The effect of risk disclosure on the cost of equity capital and firm value
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ARTICLE INFO

Article history
Received 24 June 2019
Revised 28 August 2019
Accepted 10 September 2019

JEL Classification:
G32

Key words:
Corporate Risk Disclosure, Cost of Equity Capital, Firm Value,

DOI:
10.14414/tiar.v9i2.1715

ABSTRACT
This study examines the effect of corporate risk disclosure on cost of equity capital and firm value. It uses the ratio of market value to book value, the ratio of leverage, consumer price index, growth, firm size, independent audit committee, and net profit during the study period and net profit in the previous year as control variables. The population consists of all manufacturing companies listed on the Indonesia Stock Exchange for the period 2015 - 2017. The sample was taken using a purposive sampling method, with the total sample of 99 companies. The data were analyzed using multiple regression analysis to test the hypothesis. The results indicate that corporate risk disclosure has a negative effect on the cost of equity capital but corporate risk disclosure has a positive effect on firm value.

ABSTRAK

1. INTRODUCTION
Every company needs funds to carry its business activities. The company obtains their fund from equity and debt. Yet, the capital and debt acquisition will lead to a capital cost. If the company obtains the capital from equity, it will lead to a cost of equity while if the company gets their capital from debt, it will result in a cost of debt. According to Ifonie (2012), the cost of equity capital is how much the returns targeted by investors and creditors. The cost of equity capital is an important factor in deciding the right financial structure (Dhaliwal et al. 2011). In addition, Utami, in Ningsih and Ariani (2016), stated that the cost of equity capital is the amount of rate used by investors to discount the expected dividends in the future. The cost of equity capital is as the return targeted by the investor for investing his capital in the company. The cost of equity capital also deals with investment risk from the stocks of the entity. One of the factors affecting the cost of equity capital is the existence of unbalanced information. Unbalanced information is the existence of unequal information between the manager

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and principal, or the organizer or manager knows more information about the condition of the company than the principal does. This makes the manager obliged to convey a signal through disclosure of accounting information about the condition of the company to the owner or stockholders.

Firm value (FV) is very important because with a high firm value, the company can also have a high level of shareholder prosperity. A stock price has a relationship with the investor perceptions about the level of a company’s success or known as firm value. A high stock value will lead to an increase in the firm value and the market confidence towards the company’s performance in the future. Investors who have more extensive information and more confidence in the company can judge more accurately about the company’s value than the investors who have little information. Miühkinen (2013) found that disclosure can reduce information asymmetry, and low information asymmetry is usually found to be associated with higher firm value (FV) (Maizatulakma Abdullah, 2015). Therefore, a company manager has a duty to manage the risks in his company because the uncertainty or risk will always have a relationship with the company’s activities. Risk always comes up whenever and wherever.

Risk is the possibility of loss which indicates an uncertain condition. Therefore, the company should manage the risk in order they can minimize losses. Every company always deals with business risk and non-business risk. Business risk is the risk associated with the activities or business of the company, while non-business risk is the risk that cannot be controlled by the company. There are many ways that companies do to avoid the risks that occur, that is, by applying risk management. Risk management is a structured approach or methodology in managing uncertainty related to threats, including assessing the risks, developing strategy to manage them, and mitigating risks using resource empowerment or management. Risk management must be adequate so that they can manage the risk carefully and make an appropriate decision-making. Requests by stockholders or investors for more transparent disclosures make companies expand their relevant financial and non-financial information.

Since 2000, the companies have done many ways have, especially the financial industry, to implement risk management. For example, in 2010, the Securities and Exchange Commission (SEC) socialized new regulations to increase risk disclosure including annual disclosures and reports. Recognizing that the information on risk disclosure is important, the Indonesian regulatory body made regulations that require companies to disclose information about risks in their annual reports. There are several regulations regarding risk disclosure, one of which is stated in the Decree of the Chairman of Capital Market and Financial Institution Supervisory Agency (BAPEPAM-LK) Number: Kep-431/ BL/ 2012 concerning Submission of Annual Reports of Issuers or Public Companies. The regulation states that each company must disclose information about the overall risk management system, the manner or type of company risk management, and a review of the effectiveness of the risk management system conducted by the company.

To understand risk disclosure, researchers should also know find evidence in some researches so that they can discuss more profoundly. However, there are still very few studies that discuss the disclosure of risks related to the cost of equity capital and firm value. The result of research on the relationship between voluntary disclosure and the cost of equity capital shows that when the level of risk disclosure is high, the company will reduce the cost of equity capital (Botosan, 1997). Previous studies also found that the main factor that has a role in uncertainty in the current business environment is non-financial risk. However, information about non-financial risks is still less than information about financial risk (Lajili and Zéghal, 2010). The lack of information about non-financial risks can mislead investors in making decisions. Miühkinen (2013) found that the disclosure of non-financial risk can reduce information asymmetry, and low information asymmetry is usually associated with higher company value (Maizatulakma Abdullah, 2015). This research is based on signaling theory which explains why companies have the drive to provide financial statement information to external parties. Therefore, it is interesting for researchers to further investigate the disclosure of risks related to capital costs and company value.

2. THEORETICAL FRAMEWORK AND HYPOTHESIS
Risk disclosure is important and useful information for external parties or investors, as
consideration in making decisions. Therefore, the Indonesian regulatory body makes regulations that require companies to disclose information about risks in the annual report.

This study examines the effect of risk disclosure on the cost of equity capital and firm value in manufacturing companies listed on the Indonesia Stock Exchange (IDX) period 2015-2017. The relationship between variables in this study is as on Figure 1.

Figure 1 illustrates the effect of independent and control variables on the dependent variable. The independent variable in this study is the corporate risk disclosure. The first hypothesis uses the dependent variable of cost of capital equity, while the second hypothesis uses the dependent variable of firm value.

The straight line in Figure 1 indicates that there is a direct effect between the independent variable and the dependent variable, while the dotted line indicates that there is an indirect effect between the control variable and the dependent variable. The control variables referred to in this study are leverage ratio, independent audit committee, ratio of market value of equity to book value of equity, consumer price index, profit of research year, profit of previous year, company growth.

**The Relationship between Risk Disclosure and Cost of Equity Capital**

The relationship between risk disclosure and the cost of equity capital is a very interesting issue in the current economic environment. Stakeholders argue that market efficiency depends on transparent disclosures that are comprehensive and relevant in value (Richardson and Welker, 2001). Disclosure of information can benefit companies through lower capital costs based on two aspects. First, disclosure reduces transaction costs. Increased
disclosure of information can help potential investors to overcome the choice of differences from adverse bid-ask and reduce the cost of equity capital (Botosan, 1997). Second, increased disclosure reduces uncertainty or estimation risk (Clarkson, Guedes, and Thompson, 1996). This aspect benefits the company. Botosan (1997) argues that companies try to make greater disclosures to reduce the cost of equity capital by reducing the non-diversifiable risk of estimation.

Signalling theory emphasizes the importance of information released by companies on investment decisions of parties outside the company. All investors need information to evaluate the relative risk of each company so that they can diversify portfolio and investment combination with desired risk preferences. If the signal or information received indicates good news, it has an effect on the increase in prices and demand for securities in the market. This can reduce transaction costs and increase liquidity, thereby reducing capital costs because transaction costs fall so that the adverse selection component of the bid-ask spread is reduced and in the end the cost of equity capital also decreases.

The results of previous research on the relationship between the level of information disclosure and the cost of equity capital show that the more the level of accounting disclosure made by the company, the lower the cost of equity capital. For example, a study by Juniarti and Yunita (2003) also proves that voluntary disclosure can reduce the cost of equity capital. This means that the wider the disclosure of a financial statement, the lower the cost of equity capital because investor’s demands for compensation and transaction costs decrease. Based on the explanation described above, the hypothesis can be formulated as follows:

H1. There is a negative relationship between the level of corporate risk disclosure (CRD) and the cost of equity capital of the company

The Relationship between Risk Disclosure and Firm Value
Firm value is very dependent on investor perceptions related to the ability of managers to manage the company. To be able to increase the company’s credibility, management will provide a positive signal to investors. The signal is in the form of information disclosure in the annual report which can be a positive signal or good news for investors. The more extensive the disclosure of information, the more consideration for analyzing the company’s prospects in the future. With more consideration, the error in predicting the company’s performance will decrease, thus increasing the investor confidence in making a stock request. The increased stock demand makes stock prices also go up. An increase in stock prices indicates an increase in firm value.

In recent years, the use of signalling theory to describe behavioral effects when two parties have access to different information has gained a great attention (Connelly et al. 2011). In this theory there are parties who act as senders, assumed to choose how to communicate or signal information; and parties who act as recipients, assumed to choose how to interpret the signal (Connelly et al. 2011). Studies on risk disclosure and firm value have been carried out. Some studies in developing countries show that voluntary disclosure has a positive effect on firm value (Uyar and Kılıç, 2012). Risk management disclosure also has a positive effect on firm value (Maizatulakma Abdullah, 2015). Therefore, it can be concluded that companies that disclose non-financial risk management information provide better disclosure quality and consequently can attract more investors and increase the firm or company’s value. This study, as based on the explanation above, formulates the hypothesis as follows:

H2. There is a positive relationship between voluntary risk management disclosure (VRMD) and firm value (FV).

3. RESEARCH METHOD
Research Variable
The dependent variable is the variable influenced by the independent variable. The dependent variables used in this study are the cost of equity capital and firm value. The cost of equity capital is the amount of return expected by investors in the future when investing in the form of ordinary stocks in a company. The cost of equity capital for a company is calculated based on the Price/ Earning Growth Ratio formula in Easton et al., (2004) (and recommended by Botosan & Plumee, 2002). 

\[ \text{Cost}_n = \frac{\text{PER}_n \text{Growth EPS}_n}{1} \]

Note:
Cost_n = Cost of equity capital for the company (i) in period (t)
PER_n = Ratio of stock price to stock income for
the company \((i)\) in period \((t)\)

\[
\text{Growth EPS}_{it} = \text{Ratio of earnings growth per stock for company } (i) \text{ in period } (t)
\]

Firm value is the company’s performance reflected by the stock price that is due to the demand and supply in capital markets that reflect the public’s assessment of the company’s performance. Research conducted by Maizatulakma Abdullah, 2015 using market capitalization (MCAP) to measure firm value (FV). MCAP took into account the overall market value of the company. Maizatulakma Abdullah calculated MCAP by multiplying the company stocks in circulation with the market price per company stock. The independent variable in this study is Company Risk Disclosure (CRD). The level of company risk disclosure is calculated using the method of content analysis of the annual report. Measurement of the level of risk disclosure is carried out by giving the same weight to each category, in which point ‘1’ is given for the risk disclosure as required and point ‘0’ is given for the category that is not disclosed on each identified item. These points are added to get a final score for each company every year. The risk disclosure category in this study refers to research conducted by Linsley and Shrives (2006) where there are 6 risk disclosure categories.

Calculating the level of risk disclosure is as follows:

\[
\text{Level of Risk Disclosure} = \frac{1}{\sum \text{The category of risk disclosure by the company}}
\]

\[
\sum \text{Total risk disclosure categories}
\]

This study uses several control variables with the aim of avoiding mis-specification of empirical models that can cause the invalid statistical inference. Control variables used in this study are those as previous studies used and related to risk disclosure, cost of equity capital, and firm value.

**Population and Sample**

The population are the manufacturing companies which were divided into three sectors: the basic and chemical industry sector, various industry sectors, and the consumer goods industry sector, and have a complete annual company financial reports published in 2015-2017. It used a purposive sampling method to determine the sample based on the specified criteria.

**Types of Data and Sources**

The data used were the secondary data with the annual reports of manufacturing companies in the period 2015 - 2017. The study obtained the data from annual reports and accessed from the official website of the Indonesia Stock Exchange (IDX). The data for this study were from the Indonesia Stock Exchange and the bloomberg terminal.

**Analysis Method**

This study tested the hypothesis using a regression model as follows:

\[
\text{Cost}_{it} = \beta_0 + \beta_1 \text{CRD}_{it} + \beta_2 \text{BETA}_{it} + \beta_3 \text{LEV}_{it} + \beta_4 \text{MB}_{it} + \beta_5 \text{ACI}_{it} + \varepsilon_{it}
\]

\[
\text{FV}_{it} = \beta_0 + \beta_1 \text{CRD}_{it} + \beta_2 \text{LEV}_{it} + \beta_3 \text{SIZE}_{it} + \beta_4 \text{PROFIT}_{it} + \beta_5 \text{PROFITT}_{it} + \beta_6 \text{GROWTH}_{it} + \varepsilon_{it}
\]

Note:

- CRD = Company Risk Disclosure
- COST = Cost of Equity Capital
- FV = Firm Value
- Lev = leverage
- Size = Firm Size
- BI = Independent Audit Committee
- CPI = Consumer Price Index
- MB = Ratio of Book Value to Market Value

**Table 1**

<table>
<thead>
<tr>
<th>No</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Manufacturing companies that publish annual financial reports that can be accessed through the official website of the Indonesia Stock Exchange (IDX).</td>
</tr>
<tr>
<td>3.</td>
<td>Manufacturing companies that have complete data for research</td>
</tr>
<tr>
<td>4.</td>
<td>Manufacturing companies that have risk disclosure information during the study period</td>
</tr>
</tbody>
</table>
Growth = Company Growth  
Profit = Net profit for the current year  
Profit T = Net Profit for the previous year  
\( \epsilon = \) error term

4. DATA ANALYSIS AND DISCUSSIONS
Description of the Research Object
The object of this research is manufacturing companies in Indonesia listed on the Indonesia Stock Exchange in 2015-2017. The research sample was the companies selected based on the predetermined criteria. Details of the object and sample of the study are on Table 2.

Table 2 shows that from a total of 441 research objects, this study could use only 99 of the research sample. The number of samples is limited, because they have to meet the criteria only.

Descriptive Statistics
Descriptive statistical analysis provides a description of research data that can show the maximum, minimum, standard deviation, and mean values. Descriptive statistics and frequency distributions for dummy variables in this study are presented on Table 3.

Classical Assumption Test
The classical assumption test conducted in this study consists of normality test, multicollinearity test, autocorrelation test, and heteroscedasticity test. From all the classic assumption tests, this study can summarize as follows:

i. The normality test using the Kolmogorov-Smirnov test shows a probability value of 0.200 for each regression model. This indicates that the residuals are normally distributed because the probability value is greater than 0.05.

ii. The multicollinearity test shows that the tolerance value of all variables is greater than 0.10 and has a VIF value below 10. This indicates that there is no multicollinearity between the independent and control variables in the regression model.

<table>
<thead>
<tr>
<th>No.</th>
<th>Criteria</th>
<th>Number of Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Manufacturing companies listed on the Indonesia Stock Exchange</td>
<td>441</td>
</tr>
<tr>
<td>2</td>
<td>Manufacturing companies that did not publish consistent annual reports in a row during the period 2015-2017</td>
<td>60</td>
</tr>
<tr>
<td>3</td>
<td>Companies that did not have complete data for research</td>
<td>273</td>
</tr>
<tr>
<td>4</td>
<td>Data outlier</td>
<td>9</td>
</tr>
<tr>
<td>5</td>
<td>Number of Research Samples</td>
<td>99</td>
</tr>
</tbody>
</table>

Source: Processed data, 2019

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRD</td>
<td>99</td>
<td>0.16</td>
<td>1.00</td>
<td>0.56</td>
<td>0.15</td>
</tr>
<tr>
<td>COST</td>
<td>99</td>
<td>-3748.3</td>
<td>5113.2</td>
<td>57.9</td>
<td>776.34</td>
</tr>
<tr>
<td>FV</td>
<td>99</td>
<td>17.200</td>
<td>681.94</td>
<td>36.84</td>
<td>101.72</td>
</tr>
<tr>
<td>BI</td>
<td>99</td>
<td>0.20</td>
<td>0.80</td>
<td>0.39</td>
<td>0.10</td>
</tr>
<tr>
<td>MB</td>
<td>99</td>
<td>0.05</td>
<td>131.28</td>
<td>5.59</td>
<td>17.44</td>
</tr>
<tr>
<td>LEV ASET</td>
<td>99</td>
<td>0.01</td>
<td>5.62</td>
<td>0.49</td>
<td>0.64</td>
</tr>
<tr>
<td>LEV EKUITAS</td>
<td>99</td>
<td>0.01</td>
<td>2.99</td>
<td>0.82</td>
<td>0.65</td>
</tr>
<tr>
<td>SIZE</td>
<td>99</td>
<td>25.55</td>
<td>33.32</td>
<td>28.91</td>
<td>1.81</td>
</tr>
<tr>
<td>GROWTH</td>
<td>99</td>
<td>0.62</td>
<td>60.02</td>
<td>1.68</td>
<td>5.95</td>
</tr>
<tr>
<td>PROFIT</td>
<td>99</td>
<td>-846.80</td>
<td>23.165</td>
<td>1.37</td>
<td>3.420</td>
</tr>
<tr>
<td>PROFIT T-1</td>
<td>99</td>
<td>-333.11</td>
<td>18.302</td>
<td>1.10</td>
<td>2.825</td>
</tr>
<tr>
<td>CPI</td>
<td>99</td>
<td>0.03</td>
<td>0.03</td>
<td>0.03</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Source: Processed data, 2019

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iii. The Heteroscedasticity test using scatter plot graph shows the distribution of points on the graph that do not show a certain pattern. This indicates that there is no Heteroscedasticity in the regression model, so that the regression model is feasible to be used for research.

iv. The autocorrelation test using Durbin-Watson test shows d- values of 1.807 and 1.541 for each model. These values show that there is no autocorrelation in the first regression model but there is a positive autocorrelation in the second regression model because the data from this study are panel data or time series data where autocorrelation often occurs.

Hypothesis Test
Hypothesis testing is done using multiple linear regression test with the assumption of ordinary least square. The results of the test that has been carried out are on Table 4.

Based on Table 4, if the probability value indicates a number less than 0.05, the results of the regression test can be said to support the research hypothesis. The results of the statistical test f indicate the respective p-values of 0.0208 and 0.0003, indicating that all independent variables in the regressions model 1 and 2 can describe the dependent variable.

Interpretation of Results
Hypothesis 1
The first hypothesis testing is to test the effect of corporate risk disclosure on the cost of equity capital in manufacturing sector companies in Indonesia. The test result shows that the significance level or p-value is 0.0208, or smaller than 0.05, with a coefficient value of -2.033. Therefore, the first hypothesis is accepted. It can be concluded that the corporate risk disclosure has a negative effect on the cost of equity capital.

The test results indicate that the level of corporate risk disclosure (CRD) has a negative effect on the cost of equity capital. This means that the extent of information disclosed by the company will reduce the cost of equity capital.

Signalling theory explains that companies have the drive to provide financial statement information to external parties. Based on this theory, wider disclosure of information results in reduced information asymmetry between the company and external parties, where the company knows more about the company’s condition and future prospects than external parties (investors and creditors). The reduced information asymmetry between the company and external parties makes stockholders more aware of information about the company so that shareholders are willing to reduce the expected return of capital invested in the company which further reduces the cost of equity capital.

These results also support the research conducted by Nahar et al., (2016). It also shows that transparent disclosure by companies can reduce the cost of equity capital where the market gives appreciation in the form of lowering expected returns which in turn reduces the cost of equity capital.

Hypothesis 2
The next testing is to test the second hypothesis, in which corporate risk disclosure has a positive effect on firm value. Based on the test conducted, the coefficient value is 1.280 with a significance level of 0.0003, or less than 0.05. Therefore, the second hypothesis is accepted. It can be concluded that the corporate risk disclosure has a positive effect on firm value.

With the transparent corporate risk disclosure, shareholders will know what risks the company experienced, how the impact will be in the future, and how the company manages these risks so as to increase investor confidence which will further increase the firm or company’s value. The extent of disclosure made by the company will increase the firm value. These results support the signalling
theory which aims to convince investors about the value of the company. Therefore, with a signal in the form of information presented by the company, it will be easier for investors to judge the performance of the company. Thus, making it easier for investors to make further decisions.

These results are in line with those of the research conducted by Maizatulakma Abdullah (2015). It also indicates that giving a signal to investors in the form of risk information faced by the company is important because it can help investors make better decisions about their investments in the company that can increase the firm or company’s value.

5. CONCLUSION, IMPLICATION, SUGGESTION, AND LIMITATIONS

The results of data collection, data processing, analysis, and interpretation of test results in this study indicate that the quality of the performance of corporate risk management can be measured by consistently disclosed risk information. In addition, it can also have a good effect on company performance, i.e., the cost of equity capital and firm value. The greater the level of corporate risk disclosure, the lower the cost of capital equity. It is also found that the high level of corporate risk disclosure leads to a higher positive firm value. The extent of corporate information disclosure will increase the value of the company.

The limitation in this study is that there is still 58% of other factors outside the independent variable of corporate risk disclosure and control variables of leverage, the ratio of equity market values to the book value of equity, the consumer price index, and independent audit committee that can predict the dependent variable of the cost of capital equity.

Based on the limitation mentioned above, further research should add other variables such as intellectual capital disclosure, systematic risk, information asymmetry, and audit quality that can affect the dependent variable of cost of equity capital.


