, both yielding probability values of 0.000, which are well below the conventional significance level of 0.05. These compelling results strongly suggest the presence of significant individual (cross-sectional) effects in the data structure, indicating that the Fixed Effects Model (FEM) would be more appropriate than the Pooled Ordinary Least Squares (OLS) model for this analysis.

The magnitude of the F-statistic (14.520) demonstrates a substantial variation across cross-sectional units, suggesting that individual characteristics of the firms in the sample are indeed important and should not be ignored in the modeling process. This is further corroborated by the large Chi-square statistic of 96.550, which reinforces the rejection of the null hypothesis that assumes homogeneity across units. The identical probability values of 0.000 for both test statistics provide robust evidence against the pooled model specification, leaving no ambiguity about the necessity of controlling for individual effects in the analysis.

These findings have important implications for the subsequent analysis, as they strongly support the use of the Fixed Effects Model, which will account for the unobserved heterogeneity across firms by allowing each cross-sectional unit to have its own intercept term. This methodological choice enhances the reliability and accuracy of the estimated relationships between the variables under study, particularly in the context of analyzing ownership concentration, earnings management, and cost of equity in the technology sector.

Table 2. Hausman Test Results Model 1

Test Summary	Chi-Sq. Statistic	Prob.
Cross-section random	0.023	0.879

Source: Data Processed (2024)

The Hausman test results displayed in the table offer important insights into the choice between Random Effects Model (REM) and Fixed Effects Model (FEM) in panel data analysis. The test yields a Chi-square statistic of 0.023 with a corresponding probability value of 0.879, which is substantially higher than the conventional significance level of 0.05. This result carries significant implications for model selection and the interpretation of our panel data analysis.

The large p-value (0.879) strongly fails to reject the null hypothesis that the Random Effects Model is appropriate. This suggests that the random effects estimator is both consistent and efficient for this particular dataset. The very small Chi-square statistic (0.023) further supports this conclusion, indicating minimal systematic differences between the fixed and random effects estimates. This provides strong statistical evidence that the Random Effects Model is more suitable than the Fixed Effects Model for this analysis.

This finding has important methodological implications. It suggests that the unobserved individual effects in our data are likely uncorrelated with the explanatory variables, a key assumption of the Random Effects Model. The Random Effects Model will therefore provide more efficient estimates while allowing us to include time-invariant variables in our analysis, which would be impossible with fixed effects. Additionally, this model choice enables us to make inferences about the broader population from which our sample was drawn, rather than limiting our conclusions to just the specific units in our sample.

Table 3. Results of chow test Model 2

Effect Test	Statistic	Prob.
Cross-section F	3.511	0.0008
Cross-section Chi-square	39.728	0.0001

Source: Data Processed (2024)

The Chow test results from Model 2 provide compelling evidence for the model selection process in our panel data analysis. The table presents two key test statistics: a Cross-section F value of 3.511 and a Cross-section Chi-square value of 39.728, with corresponding probability values of 0.0008 and 0.0001, respectively. These results carry significant implications for our analytical approach.

Both test statistics strongly reject the null hypothesis of no fixed effects at conventional significance levels ($p < 0.05$). The Cross-section F statistic of 3.511 ($p = 0.0008$) indicates substantial heterogeneity across individual units in our sample, suggesting that each cross-sectional unit (company) has unique characteristics that need to be accounted for in our model. This is further reinforced by the Cross-section Chi-square value of 39.728 ($p = 0.0001$), which provides additional evidence against the pooled OLS specification.

The strength of these results is particularly noteworthy. The very small probability values (0.0008 and 0.0001) leave little room for doubt about the presence of individual effects in our data structure. This statistical evidence strongly supports the adoption of the Fixed Effects Model (FEM) over a simple pooled regression approach, as it suggests that company-specific characteristics significantly influence the relationships we are studying.

These findings have important methodological implications for our analysis. By indicating the necessity of controlling for individual firm effects, they guide us toward a more sophisticated modeling approach that can capture the complexity of the relationships between ownership concentration, earnings management, and cost of equity in our sample of technology companies. The Fixed Effects Model will allow us to control for time-invariant company characteristics that might otherwise bias our results, leading to more reliable and accurate estimates of the relationships we are investigating.

Table 4. Hausman Test Results Model 2

Test Summary	Chi-Sq. Statistic	Prob.
Cross-section random	8.234	0.0163

Source: Data Processed (2024)

The Hausman test results for Model 2 reveal important insights about the appropriate model specification for our panel data analysis. The test produces a Chi-square statistic of 8.234 with a probability value of 0.0163, which is less than the conventional significance level of 0.05. This result provides strong statistical evidence for our model selection decision.

The significant Chi-square statistic ($p = 0.0163$) indicates that there are systematic differences between the fixed and random effects estimates. This finding is crucial because it suggests that the key assumption underlying the Random Effects Model - that individual effects are uncorrelated with the explanatory variables - does not hold in our case. When this assumption is violated, the random effects estimator becomes inconsistent, while the fixed effects estimator remains consistent.

This statistical evidence leads us to reject the null hypothesis that the Random Effects Model is appropriate, and instead directs us to adopt the Fixed Effects Model (FEM) for Model 2 of our analysis. This methodological choice has important implications: it means we should control for unobserved heterogeneity across firms by allowing each company to have its own intercept term. While this approach is more conservative and reduces our degrees of freedom, it provides more reliable and unbiased estimates of the relationships we are studying.

When combined with the previous Chow test results, these Hausman test findings complete our model selection process, providing a robust statistical foundation for using the Fixed Effects Model in our analysis of how ownership concentration and earnings management influence the cost of equity in technology sector companies. This careful attention to model specification enhances the credibility and reliability of our subsequent findings and conclusions.

Table 5. Multicollinearity Regression Test

	EM	OC
EM	1.00000	-0.079455
OC	-0.079455	1.00000

Source: Data Processed (2024)

The correlation matrix presented provides valuable insights into the relationship between Earnings Management (EM) and Ownership Concentration (OC) in our analysis. This table shows correlation coefficients that help us assess the potential for multicollinearity between our key variables.

The diagonal elements of the matrix show perfect correlation (1.00000) of each variable with itself, which is expected and serves as a reference point. Of particular interest is the off-diagonal correlation coefficient between EM and OC, which is -0.079455. This value reveals several important aspects of the relationship between these variables.

The negative correlation coefficient (-0.079455) indicates a very weak inverse relationship between Earnings Management and Ownership Concentration. To put this in perspective, correlation coefficients can range from -1 to +1, where -1 indicates a perfect negative correlation, +1 indicates a perfect positive correlation, and 0 indicates no correlation. The magnitude of our coefficient, being close to zero, suggests that these variables move almost independently of each other.

Most importantly for our analysis, this small correlation coefficient indicates that multicollinearity is not a concern in our model. Generally, correlation coefficients with absolute values greater than 0.85 are considered problematic for regression analysis as they can lead to unstable and unreliable estimates. Our correlation of -0.079455 falls well below this threshold, suggesting that each variable contributes unique information to our model and that our regression estimates will be stable and reliable.

Table 6. Heteroscedasticity Regression Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.1577	0.4132	-0.3816	0.7044
OC	1.3261	0.7843	1.6907	0.0971
EM	-0.0762	0.0636	-1.1970	0.2369

Source: Data Processed (2024)

The results of the Heteroscedasticity test above show that there is no heteroscedasticity problem which can be seen with the following values:

a. Ownership concentration (X) obtained a prob value of 0.0971> 0.05 from this it can be interpreted that the ownership concentration data does not have heteroscedasticity problems.
b. Earnings management (M) obtained a prob value of 0.2369> 0.05 from here the data means that the earnings management data does not have a heteroscedasticity problem.

Table 7. Results of the Coefficient of Determination Test (Adjusted R2)

Structural	R-Squared	Adjusted R-squared	S.E. of regression
I	0.0015	14.520	0.9317
II	0.4760	96.550	0.8607

Source: Data Processed (2024)

In the above table in Model 1, the value of Adj. R-Squared value -0.0014311. If in the empirical test a negative adjusted R square value is obtained, then the adjusted R square value is considered to be 0 (zero) (Ghozali, 2016). This means that ownership concentration has a 0% influence on earnings management. The rest (100 percent) is influenced by other variables. While in Model 2 the value of Adj. R-Squared value of 0.329237 or 32.9 percent. The Adjusted R Square number means that ownership concentration and earnings management affect the cost of equity by 32.9 percent. The rest (67.1 percent) is influenced by other variables.

Table 8. Results of hypothesis test model 1

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.1875	0.8662	0.2164	0.8293
OC	-0.4328	1.4004	-3090	0.7583

Source: Data Processed (2024)

The output results of hypothesis test Model 1 above show the prob value. 0.7583> 0.05, so hypothesis H1 is rejected because the results show that there is no effect of ownership concentration on earnings management. value Adj. R-Squared value -0.0014311. If in the empirical test a negative adjusted R square value is obtained, then the adjusted R square value is considered to be 0 (zero) (Ghozali, 2016). This means that ownership concentration has a 0% influence on earnings management. The rest (100 percent) is influenced by other variables.

Table 9. Results of hypothesis test model 2

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.4938	0.8327	2.9947	0.0043
OC	-5.3980	1.5804	-3.4162	0.0013
EM	-0.1801	0.1283	-1.4030	0.1668

Source: Data Processed (2024)

The output results in the table of hypothesis test Model 2 above can be concluded regarding the decision making of the presence or absence of influence on each variable which can be seen from the prob value and t-statistic, as follows:

1) Based on the output table of hypothesis test results that the prob value. 0.0013 <0.05 and t-statistic -3.416166, then H2 is accepted because the results show that ownership concentration (X) has an influence on the cost of equity (Y) with a negative direction.
2) Based on the output table of hypothesis test results, the prob value is 0.1668 > 0.05 and t-statistic -1.402985, then H3 is rejected and it can be concluded that earnings management (M) has no effect on the cost of equity (Y).

Sobel Test

The Sobel test is used to evaluate the significance of intervening effects in intervention models. The Sobel test requires assumptions about a large sample size and that the value of the intervening coefficient has a normal distribution. This test is conducted by testing how strong the indirect effect of variable X to variable Y is through the mediator variable M, using the following formula:

$$t = \frac{ab}{\sqrt{(b^2SEa^2) + (a^2SEb^2)}}$$

$$t = \frac{-0{,}432\ X\ 0{,}180}{\sqrt{(0{,}180^2\ X\ 1{,}400^2) + (-0{,}432^2 X\ 0{,}128^2)}}$$

$$t = -2{,}996$$

t tabel = TINV (0.05,62)

t tabel = 1.999

The calculation of the sobel test shows that the t-count value is -2.996 < t-table 1.998, so H0 is accepted Ha is rejected. This means that earnings management does not mediate the relationship between ownership concentration and the cost of equity.

Discussion

The Impact of Ownership Concentration on Earnings Management

Our research examining technology companies listed on the Indonesian Stock Exchange reveals a complex relationship between ownership concentration and earnings management that both supports and challenges existing theoretical frameworks, particularly agency theory. The findings show these companies are predominantly controlled by institutional ownership, with additional managerial and public ownership components.

The empirical results align with Felicya & Sutrisno's (2020) findings that concentrated stock ownership does not significantly impact earnings management. This challenges the traditional agency theory prediction that majority shareholders would effectively control and reduce earnings management practices. Felicya & Sutrisno (2020) explain this deviation from theory by highlighting that investors may lack the capability or experience to effectively understand and monitor financial information, thereby weakening their ability to restrict management's earnings manipulation activities.

The theoretical debate becomes more nuanced when considering contrasting findings in the literature. La Rosa et al. (2020) and Dong et al. (2020) support a different aspect of agency theory, finding that high ownership concentration can actually enhance earnings management due to pressure from major shareholders to meet profit targets. This suggests that concentrated ownership might create agency problems rather than solve them. However, Ahmad et al. (2023) presents evidence supporting the positive aspects of agency theory, arguing that proper ownership concentration can reduce agency costs by preventing resource waste and improving earnings management practices.

Recent research has added important dimensions to this theoretical discussion. Asif et al. (2023) found that increased institutional ownership can reduce both ownership concentration and earnings management practices, supporting the monitoring role proposed by agency theory. Similarly, Al-Shouha et al. (2024) provides evidence supporting agency theory's prediction about interest alignment, showing that significant managerial ownership can improve earnings quality and reduce unethical reporting practices by aligning manager and owner interests.

Our findings suggest that the relationship between ownership concentration and earnings management is more complex than agency theory alone would predict. Several factors may explain why the theoretical predictions don't always hold: ineffective oversight by passive majority shareholders, poor monitoring methods, already-aligned interests between shareholders and managers, complex ownership structures, and market transparency issues. These results indicate that agency theory, while valuable, may need refinement to account for market-specific conditions and institutional contexts, particularly in emerging markets like Indonesia's technology sector.

The Impact of Ownership Concentration on the Cost of Equity

Our study of technology companies on the Indonesian Stock Exchange reveals strong empirical support for agency theory's predictions about the relationship between ownership concentration and cost of equity. The findings demonstrate that these companies are predominantly characterized by institutional ownership, complemented by managerial and public ownership structures. This ownership pattern produces significant effects on equity costs that align with theoretical expectations.

The empirical results strongly support the theoretical framework proposed by agency theory in several ways. First, our finding that ownership concentration reduces equity costs aligns with seminal works by La Rosa et al. (2020), Hashmi et al. (2023), Dakhlaoui & Gana (2020), and Chu et al. (2019). The theoretical mechanism behind this relationship is clearly explained by Dakhlaoui & Gana (2020), who demonstrate that institutional investors provide more stable ownership and superior corporate governance, thereby reducing both risk and equity costs. This theoretical prediction is further reinforced by Sakaki et al.'s (2021) evidence that increased institutional ownership leads to more stable shareholding patterns and reduced stock price misvaluation.

The alignment with agency theory becomes even more apparent when examining the role of managerial ownership. Pratiwi et al. (2021) provide evidence supporting the theory's prediction that higher managerial ownership helps align management and investor interests, consequently reducing required returns. This directly supports agency theory's core proposition about interest alignment reducing agency costs.

Our findings particularly validate agency theory's predictions in the context of the technology sector. The theory suggests that concentrated ownership can mitigate agency problems by reducing conflicts of interest between managers and shareholders, thereby preventing inefficient decisions. This is especially relevant in technology companies where rapid innovation and complex strategic decisions are common. The empirical evidence shows that when major shareholders hold significant portions of shares, their increased involvement in management and oversight leads to better alignment with company interests and more efficient decision-making.

The strength of these findings lies in how they demonstrate the practical application of agency theory in a specific market context. In the technology sector, where innovation speed and efficiency are crucial, the theoretical benefits of concentrated ownership become particularly evident. The involvement of major shareholders not only reduces agency conflicts but also provides the additional benefit of risk mitigation

for investors through enhanced oversight. This dual effect - reducing both agency conflicts and investor risk - provides a clear theoretical explanation for the observed reduction in equity costs.

The Impact of Earnings Management on the Cost of Equity

Our findings reveal an interesting deviation from established theoretical predictions regarding the relationship between earnings management and cost of equity in Indonesia's technology sector. The results challenge the traditional theoretical framework proposed by La Rosa et al. (2020), which suggests that earnings management influences equity costs by altering investors' risk perceptions. Instead, our empirical evidence aligns more closely with the alternative theoretical perspectives presented by Sutarman et al. (2022) and Fasihat et al. (2023), who argue for a more nuanced understanding of this relationship.

The theoretical explanation for this divergence can be understood through several key mechanisms. First, Sutarman et al. (2022) propose that modern investors have evolved to incorporate the possibility of earnings management into their investment decisions, effectively pricing this risk into their valuations from the start. This suggests a modification to traditional theory - rather than earnings management directly affecting cost of equity, investors have developed sophisticated pricing mechanisms that already account for potential manipulation.

A second theoretical pathway is illuminated by Fasihat et al. (2023), who present a behavioral finance perspective. Their framework suggests that investor behavior in emerging markets often deviates from rational expectations theory, with many investors making decisions without full comprehension of earnings management practices. This creates a disconnect between theoretical predictions and actual market behavior, particularly in contexts where investors may lack sophisticated financial analysis capabilities.

The technology sector context provides additional theoretical insights. Our findings suggest that in this sector, traditional accounting-based valuation models may be less relevant because investors prioritize different metrics. Specifically, the emphasis on potential and long-term growth over current profitability creates a context where earnings management has reduced significance in equity cost determination. This indicates a need to modify existing theoretical frameworks to account for sector-specific characteristics.

The institutional context of Indonesia's market also plays a crucial role in explaining these results. Strong regulatory frameworks and quality information requirements appear to create market conditions that diminish the theoretical relationship between earnings management and equity costs. This suggests that institutional theory may be as important as traditional finance theory in explaining these relationships in emerging markets.

These findings contribute to theory development by suggesting that the relationship between earnings management and cost of equity is more complex than previously modeled. Rather than a simple direct relationship, the evidence points to the need for a more sophisticated theoretical framework that incorporates investor sophistication, sector-specific characteristics, and institutional factors. This expanded theoretical perspective better explains the observed patterns in emerging market contexts, particularly in dynamic sectors like technology.

The Impact of Ownership Concentration on the Cost of Equity with Earnings Management as a Mediating Variable

Our research examining the relationship between ownership concentration, earnings management, and cost of equity in Indonesia's technology sector reveals important challenges to traditional agency theory. The findings suggest that the theoretical framework requires significant refinement to account for modern market complexities and institutional contexts.

The departure from agency theory's predictions can be understood through several interconnected mechanisms. First, our findings support the alternative theoretical perspective proposed by Agustin & Widiatmoko (2022) and Felicya & Sutrisno (2020), who argue that the effectiveness of majority shareholder oversight - a key assumption in agency theory - depends critically on shareholders' active engagement and monitoring capabilities. When these conditions are not met, the theoretical benefits of concentrated ownership may not materialize.

A second theoretical challenge emerges from the observation that traditional principal-agent conflicts may be less relevant when majority shareholders and managers have naturally aligned interests. This suggests that agency theory's focus on conflict resolution might be less applicable in contexts where organizational structures already promote alignment. This perspective is reinforced by research from Fasihat et al. (2023) and Sutarman et al. (2022), who demonstrate that when investors perceive financial statements as reliable, the theoretical role of earnings management in determining equity costs diminishes.

The institutional context provides a third theoretical challenge. Our findings indicate that robust company policies, stringent regulations, and complex ownership structures can fundamentally alter the

relationships predicted by agency theory. This suggests the need to integrate institutional theory with traditional agency theory to better explain modern corporate governance dynamics.

Our results find strong support in recent research by Al-Shouha et al. (2024), who demonstrate that earnings management does not serve as a mediating variable in the relationship between ownership concentration and cost of equity. Their work suggests a direct mechanism through investor identity that bypasses the traditional agency theory pathway through earnings management. This contrasts with La Rosa et al.'s (2020) findings, which support the classical agency theory view that earnings management mediates the relationship between ownership concentration and equity costs through increased investor uncertainty and risk premiums.

These findings contribute to theory development in several important ways. First, they suggest that agency theory needs to be modified to account for varying levels of shareholder engagement and monitoring effectiveness. Second, they indicate that the theory should incorporate institutional factors that can fundamentally alter principal-agent relationships. Finally, they suggest that in modern markets, particularly in the technology sector, traditional agency conflicts might be less relevant than other factors in determining corporate governance outcomes and equity costs.

CONCLUSIONS AND RECOMMENDATION

The study reveals that earnings management does not mediate the impact of ownership concentration on equity costs in technology companies in Indonesia. This is because major shareholders, who have full control over company decisions, are more focused on financial statement transparency. This control renders earnings management less relevant, and stringent oversight reduces its necessity. When major shareholders hold a larger portion of shares, equity costs tend to decrease due to improved oversight, which minimizes earnings management practices and conflicts of interest, thereby lowering investor risk. Lower equity costs benefit companies by enabling cheaper access to capital and attracting investment, while providing investors with stable returns and reduced risk. These findings can serve as a valuable reference for future researchers interested in exploring ownership structure, earnings management, and equity costs in greater depth. Although earnings management does not mediate the relationship between ownership concentration and equity costs, it is still crucial to manage risks associated with such practices. Implementing policies and procedures to reduce the likelihood of financial statement manipulation and enhance investor trust is essential. Future research could use different variable measurements and include other sectors, such as mining and banking, to provide a more comprehensive understanding of the effects of various factors on equity costs across different industries. This would make the findings more generalizable and relevant, offering better recommendations for companies and investors in financial decision-making.

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