

Asymmetric Information, Earnings Management and Cost of Equity

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ABSTRACT

The purpose of this study was to determine whether there is an influence of asymmetric information and earnings management on cost of equity. The total samples on this research are 241 that are determined using the purposive sampling method at manufacturing companies listed on the Indonesia stock exchange in 2015 to 2017. The analysis used is panel data regression. The findings indicate that asymmetric information affected the cost of equity, whereas earnings management had no effect on the cost of equity. The lack of impact from earnings management is due to the bias in investor perspectives on financial statements, where they believe the reported numbers are genuine and unaltered, without verifying whether a company employs earnings management practices or not.

INTRODUCTION

The capital market offers companies the opportunity to secure foreign funding, enabling companies in need of financial resources to enhance their development and profitability. Additionally, as a traditional market, the capital market serves as a meeting place for buyers and sellers, and furthermore, as a venue for negotiation. Adequate information, particularly concerning the company's status and prospects, is essential to make informed bidding decisions.

Investors, as participants in the capital market, rely on having access to adequate information. Their investment decisions are inherently tied to the consideration of both the potential return and the associated level of risk. When the perceived risk associated with investing in certain securities is high, investors typically expect higher returns as compensation for taking on that risk. This relationship between risk and return is a crucial factor that investors evaluate when making investment decisions in the capital market. According to Tandelilin (2017), the minimum rate of return demanded by investors, taking into account the level of investment risk, is referred to as the cost of equity. A low cost of equity indicates that investors perceive the company's risk to be low, and as a result, they expect lower returns on their investments. This implies that investors have confidence in the company's stability and potential for generating steady profits, which leads to a reduced expectation of higher returns to compensate for the risk.

Companies provide annual reports to inform investors about essential information. However, companies and investors possess distinct interests, leading to a situation where information is imbalanced. According to Komalasari & Baridwan (2001), asymmetric information arises when managers possess greater knowledge about the company and its future prospects compared to investors. They suggest that by increasing the dissemination of internal information to the public, the level of asymmetric information can be reduced. This increased transparency allows investors to make more accurate assessments of the company's value, thereby minimizing shareholders' risk expectations and lowering the cost of equity for the company. Khomsiyah & Susanti (2019) stated that a reduction in asymmetric information leads to a decrease in information processing costs. This reduction occurs because all market participants have access to relatively similar information. As information processing costs decrease, liquidity increases, resulting in lower security prices and ultimately reducing the cost of equity.

Managers with extensive knowledge of internal information, indicating higher levels of asymmetric information, have a higher likelihood of engaging in opportunistic earnings management practices (Evodila, Erlina, & Kholis, 2020). This perspective aligns with Meini & Siregar (2014), who emphasize that the importance of possessing internal information, including a company's earnings, can motivate management to manipulate those earnings with the aim of portraying the entity in a positive financial light.

Engaging in earnings management practices has negative consequences for the credibility of financial statements and investor confidence. The presence

of uncertainty regarding the company's true financial condition, coupled with the bias resulting from earnings management, increases the risk faced by investors. As a result, investors demand a higher return. Dechow, Sloan, & Sweeney (1996) explain that when a company overstates earnings, investors attempt to estimate the extent of the overstatement. However, since the level of manipulation is difficult to ascertain, overstatement introduces greater uncertainty about the company's value among investors. Traders who possess more information about the manipulation have the opportunity to generate additional profits from fees charged to market participants. This wider informational asymmetry leads to an increase in the bid-ask spread, as traders demand compensation for the heightened risk of losses. The widening bid-ask spread subsequently contributes to an increase in the cost of equity.

The objectives of this study aimed to determine the influence of asymmetric information and earnings management on cost of equity capital, while also considering size, leverage, and market-to-book value as control variables.

THEORETICAL REVIEW

Agency Theory

Agency theory explains the dynamics of the relationship between managers and investors, outlining their respective roles within a company. In this theory, managers are referred to as agents since they are directly involved in making decisions on behalf of the company. On the other hand, investors, who authorize and entrust managers with decision-making authority, are referred to as principals.

The distinct functions performed by managers and investors give rise to divergent interests. This difference in interests leads to conflicts, as highlighted by Dawar (2014). Investors, who function as owners of the company, may have a primary objective of maximizing shareholder wealth. However, managers, acting as corporate decision-makers, may prioritize their own personal goals or alternative objectives that may not always align with the interests of the investors.

Asymmetric Information and Cost of Equity

Brigham & Houston (2015) define asymmetric information as a scenario in which managers possess more knowledge about the prospects of the company compared to investors. This implies that managers have access to information that is not readily available to investors, leading to an imbalance in information between the two parties. In line with the previous explanation, the concept of asymmetric information in this study refers to the disparity or imbalance of information between managers and investors, as well as other shareholders. It highlights the situation where managers possess greater knowledge and access to information about the company compared to the rest of the shareholders. This imbalance creates a potential for managers to have a more comprehensive understanding of the company's internal workings, prospects, and potential

risks, potentially giving them an informational advantage over other shareholders.

As per (Richardson, 2000), internal information might be accessible to specific traders who are ready to pay more for it. This leads to a situation of adverse selection. Nasih et al. (2016) elaborate that this issue of adverse selection raises the expenses of transactions between knowledgeable investors and those possessing limited information, ultimately leading to reduced company liquidity. Informed investors will seek greater returns to offset the extra costs associated with acquiring information. This, in turn, will widen the bid-ask spread, contributing to a rise in the cost of equity (COE).

The study conducted by Nuryaman (2014) discovered a favourable impact of IA on COE. Similarly, research conducted by Nasih et al. (2016) yielded comparable results, indicating a positive influence of IA on COE.

H₁: Asymmetric information has a positive effect on cost of equity.

Earnings Management and Cost of Equity

According to Mahrani & Soewarno (2018) conflicts of interest are highly likely to arise within the agency relationship. These conflicts stem from differing motivations between principals (investors) and agents (managers). Principals primarily seek an increase in company profits and dividends, while agents are more driven to satisfy their own economic and psychological needs. These contrasting motivations prompt agents to resort to earnings management practices to fulfil the demands of the principals.

Agents exploit the situation by implementing specific accounting policies that enable them to manipulate the company's financial results, either by increasing or decreasing profits. These actions, where agents manipulate earnings to align with their own interests, are referred to as earnings management. Earnings management involves strategic choices made by agents to manipulate financial figures to achieve desired outcomes or to present the company's financial performance in a certain light (Nuryaman, 2014). Building upon the previous description, in this study, earnings management is defined as the deliberate intervention or manipulation carried out by managers in the financial statements of a company.

According to Andriani (2013), in cases where investors identify companies involved in manipulating earnings, investors will respond by taking steps to mitigate risk, thereby elevating their anticipated returns. Furthermore, companies with questionable credibility will diminish investor trust, leading to investors hesitating to commit their funds to such enterprises. Therefore, the company will encounter challenges in securing external funding, resulting in an upswing in the company's cost of equity. This corresponds with earlier research by Utami (2005), which reached the conclusion that earnings management positively affects cost of equity.

H₂: earnings management has a positive effect on cost of equity.

Control Variable *Size*

As per Kurnia & Arafat (2015), company size serves as a metric for categorizing companies as either large or small. This classification is typically based on various factors such as total assets, sales figures, and market capitalization. They contend that larger companies, owing to their substantial assets, generally face fewer challenges in meeting their credit obligations, resulting in lower overall company risk.

Furthermore, Rinobel & Laksito (2015), in their research, elucidate the relationship between company size and the cost of equity. Larger companies tend to garner more attention from market participants. Consequently, these larger firms are inclined to increase their level of information disclosure as a strategy to mitigate information asymmetry and, in turn, lower their cost of equity.

Leverage

Mahiswari & Nugroho (2014) define leverage as the proportion between a company's total liabilities and total assets. This ratio illustrates the extent to which a company's assets are supported by debt financing. Therefore, if a company has a leverage ratio greater than zero, it indicates that the company relies more on debt than its own capital to finance its operations. Consequently, this heightened reliance on debt elevates the company's level of risk. An increase in risk typically correlates with a higher rate of return and ultimately results in an elevated cost of equity value as well.

Market to Book Value

Brigham & Houston (2015) provided insight into the concept of market-to-book value, which represents how investors perceive a company's worth. A high market-to-book value suggests that investors view the company favourably, as they are willing to pay a premium for shares that exceed their book value by several times. This occurs because book value does not account for factors such as inflation and intangible assets like goodwill. Aisyah & Kusumaningtias (2014) added that market participants assess a company's value by considering its future growth prospects.

Pramita (2016) elaborated that a market-to-book value greater than one signifies investor appreciation for the company, while a value below one indicates depreciation. Brigham & Houston (2015) further emphasized that companies with high market-to-book values tend to exhibit low risk and robust growth potential. Lower risk leads to investors demanding a reduced expected return, consequently driving down the company's cost of equity.

Research Framework

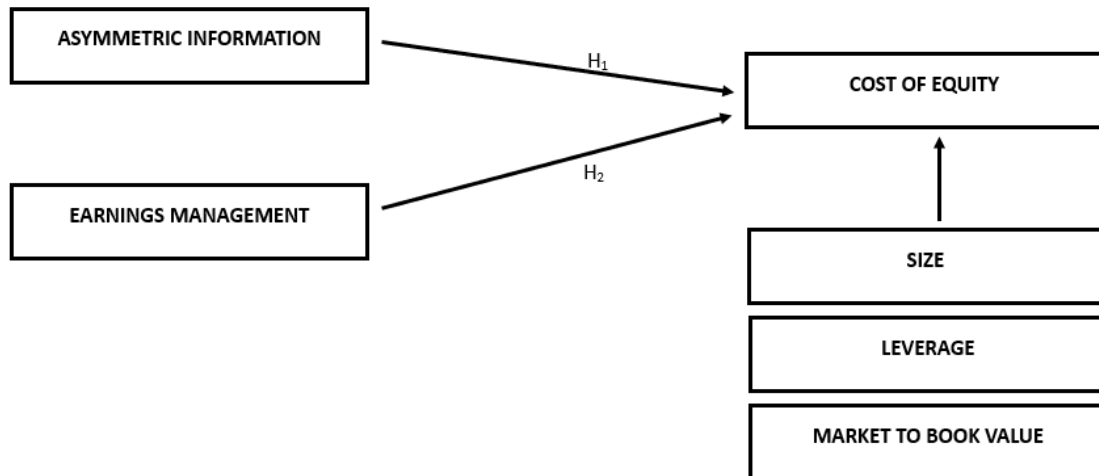


Figure 1. Research Framework

METHODOLOGY

Population, Sample, and Sampling Techniques

The population in this research are manufacturing companies that have been registered on the Indonesia Stock Exchange with a research period of three years, namely 2015, 2016 and 2017. To determine the sample, the purposive sampling method was used. The definition of purposive sampling itself is a nonprobability sample that meets certain criteria. Based on the definition described by Cooper & Schindler (2014), the purposive sampling method requires criteria for selecting samples that can be used in this study. The criteria that must be met are as follows: a) The company is a manufacturing company that was listed on the Indonesia Stock Exchange before 2015, b) The sampling company has issued an annual financial report which ended on December 31 for the 2015-2017 period, c) The sampling company has the required data.

Total manufacturing companies listed from 2015 on the Indonesia Stock Exchange are 136 companies per year. The total number of companies from 2015 to 2017 is 408. After the data has been eliminated, the sample that can be used in this study is 241.

Hypothesis Test

The equation used to test the hypothesis in this study is as follows:

Testing the first hypothesis which states the positive effect of asymmetric information on the cost of equity.

$$CEC_{it} = \alpha + \beta_1 AI_{it} + \beta_2 SIZE_{it} + \beta_3 MB_{it} + \beta_4 LEV + \varepsilon_{it} \dots \dots \dots (1)$$

Testing the second hypothesis which states the positive effect of earnings management on the cost of equity.

$$CEC_{it} = \alpha + \beta_1 EM_{it} + \beta_2 SIZE_{it} + \beta_3 MB_{it} + \beta_4 LEV + \varepsilon_{it} \dots \dots \dots (2)$$

Operational Definitions

Asymmetric Information

Measurement of asymmetric information in this study uses bid-ask spread as a measurement tool. The bid-ask spread formula is as follows:

$$Spread_{i,t} = \frac{(ask_{i,t} - bid_{i,t})}{(ask_{i,t} + bid_{i,t})/2} \times 100 \dots (3)$$

Where:

Spread_{i,t} The difference between company i's ask and bid price in year t
Ask_{i,t} The highest ask price of company i stock in year t
Bid_{i,t} The lowest bid price of company i stock in year t

Earnings Management

Earnings management in this study will be using modified Jones Model as a proxy, with the following formula:

$$DA_{i,t} = TA_{i,t} / A_{i,t-1} - NDA_{i,t} \dots (4)$$

Where:

DA_{i,t} Discretionary Accruals for company i in year t
TA_{i,t} Total Accruals for company i in year t
A_{i,t-1} Total asset for company i in year t-1
NDA_{i,t} Non-discretionary Accruals for company i in year t

Cost of Equity

The measurement of cost of equity in this study will use the Capital Asset Pricing Model (CAPM) approach. Here is the CAPM formula:

$$CEC_{i,t} = R_{ft} + \beta_i (R_{Mt} - R_{ft}) \dots (5)$$

Where:

CEC_{i,t} Estimation of cost of equity
R_{ft} Risk free return
β_i Unsystematic risk of the company i
R_{Mt} Market return

Size

The size of the company will be proxied by using the company's total assets. The formula used is as follows:

$$Size = \ln(Total\ asset) \dots (6)$$

Leverage

To calculate leverage in this study using the following formula:

$$Leverage = \frac{total\ debt}{total\ asset} \dots (7)$$

Market to Book Value

Market to book value is the ratio between the market value and the book value of a company. Market to book value calculation uses the following formula:

$$Market\ to\ book\ value = \frac{Market\ capitalization}{Total\ book\ value} \dots (8)$$

RESULTS

Data Panel Regression Results

Ghozali & Ratmono (2013) emphasized the importance of establishing a model that encompasses three possible approaches—common effect, fixed effect, and random effect—when analyzing panel data. To ascertain the most suitable model for the regression analysis in their study, two tests are required. Firstly, the Chow test will be employed to distinguish between common effects and fixed effects. Secondly, the Hausman test will be utilized to discern whether the fixed effect or random effect is more appropriate. Furthermore, the study will include an additional testing stage, namely the Lagrange Multiplier test, aimed at identifying the presence of random effects alongside the common effect.

Chow Test

If it is greater than 0.05 then H_0 is accepted, and if it is smaller than 0.05 then H_0 is rejected. The hypothesis formed in this chow test is as follows:

H_0 : choose the common effect.

H_a : choose the fixed effect

Table 1. Chow Test Result

Effect Test	Statistic	Sig
Cross Section F	7.36	0.000

Based on table 1, the cross-section F has a probability of less than 0.05. This shows that H_0 is rejected, so it can be concluded that the chosen model is the fixed effect.

Hausman Test

The provisions of the Hausman test are seen from the probability of a random cross-section. If it is greater than 0.05 then H_0 is accepted, and if it is less than 0.05 then H_0 is rejected. The hypothesis formed from the Hausman test is as follows:

H_0 : choose the random effect.

H_a : choose the fixed effect

Table 2. Hausman Test Result

Effect Test	Statistic	Sig
Chi Square	2.01	0.7331

Table 2 shows that the probability of a random cross-section is 0.7331 (>0.05). It implies that H_0 is accepted, and the random effect was chosen as the most suitable model.

Lagrange Multiplier Test

The provisions of the Lagrange multiplier test are, if the chi-square probability is less than a significance of 0.05 or α 5% then the null hypothesis

will be rejected. If the chi-square probability is greater than the significance of 0.05 or α 5% then the null hypothesis is accepted. The hypothesis formed in the Lagrange multiplier test are as follows:

H_0 : choose the common effect.

H_a : choose the random effect

Table 3. Lagrange Multiplier

Effect Test	Statistic	Sig
Chi Square	101.06	0.000

Table 3 indicates that the chi-square probability is 0.000, falling below the significance threshold of 0.05. This implies that we reject the null hypothesis. Consequently, we can draw the conclusion that the random effect model is the most appropriate choice for this research.

Hypothesis Test

The table below presents the outcomes of hypothesis testing, revealing the impact of asymmetric information and earnings management on the cost of equity when employing the random effect model.

Table 4. Random Effect Test Result

Variables	Coeff	Z	Sig	F		R ²
				Coeff	Prob	
EM	0.004	0.97	0.332	39.580	0.000	0.264
AI	15.289	3.40	0.001			
MBV	-0.034	-0.63	0.530			
SIZE	-0.411	-3.50	0.000			
LEVERAGE	0.404	1.30	0.193			

According to the data presented in Table 4, the regression coefficient for the variable representing asymmetric information stands at 15.289, displaying a positive value with a significance level of 0.001 (less than 0.05). This signifies that asymmetric information has a positive impact on the cost of equity. In contrast, the coefficient for earnings management is also positive, measuring at 0.004, suggesting a positive influence on the cost of equity. However, the significance level for earnings management is 0.332 (greater than 0.05), indicating that the effect of earnings management on the cost of equity is not statistically significant.

Table 4 reveals that among the three control variables investigated in this study, Size stands out as the sole variable demonstrating significance below 0.05, precisely at 0.00. This substantiates that size indeed exerts an impact on the cost of equity. The coefficient value of -0.411 signifies a negative effect on the cost of equity.

DISCUSSION

Asymmetric Information and Cost of Equity

The findings derived from the data analysis presented in Table 4 align with our research hypothesis, indicating that the use of asymmetric information as a proxy has a favourable impact on the cost of equity. This observation lends support to the agency theory, which elucidates the link between asymmetric information and the cost of equity. In this context, managers, acting as agents, possess comprehensive information, whereas shareholders, serving as principals, have limited knowledge about the state of the business. The disparities in information between agents and principals give rise to the phenomenon of asymmetric information.

Investors who lack sufficient information about a company find it challenging to make accurate assessments, leading to uncertainty regarding the company's financial health. This uncertainty, in turn, diminishes shareholders' anticipated returns as a way to compensate for potential unknowns, such as the company's ability to distribute dividends. The rise in investors' expected returns also contributes to an increase in the cost of equity. These research findings corroborate the conclusions drawn in studies conducted by Andriani (2013) Nuryaman (2014), which assert that elevated levels of asymmetric information correspond to higher costs of equity.

Earnings Management and Cost of Equity

The results from the statistical tests shown in Table 4 suggest that earnings management does not have a significant effect on the cost of equity. This suggests that earnings management has not been successful in elucidating its impact on the cost of equity. An escalation in earnings management practices does not automatically lead to a rise in the cost of equity. This discovery contradicts the initial hypothesis of this study, which proposed a positive correlation between earnings management and the cost of equity. Interestingly, the research conducted by Andriani (2013) yielded a similar outcome, asserting that earnings management does not exert influence on the cost of equity.

Andriani (2013) asserts that earnings management has no impact on the cost of equity because investors are generally unaware of such practices. This situation arises because investors often exhibit irrational behaviour when making investment decisions, primarily due to their limited understanding of the concepts of return and risk. In this study, the cost of equity is gauged using the Capital Asset Pricing Model (CAPM) as a proxy. The CAPM approach operates on the assumption that the cost of equity elucidates the connection between the minimum expected return and the inherent risk that cannot be mitigated under normal market conditions (Tandelilin, 2017). The lack of awareness regarding earnings management activities prevents investors from accurately assessing the real risks they face, ultimately leading to the failure of the CAPM model in predicting the connection between earnings management and the cost of equity.

Setiawati & Na'im (2000) share a similar perspective by emphasizing the existence of bias that influences how investors perceive financial statements. They pointed out that investors often operate under the assumption that the numbers presented in financial statements are accurate and have not been altered

in any way. As a result, investors typically do not take the step of verifying whether a company is involved in earnings management or not.

In contrast to Andriani (2013), Ifonie (2012) assumes that investors are actually aware of management practices, so investors' decision-making is not solely based on financial reports, but other factors related to the company. The cost of equity is a value based on investors' expectations of future returns and the risks they will face. The presence of earnings management practices may affect current financial reports, but by considering other company-related factors, investors can assess the true condition of the company and predict its potential in the future.

Variable Control

Size

The findings from the analysis in Table 4 suggest that Size exerts a negative influence on the cost of equity. In other words, as a company's size increases, its cost of equity tends to decrease. Larger firms typically engage in a variety of business activities across multiple sectors. Consequently, changes in one sector may not necessarily impact other sectors, resulting in a reduced overall impact on the company. Additionally, larger companies often have better access to sources of capital, allowing them to choose capital with lower cost of equity. These findings resonate with the views expressed by Kurnia & Arafat (2015), who asserted that larger companies are less likely to encounter challenges in meeting their debt obligations, thus diminishing the company's level of risk.

CONCLUSIONS AND RECOMMENDATIONS

The purpose of this research is to examine the effect of asymmetric information and earnings management on the cost of equity in manufacturing companies listed on the Indonesia Stock Exchange in the 2015-2017 period. The conclusions that can be drawn from this research are, 1) asymmetric information has a positive effect on the cost of equity. This shows that when a company's asymmetric information increases, the cost of equity of the company also increases. Conversely, if the asymmetric information of the company decreases, the cost of equity decreases. 2) The effect of earnings management on the cost of equity cannot be proven. That is when the earnings management practices of a company have increased or decreased will not affect the company's cost of equity.

The findings of this study have significant implications for various stakeholders. Academically, they contribute to the growing body of knowledge regarding the impact of asymmetric information and earnings management on the cost of equity. For businesses, these results suggest that managers should be vigilant when it comes to asymmetric information circulating in the capital market. Proactive disclosure of internal company information during periods of asymmetric information can be an effective strategy to mitigate the company's cost of equity by reducing information asymmetry. Investors, on the other hand, should consider the influence of asymmetric information on a company's cost of equity. This awareness can guide investors in determining their required returns,

with an emphasis on companies that prioritize transparency in their operations and communications.

ADVANCED RESEARCH

The research has several limitations. Firstly, it relies on the Capital Asset Pricing Model (CAPM) as a proxy to estimate the cost of equity, which may not fully capture the nuances of the company's equity costs. Typically, studies of this nature encompass five time periods; however, due to constraints in data availability, our study was restricted to a shorter three-year period, spanning from 2015 to 2017. Furthermore, our sample selection process was non-random, as it was based on predetermined criteria set by the researchers, potentially introducing biases that could affect the normality of the data.

Given these limitations, we recommend that future researchers explore alternative proxies for measuring the cost of equity, consider conducting robustness tests involving proxies related to earnings management and asymmetric information, and evaluate whether these alternative measures yield consistent results. To mitigate selection bias, employing random sampling methods and including a broader representation of sectors in the sample would be beneficial. Additionally, researchers could extend the research timeframe and differentiate between asymmetric information occurrences during earnings announcement periods and non-announcement periods.

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