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The influence of earnings management and asymmetry information on the cost of equity capital moderated by disclosure level

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Abstract

Company value can be increased by minimizing the cost of equity capital. The cost of equity capital is the rate of return required by investors in accordance with company condition. The purpose of this study was to analyze the influence of earning management and asymmetry information on the cost of equity capital with disclosure level as the moderating variable by presenting Company Size, Market Capitalization, Leverage, and Profitability as the control variables. The population of the study was 148 manufacturing companies listed on the Indonesia Stock Exchange with the total unit of analysis was 330. Then, hypotheses were analyzed with software Eviews 9. The results of the study showed that earning management, asymmetry information, company size, profitability, and disclosure level had significant influences on the cost of equity capital for both large and small companies. Then, it also showed that disclosure level was able to moderate the influence of earning management on the cost of equity capital, but it was not able to moderate the influence of asymmetry information on the cost of equity capital both large and small companies. It was interesting because the coefficients of influence were different based on the company size. On small companies, the influence of disclosure level on asymmetry information was negative.

Abstrak

Nilai perusahaan dapat dinaikkan dengan cara meminimalkan biaya modal ekuitas. Biaya modal ekuitas merupakan tingkat pengembalian yang disyaratkan oleh investor dengan memperhatikan kondisi masing-masing perusahaan. Penelitian ini bertujuan menganalisis pengaruh manajemen laba dan asimetri informasi terhadap biaya modal ekuitas dengan tingkat disclosure sebagai variabel moderasi dengan menghadirkan variabel Ukuran Perusahaan, Market Capitalization, Leverage, dan Profitabilitas sebagai variabel kontrol. Populasi penelitian sebanyak 148 perusahaan manufaktur yang terdaftar di Bursa Efek Indonesia dengan total unit analisis sejumlah 330. Pengujian Hipotesis dilakukan dengan menggunakan software Eviews 9. Hasil penelitian menunjukkan bahwa manajemen laba, asimetri informasi, ukuran perusahaan, profitabilitas, dan tingkat disclosure berpengaruh signifikan terhadap biaya modal ekuitas baik perusahaan besar maupun kecil. Selain itu, penelitian ini juga menunjukkan bahwa tingkat disclosure mampu memoderasi pengaruh manajemen laba terhadap biaya modal ekuitas, namun tidak mampu memoderasi pengaruh asimetri informasi terhadap biaya modal ekuitas baik perusahaan besar maupun kecil. Selanjutnya, hasil penelitian ini menarik, karena dari pengujian terhadap besar kecilnya perusahaan menunjukkan hasil yang berbeda koefisien pengaruhnya. Dimana perusahaan kecil, dengan hadirnya tingkat disclosure pengaruh asimetri informasi adalah negatif.

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1. Introduction

The capital market is an effective means to attract funds from the community (Gitosudarmo & Basri, 2013). Scrolling the capital from investors helps the company survive and expand the business. There are two perspectives on capital embedded in the company. First, the investor assumes capital as an investment to get the desired profit. Second, the company views capital as an equity debt which should be returned to the investors. This study highlights the cost of equity capital issued by companies.

Beneda (2003), Pagano & Stout (2004), Zorn (2007), and Embong, Mohd-saleh, & Hassan (2012), said that equity cost was equal to the rate of return required by investors. Investors usually request the required rate of return based on company conditions. The high rate of profit is a form of investor anticipation of the company's high risk. It is a form of company inefficiency in managing the cost of equity capital issued.

Company value is maximized by minimizing the company's cost of equity capital. Low the cost of equity capital reflects its low risk which makes the shareholders assume if the company's value is high. However, the fact shows that the cost of equity capital has increased every year. It can be seen in Table 1.

The above data showed that the average company experienced an increase in the cost of equity capital each year. It proved that there was an increase in the company risk which followed by the increase in the cost of equity capital. Nurjanati & Rodoni (2015) stated that this condition referred to a review of today's Indonesian economy that the high cost of capital in a company would have a major impact on investment. It is in line with Beyer et al. (2010) which stated that

information quality had a significant influence on the cost of equity capital. It makes companies tend to refrain from conducting public offerings and fundraising activities. It affects the company's activities due to lack of capital. Consequently, the company is unable to compete when it experiences capital difficulties, and it makes capital cost negative.

The phenomenon in 2008 made the company get problems in obtaining funding sources. The economic crisis in 2008 was a phenomenon which blew hard Indonesian business people. The indirect impact was the weakening of global demand which was manifested in the form of a decline in world commodity prices and a decline in export demand (Sugema, 2012). The falling export demand influenced the profitability generated by the company. When profitability decreases, investors see the company as an unprofitable destination which ultimately reducing the funding.

There were many studies on the influence of earnings management and asymmetry information on the cost of equity capital with inconsistent study results. Jumirin (2011) and O'Callaghan, Ashton, & Hodgkinson (2018) stated that the higher the earnings management, the higher the cost of equity capital. According to Kiswanto & Nurkhin (2013), management behavior which underlined earnings management was manager's opportunistic behavior. It happens because profit is an important benchmark for investors in deciding investments in the company. Thus; the company regulates profits to attract the investors.

Then, Adriani (2013) stated that earnings management did not have any significant influence on the cost of equity capital. Abnormal accrual rate was not able to prove the influence of earnings management on the cost of equity capital in this study. Those dif-

Table 1. The Increase Average of the Cost of Equity Capital at Manufacturing Companies

Years	2010	2011	2012	2013
Average of CE	-0.1942	-0.0232	-0.0549	-0.0036
Increase (%)		-88.063	136.649	-93.455

Source: Nurjanati & Rodoni (2015)

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ferent research results showed that there were variables that played a role in moderating the influence of earnings management on the cost of equity capital.

The different study results happen in the influence of asymmetry information on the cost of equity capital. Nuryaman (2014) and Hajawiyah, Adhariani, & Djakman (2018) stated that asymmetry information did not affect the cost of equity capital. It happened because investors could not read the positive signals given by the company; it means that the information of the company did not affect the return level expected by investors (Ningsih & Ariani, 2016). The same study results also happen to Ifonie's research (2012). He stated that the magnitude of asymmetry information could not directly explain its influence on the cost of equity capital.

However, Eid (2015) stated that asymmetry information had a positive influence on the cost of equity capital. Perwira & Darsono (2015) also stated the same thing, and they claimed that the bid-ask spread, which was adverse information, was a component directly related to signaling. This signal would influence shareholders to make decision raise or lower rate of return which was the cost for the company. But Nurjanati & Rodoni (2015) research found that asymmetry information produced a negative influence on the cost of equity capital. It happened on both informed and less informed investors who reduced the liquidity and ultimately it was negative in explaining the influence of asymmetry information on the cost of equity capital.

Those inconsistent results or the research gaps provide opportunities for the researchers to present the novelty of the research. The researcher presents a moderating variable as a determinant to influence the independent variables on the dependent variable. The moderating variable is the disclosure level. Disclosure level is a comprehensive disclosure of information to improve investors' trust in the actual condition of the company. The constraint which might happen between the company and its investors is inadequate information. Thus; more disclosure is needed to reduce the

company risk which can ultimately reduce the cost of equity capital.

There were mandatory and voluntary disclosures which helped investors understood the risks when they invested funds into the company (Adriani, 2013). The company made disclosures through financial and annual reports. Nurjanati & Rodoni (2015) stated that investors assumed risky financial reports if the financial reports did not provide adequate disclosure. The investors' views on a financial report made the rise or the fall of the cost of equity capital.

The first objective of the study was to analyze the direct influence of earnings management (earnings management Jones model developed by Dechow, Soan, & Sweeney, 1995) and asymmetry information on the cost of equity capital. The modified Jones model for earnings management was used because it was the most appropriate model to measure the accrual earnings management compared to other models (Suprianto & Setiawan, 2017). Then, the second objective of the research was to analyze the influence of earnings management and asymmetry information on the cost of equity capital involving level disclosure variable. Disclosure level was the novelty of the research. Company size, market capitalization, leverage, and profitability were the control variables to control the direct and indirect influences of management and asymmetry information on equity cost.

2. Hypotheses Development

The relationship between the company and shareholders is explained by agency theory. Agency theory explains that shareholders (principals) delegate their interests to companies (agents) to increase the prosperity of shareholders (principals). The relationship can arise the interest conflict because both parties (agents and principals) have different goals. The company wants high compensation for its performance, and it also expects high profits.

The influence of earnings management on the cost of equity capital is based on agency theory where

the company management holds as an agent and shareholders as the principals. Management automatically has a broader knowledge of the company's condition than shareholders, and their actions are often unknown by the shareholders. This gap allows management to perform dysfunctional behavior. One of the dysfunctional behaviors carried out by agents was manipulating data in financial statements to match the expectations of the principals although the report did not describe the actual condition of the company (Rinobel & Laksito, 2015).

The importance of a company's profit information makes some of the company's management manipulated the company's actual profit information (Risdaty, 2015). Manipulation was done by adjusting profits according to company goals. Utami (2005) said that the motive of the company for creating earnings management was to obtain external funding at a low cost. It makes the investors ask for high returns due to the manipulation performed by the company's management.

It is in line with Jumirin (2011) study's which stated that earnings management had a positive influence on the cost of equity capital. The higher the management in managing profit, the more shareholders increase the required rate of return. Kim & Charlie (2013) got the results that deviating earnings management could reduce the quality of profit information used by investors. It made the market ask for high premium risk where the additional premium risk was focused on accrual earnings management activities. Thus, the first hypothesis is:

H₁: earnings management has a positive influence on the cost of equity capital

Asymmetry information is information inequality between company management and shareholders. Shareholders do not have any sufficient information on the company's prospects. It makes the company considered as high risk. Therefore, transparent information is needed by the information users, especially shareholders as the owners, which the information can be used as a basis for decision making (Indriani, 2013).

Companies with high asymmetry information make a gap for themselves which consequently increases the cost of equity capital. It is consistent with agency theory; it states that the more information hidden by the agent, the higher the risk borne by the shareholders, which in turn affects on the cost of equity capital issued by the company (Nurjanati & Rodoni, 2015). It is in accordance with the principle of high-risk, high return.

Then, Purwanto (2012) showed that asymmetry information had a positive influence on the cost of equity capital. It means that the more asymmetry information, the more cost of equity capital issued by the company and vice versa; the less asymmetry information, the less cost of the company's equity capital. The measurement of asymmetry information was often proxied by the bid-ask spread. Ifonie (2012) related to the bid-ask spread, stated that the focus of the accountant's attention was on the adverse selection component because it dealt by providing information to the capital market. The second hypothesis is:

H₂: asymmetry information has a positive influence on the cost of equity capital

The role of disclosure level in moderating the influence of earnings management on the cost of equity capital is based on signaling theory. Signaling theory is a signal sending to investors regarding the condition of the company. The management's action in earning managing can be a signal for investors to get ready to face high company risk. Companies which make earnings management make the disclosure role as a prejudice reduction to the company. Disclosure determines whether the shareholders can understand the strategy carried out by the company for business progress.

Disclosure is a signal to indicate that the company is in good condition and has good prospects to maintain the returns given to investors. Companies need to disclose a lot of information to attract shareholders to continue investing their capital. Then, disclosure plays an important role for the companies to

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move in earning managing. This disclosure encourages companies to conduct earnings management for both business and management interests.

Khelif, Samaha, & Azzam (2015) in their research proved that the disclosure level had a negative influence on the cost of equity capital. The higher disclosure level, the lower cost of equity capital issued by the company. Companies which provide a lot of disclosures encourage investors to keep investing in the company. Disclosures made by the company indicate that the company considers the continuity of the company and automatically the shareholders' prosperity can be fulfilled. Then, the third hypothesis is:

H₃: disclosure level moderates the influence of earnings management on the cost of equity capital

Signal theory describes the relationship of asymmetry information and the cost of equity capital involving disclosure. Signals are given by the company which causes a market reaction according to the signal given. Disclosure is used as a signal by the company to convey the company's condition and future company image. The extent of disclosure is more attractive for the investors because it can accurately predict the taken actions.

Unfulfilled disclosures make the high asymmetry information. The direct influence felt by the company is the high required rate of return (the cost

of equity capital). The increase happened as a result of the high-risk assessment of the company by investors, thereby increasing the rate of return as a guarantee of invested capital. Disclosures play an important role in the relationship between asymmetry information and the cost of equity capital.

Eid (2015) research's produced a low regression coefficient. The role of disclosure level would influence asymmetry information on the cost of equity capital. A broad disclosure level declined the influence of asymmetry information on the cost of equity capital. Asymmetry information has a positive influence on the cost of equity capital. When a company produces disclosure, it can increase or decrease the cost of equity capital depending on the positive or negative information. Then, the fourth hypothesis is:

H₄: disclosure level moderates the influence of asymmetry information on the cost of equity capital

3. Method, Data, and Analysis

This study used quantitative research with a deductive approach. It used secondary data to test the hypotheses. The population of the study was all manufacturing companies listed on the Indonesia Stock Exchange from 2010-2015 consisting of 148 companies. Furthermore, this study used purposive sampling with the following sampling criteria showed in Table 2.

Table 2. The Samples Selection

Selection Criteria	Unselected Companies	Total
Manufacturing company on the IDX in 2010-2015		148
Manufacturing companies listed on the IDX in 2010-2015	(14)	134
Manufacturing companies publishing the annual reports and financial statements in 2010-2015	(25)	109
Manufacturing companies use Indonesian Rupiah currency	(26)	83
Manufacturing companies having a financial report on December 31	(1)	82
Manufacturing companies having positive equity book values	(7)	75
Manufacturing company having complete data from 2010-2015	(19)	56
Number of research samples		56
Research Period		6
Total of research data in 2010-2015		336
Negative Equity Cost in 2010-2015	(6)	330
Number of Unit Analysis		330

Table 3. The Operational Definitions of the Variables

Research Variable	Operational definition	Measurement
The cost of equity capital (CEC)	The cost of equity is the return (often expressed as a rate of return) a firm theoretically pays to its equity investors to compensate for the risk they undertake by investing their capital in the company (Eid, 2015)	$\text{Cost it} = R_{ft} + (R_{mt} - R_{ft}) \beta_{it}$ <p>Notes: Cost it: the cost of equity capital in companies i and years t R_{ft}: risk-free rate in a given year R_{mt}: average market return for a given year β_{it}: beta coefficient of company shares in company i and year t (Khlif, Samaha, & Azzam, 2015)</p>
Earnings management (EM)	Earnings management is an attempt by company managers to intervene and influence information in financial statements with the objective to trick stakeholders who want to know the performance and conditions of the company (Sulistiyanto, 2008).	<p>Modified Jones: $DACC_t = TACC_t - NDACC_t$</p> <p>Where:</p> $\frac{NDACC_t}{A_{t-1}} = \hat{\alpha}_1 \frac{1}{A_{t-1}} + \hat{\alpha}_2 \frac{(\Delta REV_t - \Delta REC_t)}{A_{t-1}} + \hat{\alpha}_3 \frac{PPE_t}{A_{t-1}}$ $\frac{TACC_t}{A_{t-1}} = \alpha_1 \frac{1}{A_{t-1}} + \alpha_2 \frac{(\Delta REV_t - \Delta REC_t)}{A_{t-1}} + \alpha_3 \frac{PPE_t}{A_{t-1}} + \varepsilon_t$ $TACC_t = \Delta CA_t - \Delta Cash - \Delta CL_t + \Delta DCL_t - DEP_t$ <p>DACC: discretionary accrual TACC: total accrual NDACC: non-discretionary accrual ΔREV: revenue changes ΔREC: net receivable ΔCA: change in current assets ΔCash: change in cash and cash equivalent ΔCL: changes in current liabilities ΔDCL: change in short-term debt changes in current liabilities DEP: depreciation and amortization expenses PPE: gross property plant and equipment A_{t-1}: total previous year assets t: show the year now α₁, α₂, dan α₃: parameter estimation (alpha) ε_t: t year residue value (Jones, 1991) developed by Dechow, Soan, & Sweeney (1995)</p>
Asymmetry Information (AI)	Asymmetry Information is a condition where there is an imbalance in information acquisition between management as the information provider and the shareholders and stakeholders as the information users (Nurjanati & Rodoni, 2015)	$\text{Spread}_{jt} = \frac{(\text{ask}_{jt} - \text{bid}_{jt})}{((\text{ask}_{jt} + \text{bid}_{jt})/2)} \times 100$ <p>Notes: Ask_{jt}: the highest selling price of company j in year t Bid_{jt}: the lowest buying price for company j in year t (Eid, 2015)</p>

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Disclosure Level (DL)	Information disclosure on the company. It is a voluntary corporate disclosure which consists of 12 parts and consists of 80 indicators, they are general information about the company, company strategy, future prospects, information about the board of directors, information about operating procedure, information about products/ services, information about market segmentation, research and development; information about employees, information about environment and social affairs, review of financial statements; information related to the market (Ghazali & Weetman, 2006; Samaha & Dahawy, 2011; Khlif, Samaha, & Azzam, 2015).	Disclosed total score/ should be a total score (Khlif, Samaha, & Azzam, 2015)
Company Size (SIZE)	Company size (Size) is a scale which can be classified by the size of the company according to various ways; e.g., based on total assets, sales, log size, stock market value, market capitalization, etc. All criteria are highly correlated. Dividend (Wijaya, 2017)	Size= Log Total Asset (Ln_Total Asset)
Market Capitalization (MC)	Company market capitalization value (Khlif, Samaha, & Azzam, 2015)	Natural Logarithm Market capitalization (Share price multiplied by the number of outstanding shares)
Leverage (LEV)	Comparison between obligations and capital (Khlif, Samaha, & Azzam, 2015)	Debt to equity ratio
Profitability (PROF)	Comparison between net income and capital Book Value (Khlif, Samaha, & Azzam, 2015)	Value of ROE (return on equity) ratio

This study consists of independent, moderating, and dependent variables which are explained in Table 3.

Data were taken from annual reports, Pefindo, and Indonesian Premium Risk Market (www.market-risk-premium.com). The panel data are then tested using E-views software series 9. Therefore, the hypothesis testing of this study expressed in the following mathematical equations:

$$CEC_{it} = \alpha + \beta_1 EM_{1it} + \beta_2 AI_{2it} + \beta_3 SIZE_{3it} + \beta_4 MC_{4it} + \beta_5 LEV_{5it} + \beta_6 PROF_{6it} + e_{it} \quad (1)$$

$$CEC_{it} = \alpha + \beta_1 EM_{1it} + \beta_2 AI_{2it} + \beta_3 EM * DL_{it} + \beta_4 AI * DL_{4it} + \beta_5 SIZE_{5it} + \beta_6 MC_{6it} + \beta_7 LEV_{7it} + \beta_8 PROF_{8it} + \beta_8 DL_{8it} e_{it} \quad (2)$$

Notes:

- CEC : the cost of equity capital
- EM : earnings management
- AI : asymmetry information
- DL : disclosure level
- EM * DL : interaction between earnings management and disclosure Level

- AI * DL : interaction between asymmetry information and disclosure level
 Size : company size (ln total assets)
 MC : market capitalization (ln market capitalization)
 LEV : leverage (debt to equity ratio)
 PROF : profitability (return on equity)
 B_{1-8} : the coefficient of each variable
 I : entity for i
 t : period for t
 e : error

Furthermore, for having the robustness test, the analysis of hypotheses testing was done in two stages. First, hypotheses testing were carried out on all research samples. Second, hypotheses testing were done by separating samples based on company categories, large and small companies.

4. Results

The descriptive statistics of each of these research variables are presented in Table 4.

The descriptive statistical results on the cost of equity capital variable (Y) indicate that the minimum value was 0.0006807, the maximum value was 117.8625, and the average value was 28.54586 with a standard deviation was 20.14996 from the average value. The high cost of equity capital was a form of company inefficiency in managing costs for getting funds from external companies. The high capital cost represented a high company risk, so shareholders also requested high returns. Companies needed to provide disclosure information to reduce high-risk assessment from the shareholders.

Then, Earnings management had the minimum value -0.301075, the maximum value 92.68290, and

the average value 1.205901. The value of earnings management accruals was less than zero (0); it indicates that earnings management was to minimize the profits. Small profits occurred due to the deferred tax burden on the previous period, so the company must pay taxes in two periods at once.

Next, Asymmetry Information highlighting the interaction between companies and shareholders was proxied by the bid/ask spread. The result shows the average value is 3.669317; it means that it was high asymmetry information every year. The company knew more or dominated the information of the company rather than investors. The distribution of asymmetry information was shown in the standard deviation value at 1.861454. Whereas, the average values for all control variables were 1.995699 for Company Size, 14.05255 for Market Capitalization, 1.091118 for leverage, and 16.10184 for Profitability.

Disclosure level of this study was proxied with the sum expressed by the company compared to the total which should be disclosed. The average value of disclosure level was 0.498840 with a standard deviation 0.187189. It shows that the disclosure level was relatively low. The disclosure was very important for companies to provide information which happened in the company for shareholders. Then, shareholders could use this important information in decision making.

Furthermore, before testing the research hypothesis, it is necessary to do a classic assumption test consisting of normality, multicollinearity, heteroscedasticity, and autocorrelation. The results of classical assumption testing are done to ensure that the data can be used in hypotheses testing. Based on the test results, it indicates that the data meets the classical assumption requirements. The normality test shows that the value of Jarque-Bera is

Table 4. Descriptive Statistics

	CEC	EM	AI	SIZE	MC	LEV	PROF	DL
Mean	28.54586	1.205901	3.669317	1.995699	14.05255	1.091118	16.10184	0.498840
Maximum	117.8625	92.68290	5.196268	4.865372	19.73590	11.25000	125.8100	0.991524
Minimum	0.0006807	-0.301075	-15.05854	0.106165	9.721966	0.020000	0.010000	0.012264
Std. Dev.	20.14996	8.693936	1.861454	0.939558	2.448309	1.252424	16.81039	0.187189

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843.5296 with a probability value of 0.342331; it means that data have a normal distribution. Then, for multicollinearity test, there is not any influence among research variables. When the correlation value among variables above 0.90, it means that there was not any multicollinearity in this research model. Next, for the autocorrelation test, it showed that the value of Durbin-Watson is 2.022163. It means that the data of this study were not subject to autocorrelation because the DW value is between du and 4-dU ($1.831 < 2.022 < 2.169$). The last, for heteroscedasticity test, it showed that the test chart did not show any particular movement pattern; then, the data of this study were not exposed to have any heteroscedasticity.

Furthermore, after analyzing with classical assumption tests, the data can be used in hypotheses testing. Hypothesis testings were divided into two stages — first, hypothesis testing on the whole unit of analysis (large and small companies). Second, testing on two categorized companies, large and small companies. The hypotheses testings carried out in two stages were in-

tended to compare whether there were differences in results between the testing of the entire unit of analysis with those separated between small and large companies. Furthermore, the results of hypothesis testing are presented in Table 5.

Table 5 is a hypothesis testing for all units of analysis combining small and large companies. The test results showed that earnings management and asymmetry information influenced the cost of equity capital. However, after interacting with earnings management and information assets at the disclosure level, only earnings management was able to show its influence on the cost of equity capital. It showed that the disclosure level was able to moderate the influence of earnings management on equity cost for all categories of companies (sig.= 0.000). However, the disclosure level was not able to moderate the influence of asymmetry information on equity cost for all company categories (sig.= 0.4151).

And here it is the results of hypotheses testing by distinguishing large and small companies (Table 6).

Table 5. The Summary of Hypothesis Testing Results for All Study Samples (Small and Large Companies)

Before the Moderating Variable					After Added the Moderating Variable				
Var.	Coefficient	t-Stat	Prob.	Con.	Var.	Coefficient	t-Stat	Prob.	Con.
C	-5.468057	-0.750534	0.4535		C	-35.13691	-5.529904	0.0000	
	0.228209			Rejected					H ₁ :
EM		1.255344	0.2103		EM	3.860004	6.656022	0.0000	Accepted
	4.599425			Accepted					H ₂ :
AI		5.449497	0.0000		AI	7.533769	9.591968	0.0000	Accepted
SIZE	6.841111	6.430713	0.0000	Accepted	SIZE	4.037056	3.536409	0.0005	Accepted
MC	0.062358	0.133964	0.8935	Rejected	MC	-0.100570	-0.274974	0.7835	Rejected
LEV	-0.538111	-0.675202	0.5000	Rejected	LEV	-0.272996	-0.436071	0.6631	Rejected
PROF	0.180724	2.735089	0.0066	Accepted	PROF	0.183450	3.534187	0.0005	Accepted
					DL	55.50565	12.59598	0.0000	Accepted
									H ₃ :
					EMDL	-5.293327	-6.461243	0.0000	Accepted
					AIDL	-0.723571	-0.816017	0.4151	H ₄ : Rejected
R-squared		0.261197			R-squared		0.549074		
Adjusted R-squared		0.247473			Adjusted R-squared		0.536392		
S.E. of regression		17.49510			S.E. of regression		13.73191		
F-statistic		19.03226			F-statistic		43.29451		
Prob(F-statistic)		0.000000			Prob(F-statistic)		0.000000		
Mean dependent var		28.58547			Mean dependent var		28.58547		
S.D. dependent var		20.16765			S.D. dependent var		20.16765		
Durbin-Watson stat		2.103324			Durbin-Watson stat		2.178387		

Table 6 showed that earnings management and asymmetry information influenced the cost of equity capital for small companies after adding a moderating variable on the model. The relationship between earnings management and disclosure level was also accepted. This shows that the disclosure level was able to moderate the influence of earnings management on the cost of equity capital for small companies with significance was 0.0441. However, the disclosure level was not able to moderate the influence of asymmetry information on the cost of equity because significance was 0.5830. Next, to prove that these results did not only apply to small companies but also on large companies; the large companies' analysis results can be seen in Table 7.

The results of hypothesis testing on large companies showed that: earnings management and asymmetry information influenced the cost of equity capi-

tal for large companies because significance was 0.0000. It also happened on disclosure level; it was able to prove as a moderating variable to influence earnings management on the cost of equity capital since significance was 0.0325, but it was not able to moderate the influence asymmetry information on the cost of equity capital because the significance was 0.9969. The results of hypotheses testing on large companies were similar to small companies.

Based on two steps of hypotheses testing above, it showed that earnings management and asymmetry information could directly influence the cost of equity capital. This means that this research model was appropriate to prove that the cost of equity capital was influenced by earnings management and asymmetry information for both small and large companies. In other words, earnings management and asymmetry information influenced the cost of the equity

Table 6. Summary of Hypothesis Testing Results on Small Companies

Before the Moderating Variable					After Added the Moderating Variable				
Var.	Coeff.	t-Stat	Prob.	Concl.	Var.	Coeff.	t-Stat	Prob.	Concl.
C	-1.009521	-0.132201	0.8950		C	-20.52228	-2.660668	0.0086	
EM	0.799728	3.127381	0.0021	Accepted	ML	6.149753	2.361887	0.0194	H ₁ :Accepted
AI	4.729649	5.305719	0.0000	Accepted	AI	5.724720	7.740606	0.0000	H ₂ :Accepted
MC	0.327534	0.651419	0.5157	Rejected	MC	-0.219965	-0.550276	0.5829	Rejected
LEV	0.183493	0.229829	0.8185	Rejected	LEV	-0.114065	-0.181210	0.8564	Rejected
PROF	0.093619	1.177439	0.2408	Rejected	PROF	0.161964	2.550639	0.0117	Accepted
					DL	56.33569	8.432428	0.0000	Accepted
					EMDL	-10.49406	-2.029600	0.0441	H ₄ : Rejected
					AIDL	-0.701807	-0.550182	0.5830	H ₃ : Accepted
R-squared	0.215371				R-squared	0.523136			
Adjusted R-squared	0.190223				Adjusted R-squared	0.498202			
S.E. of regression	13.77173				S.E. of regression	10.84102			
F-statistic	8.564019				F-statistic	20.98081			
Prob(F-statistic)	0.000000				Prob(F-statistic)	0.000000			
Mean dependent var	22.88347				Mean dependent var	22.88347			
S.D. dependent var	15.30402				S.D. dependent var	15.30402			
Durbin-Watson stat	1.944744				Durbin-Watson stat	2.111401			

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capital, without seeing the company categorized as a small or a large company.

The next results showed that disclosure level was able to moderate the influence earnings management on the cost of equity capital both for large and small companies. However, the disclosure level was not able to moderate the influence of asymmetry information on the cost of equity capital. These results mean that this research model was appropriate for analyzing all types of companies, both large and small companies.

5. Discussion

The influence of earnings management on the cost of equity capital

The study showed that earnings management had a significant positive influence on the cost of equity capital both for all companies and after being separated between small and large companies. Then, the alternative hypothesis which stated that earnings management had a positive influence on the cost of equity capital was accepted. The acceptance of the hypothesis of this research implied that this research model could be used for all categories of companies,

so this model is appropriate for analyzing companies with small categories and large companies.

Then, the results of this study indicated that management was more likely to behave to do earnings management to pursue a lower cost of equity which impressed for having better company's performance. It is in line with Rinobel & Laksito (2015), they stated that one of the dysfunctional behaviors carried out by the agents was manipulating data in financial statements to match the principals' expectations although the report did not describe the actual condition of the company.

The results of this study were in accordance with agency theory which explained that the management and shareholders had their conflicts of interest. Shareholders would certainly oppose the management conducting high earnings management because it was considered to provide information which did not reflect the actual condition of the company. Earnings management used because it increased the cost of equity capital as a form of risk faced by shareholders.

O'Callaghan, Ashton, & Hodgkinson (2018) said that the accrual component in profit was a source of uncertainty which could reduce profit capability in

Table 7. Summary of Hypothesis Testing Results on Large Companies

Before the Moderating Variable					After Added the Moderating Variable				
Var.	Coeff.	t-stat	Prob.	Concl.	Var.	Coeff.	t-stat	Prob.	Concl.
C	-82.31078	-6.023599	0.0000		C	-119.0926	-11.86739	0.0000	H ₁ : Accepted
EM	2.027716	7.368222	0.0000	Accepted	EM	3.618897	4.455872	0.0000	H ₂ : Accepted
AI	28.15316	11.06584	0.0000	Accepted	AI	28.64740	15.63316	0.0000	Rejected
MC	0.386733	0.586902	0.5581	Rejected	MC	0.358672	0.774108	0.4400	Rejected
LEV	-1.235762	-0.995906	0.3208	Rejected	LEV	-0.429264	-0.491509	0.6237	Accepted
PROF	0.115554	1.361997	0.1751	Rejected	PROF	0.121542	2.038096	0.0432	Accepted
					DL	60.49399	12.95808	0.0000	H ₃ : Accepted
					EMDL	-2.351663	-2.156747	0.0325	H ₃ : Accepted
					AIDL	0.002974	0.003890	0.9969	H ₄ : Accepted
R-squared		0.468380			R-squared		0.742878		
Adjusted R-squared		0.451972			Adjusted R-squared		0.729941		
S.E. of regression		16.77599			S.E. of regression		11.77650		
F-statistic		28.54583			F-statistic		57.42300		
Prob (F-statistic)		0.000000			Prob (F-statistic)		0.000000		
Mean dependent var		34.08383			Mean dependent var		34.08383		
S.D. dependent var		22.66142			S.D. dependent var		22.66142		
Durbin-Watson stat		1.725905			Durbin-Watson stat		1.762738		

projecting future cash flows. Earnings management has an accrual element which is the cause of uncertainty. It involves assumptions and approaches from the perspective of management. The element of management's subjectivity in policy-making can increase investors' uncertainty over investment risks.

Then, Stolowy & Breton (2004) explained that account manipulation was solely done based on management's desire to influence investors' perceptions of company risk, i.e., the risk of yield variation and the company risk's financial structure. It made investors ask for high returns due to the manipulation by the management of the company. It is in line with the research results conducted by Jumirin (2011) and O'Callaghan, Ashton, & Hodgkinson (2018), they found that earnings management had a positive influence on the cost of equity capital. The higher management in earnings management, the more shareholders increase the required rate of return.

Influence of asymmetry information on the cost of equity capital

The results showed that asymmetry information had a significant positive influence on the cost of equity capital both for all companies and after being separated between small and large companies. This result is in line with agency theory which states the relationship between asymmetry information and the cost of equity capital. The management who acts as an agent has complete information on the company's condition and its prospects. On the other hand, the shareholders (principals) only know the condition of the company at a glance. This difference in information can lead to asymmetry information. The relationship between agent and principal can have problems if there is asymmetric information (Rinobel & Laksito, 2015; Hajawiyah, Adhariani, & Djakman, 2018).

Shareholders who did not have any adequate information on the company's prospects assume that the company was at high risk. As the shareholders, they did not want to get big loss due to the high company risk. Shareholders would increase the cost of eq-

uity capital as a condition for returning the capital invested. It means that companies with a high level of asymmetry information would make a gap for themselves because it automatically increased the cost of equity capital. This was consistent with agency theory; the more information hidden by the agent, the higher the risk borne by the capital owner or shareholder, which in turn impacted on the cost of equity capital issued by the company (Nurjanati & Rodoni, 2015).

Ifonie (2012), Purwanto (2012), and Nuryaman (2014) found that asymmetry information had a positive influence on the cost of equity capital. It means that the more asymmetry information, the more cost of equity capital issued by the company and vice versa; the less asymmetry information, the less the cost of equity capital. The measurement of asymmetry information is often proxied by bid-ask spread.

Disclosure level moderates the influence of earnings management on the cost of equity capital

The study showed that the disclosure level was able to be a moderating role for the influence of earnings management on the cost of equity capital both for all companies and after being separated between small and large companies. The third hypothesis of this study was accepted. It means that the disclosure level was a moderating variable for earnings management and the cost of equity capital issued by the company. Information disclosed by the company can influence the decisions of shareholders to reduce the rate of return (the cost of equity capital). It indicates that the cost of delivering information is in accordance with the benefits obtained by the company to reduce the cost of equity capital.

These results are in accordance with signaling theory which states that any information is a signal to shareholders that can affect company funding (Beyer et al., 2010; Appuhami, 2018). The signal given by the company encourages shareholders to reduce the rate of return (costs for the company) is not proven. Disclosure level is able to be a determinant in strength-

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ening or weakening the influence of earnings management on the cost of equity capital.

Every disclosure provided by the company shows the company's transparency on information. Companies which utilize normal accruals on their financial statements are deemed reasonable by shareholders. Normal accrual is one of management's efforts in earnings management through an accounting method which can provide indirect benefits to the company.

Disclosure level moderating the influences of asymmetry information on the cost of equity capital

The study was unable to prove that the disclosure level has a role in moderating the influence of asymmetry information on the cost of equity capital both for all companies and after being separated between small and large companies. Although the result is not significant the coefficient of influence was negative. It shows that any information disclosed by the company can reduce asymmetry information between the company and its shareholders. Shareholders' understanding of the condition of the company can reduce the company risk which decreases the cost of equity capital (rate of return). The result of this study is interesting because the influence coefficient is different for large and small companies. For small companies, disclosure level moderates negatively on asymmetry information.

Disclosure level in small companies would reduce asymmetry information which would ultimately reduce the cost of equity capital. Thus, for small companies; the disclosure level was very important as a medium or a way to reduce the cost of equity capital. Furthermore, if the company was not able to provide adequate information through disclosure level, the cost of equity capital became high. But this condition did not apply to large companies especially if the company had a large asset and a good reputation.

The results of this study can be explained in the signaling theory, which each disclosure is a signal to

shareholders. This signal can reduce asymmetry information between companies and shareholders so it will reduce the cost of equity capital. The companies which make high disclosures tend to get respect from shareholders. The clear condition of the company provides an understanding of how shareholders must act so the company can increase its company value from the shareholders' perspective. It reduces the company risk from the perspective of shareholders which decreases the cost of equity capital.

Embong, Mohd-saleh, & Hassan (2012) also found that disclosure had a negative influence on the cost of equity capital. Companies which disclose more information can reduce the cost of equity capital. Information disclosure encourages shareholders to improve trust in the company further. It makes the company reduce the cost of equity capital when more information is revealed.

Disclosure level had an important role as a moderating variable because any information provided by a company through disclosure had an impact on the company's risk. The high company's risk made the company provide high return requested by the shareholders. This was an inefficiency in expenditure. In reducing these expenditure costs, the company's management should make a disclosure which was in line with the shareholders' thoughts. The assessment of future's company was important for each party since the disclosure reduced inefficiency in expenditure.

Companies with long-term vision should begin repairing the information. Every disclosure is the company's step to gain long-term trust to maintain the company's sustainability in the future. Companies form shareholder perceptions as part of the company's efforts to minimize the cost of equity capital. The presence of disclosures from companies also reduces asymmetry information. Information alignment makes stakeholders understand the condition of the company. Thus, the company can get external funding for business expansion without any more questions.

6. Conclusion, Limitations, and Suggestions

Conclusion

The study gave the empirical evidence which examined the cost of equity capital in Indonesia. The magnitude of the cost of equity capital was proven to be influenced by earnings management and asymmetry information for both large and small companies. The influence of earnings management and asymmetry information has increased with the company's disclosure level. The increase can be seen from the direction of the influence coefficient on the negative number; it means that disclosure of information is able to reduce the cost of equity capital. Therefore, the model

and results of this study can support references which examine the cost of equity capital in Indonesia, and it can be implemented in other industrial sectors.

Limitations and suggestions

However, there is a limitation of the study; it is on the sample used of the study is only limited to manufacturing companies. Therefore; for future research, it can expand the sample by adding other industrial sectors; such as banking sectors, and or other financial institutions since they also require funding from other large companies.

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