
Irfan Fauzi 1 and Amrie Firmansyah 2

1 Directorate General of Budget Financing and Risk Management, Ministry of Finance, Indonesia
2 Faculty of Economics and Business, Universitas Pembangunan Nasional Veteran Jakarta, Indonesia

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ABSTRACT

Purpose: This study investigates the effect of corporate social responsibility, intellectual capital disclosure, and risk disclosure on the cost of capital and the roles of earnings management in moderating these effects.

Method: This study employs secondary data from annual reports and financial statements of 79 manufacturing companies listed on Indonesia Stock Exchange from 2016 to 2020. Using purposive sampling, the sample obtained in this study is 395 observations. The data were analyzed using multiple linear regression for panel data.

Findings: This study finds that corporate social responsibility is negatively associated with cost of capital. Other than that, intellectual capital disclosure and risk disclosure are not associated with cost of capital. Moreover, earnings management failed to moderate the association between corporate social responsibility and the cost of capital. This study also found that earnings management strengthens the negative impact of intellectual capital disclosure on the cost of capital. In contrast, earnings management weakens the negative effect of risk disclosure on the cost of capital.

Novelty: This study places the moderating role of earnings management on testing the three non-financial disclosures on the cost of capital so that this study can complement the development of financial accounting research related to non-financial information.

INTRODUCTION

Various previous records show the urgency of the company to conduct external funding to maintain the company's existence. In addition to meeting short-term needs, companies need financing to invest in assets such as equipment, buildings, patents, and brands (Porras, 2011). The company's investment projects can be divided into three: investments aimed at increasing the company's income (e.g., business expansion), investments aimed at reducing production costs (e.g., replacing obsolete equipment), and investments aimed at meeting specific regulatory requirements (Titman et al., 2018). A good investment for a company can provide a competitive advantage over its competitors (Titman et al., 2018). The company has several alternative projects that can be approved, and the process of determining them is conducted through capital budgeting. One of the inputs needed in capital budgeting decisions is the cost of capital (Brigham & Houston, 2019), which is the cost the company must bear for the various components of the company's founding.

There are two funding instruments: issuance of shares and debt, which have their costs: the cost of debt and equity. The cost of debt is the percentage of interest that must be paid due to debt financing. The cost of equity is a return in capital gains or dividends that investors will obtain from investing in stocks. The combination of the two is the cost of capital. The cost of capital is the weighted average of the opportunity costs of the company's funding sources originating from debt preferred and common stock. It is commonly called the weighted average cost of capital (WACC) (Titman et al., 2018). The cost of capital is essential in determining the right funding structure (Dhaliwal, 2011) to maximize firm value (Titman et al., 2018). Each funding instrument has its advantages and disadvantages. Initially, financing with debt will be cheaper than through shares, but there is an obligation to pay back periodically. In addition, interest expense can be used as a tax deduction (tax shield). However, too much debt will increase the company's bankruptcy risk, namely default on interest and debt.

* E-mail: amriefirmansyah@upnvj.ac.id
Address: Jl. RS. Fatmawati, Pondok Labu, Jakarta Selatan, DKI Jakarta, 12450, Indonesia

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There is no obligation to pay investors on equity funding, but the rate of return paid is usually higher than debt. The interest expense is a tax deduction, while dividends and capital gains cannot be tax-deductible. In addition, stock returns are uncertain; one of which depends on market conditions and when the company is liquidating, shareholders have the last claim after creditors. The company’s cost of capital is higher when investors and creditors need more compensation for the risk of handing over the capital to the company (Atan et al., 2018). Investors determine the rate of return based on how much risk or uncertainty the company’s cash flows are from current and future operational activities (Jagannathan et al., 2017). Thus, investors consider companies with a low cost of capital as more attractive because they have a higher firm value (Sharfman & Fernando, 2008). The high cost of capital also impacts the capital budgeting process. The cost of capital is used as a discount rate to find the present value of future cash flows from a project or as a hurdle rate (Brigham & Houston, 2019). A project can increase the company’s value if the project has a positive net present value (NPV) or an internal rate of return higher than its cost of capital (Titman et al., 2018). As a result, companies with high capital costs will have fewer alternative projects that can increase the value of the company and fewer opportunities for companies to make profits regardless of their income level (Sharfman & Fernando, 2008). Thus, companies attempt to obtain a low cost of capital (Liu, 2020).

Some risks arise from funding through stocks and debt. If no debt is employed, then the risk inherent in the company’s operations is the business risk (Brigham & Houston, 2019). The use of debt poses additional risks shareholders bear (Brigham & Houston, 2019). Funding with debt causes the company to pay principal and interest at maturity, thereby increasing the chance of financial distress or bankruptcy (Titman et al., 2018). The tax benefits of interest expense can be lost because of the interest paid, so the company loses money and the company’s cash flow is reduced. It can be estimated that the impact of excessive use of debt also occurs in TAXI companies. The company assumes that its business expansion will increase profitability. However, the company does not consider the business risk, namely the consumers’ shift to online transportation. The company’s income continues to decline, and it has liquidity problems in paying its obligations. The high risk of bankruptcy due to failure to pay the company’s obligations will cause an increase in the cost of equity, and the cost of debt and share prices will fall (Brigham & Houston, 2019). Investors and creditors need additional compensation for the potential bankruptcy of the company.

According to agency theory, agency problems arise between managers as agents and shareholders as principals. The asymmetric information in the agency relationship causes the agency problem. Managers more involved in its operational activities can use more information to maximize its welfare. Managers can take opportunistic actions such as investing in unprofitable projects, manipulating financial statements to get bonuses, or avoiding taxes. Asymmetric information also affects the company’s funding decisions. Companies with asymmetric information will choose to finance through debt despite increasing the company’s debt ratio (Brigham & Houston, 2019; Yeh et al., 2019). If the company’s funding source comes from debt, creditors will have more access to private information about the company’s investment decisions (Yeh et al., 2019). Thus, investors with less information will demand a higher cost of equity.

The cost of capital is crucial in determining the optimal funding structure so that the company can maximize its value. Companies need external funding, one of which is to meet their short-term operational needs and to invest in long-term projects. The cost of capital is a form of compensation given to investors and creditors to deliver funds compared to risk-free instruments. Companies with a higher asymmetric information level prefer debt financing based on agency theory. Funding with debt initially lowers the cost of capital, but if it is excessive, it will risk bankruptcy. Funding with equity usually has a higher return rate than debt because it is taxed, and shareholders are the last priority in liquidation. The high cost of capital leads to the increased risk inherent in the company itself. This condition impacts the company’s capital budgeting process, and a project can only be accepted if the rate of return is higher than the cost of capital. As a result, the high cost of capital causes companies to have to prepare alternative investment projects that produce a higher rate of return than the cost of capital, resulting in the project being riskier. Therefore, companies are always looking for ways to lower the company’s cost of capital. The complexity of the problems in implementing the company’s cost of capital resulted in research on the cost of capital that deserves further investigation.

Many previous studies related to the cost of capital have been carried out including governance (AltHares, 2020; Arslan, 2019; Khan et al., 2020; Pham et al., 2012), litigation risk (Qin et al., 2020), corporate social responsibility disclosure (Atan et al., 2018; Ellili, 2020; Gjergji et al., 2021; Johnson, 2020; Rahmasari, 2013), economic policy uncertainty (Xu, 2020), risk disclosure (Almania, 2019; Liu, 2020), leverage (Battisti et al., 2020; Rajverma et al., 2019), environmental disclosure (Anh, 2020; Haninun et al., 2019), integrated reporting (Vena et al., 2019), ownership structure (Rajverma et al., 2019), dividend policy (Rajverma et al., 2019), disclosure quality (Ezat, 2019), intellectual capital disclosure (Gomes et al., 2019), employee shareholding (Aubert et al., 2017), information risk (Safdar & Yan, 2016), earnings management (Patro & Kanagaraj, 2016), board of directors concentration (Upadhay, 2014), excess control (Boze et al., 2014), and earnings quality (Apergis et al., 2012).

Regarding the issue of testing the cost of capital, it is necessary to consider the role of voluntary disclosure of non-financial information in meeting the demands of various stakeholders. Stakeholder theory explains the relationship between the company and its stakeholders, namely the demands the company must meet to gain the trust of various stakeholders (Cotter et al., 2011). Many stakeholder relationships must be managed by companies such as investors, creditors, government, employees, communities, and regulators (Mbithi et al., 2020). Therefore, com-
panies have incentives to disclose certain information to certain stakeholders (Cotter et al., 2011). Such information can be in the form of disclosure of social responsibility, intellectual capital, and risk disclosure. The disclosure of this information is voluntary and can be adjusted depending on the needs of the stakeholders. The disclosure of this information is expected to reduce the cost of capital because it has met the demands of stakeholders, especially those who influence company resources.

The company no longer focuses on profit but on its business impact on the environment (planet) and the surrounding community (people). This principle is the triple bottom line manifested in corporate social responsibility (CSR) activities. Issues related to social responsibility are growing, and CSR reporting activities are increasing because investors, customers, and other stakeholders need more transparency related to the company’s business aspects (Y. Kim et al., 2012). CSR can be seen as how companies integrate environmental and social factors in business decision-making and processes (Oikonomou et al., 2014). Companies that do CSR are considered a lower risk (Li & Foo, 2015). Companies more committed to CSR will be seen as better in the eyes of stakeholders to have a better reputation (Pérez & Elving, 2015). Companies with a good reputation will have a lower cost of capital (Himme & Fischer, 2014; I. Kim et al., 2020).

Research related to the disclosure of social responsibility is mainly associated with the disclosure of environment, social, and governance (ESG). Atan et al. (2018) argued that despite the differences, CSR could be considered the same as ESG. This argument is in line with the regulation of the Indonesia Financial Services Authority (OJK) concerning sustainability issues to be carried out by companies listed on the IDX (Keuangan, 2016). There have been many studies on social responsibility disclosure on the cost of capital. Ellili (2020) and Johnson (2020) found that ESG disclosure was able to lower the cost of capital. However, Atan et al. (2018) and Gjergji et al. (2021) found that ESG disclosure can increase the cost of capital.

On the other hand, Suto & Takehara (2017) did not find conclusive results regarding the relationship between CSR disclosure and the cost of capital. In addition, if the research is broken down, there are inconsistencies in the results regarding cost of equity and cost of debt. Bhuiyan & Nguyen (2019) and Rahmasari (2013) found that the disclosure of social responsibility reduced the cost of equity. However, Yeh et al. (2019) found that social responsibility disclosures do not affect the cost of equity in China. Regarding the cost of debt, Bhuiyan & Nguyen (2019) in Australia and Yeh et al. (2019) in China found that debt could be reduced by a more comprehensive disclosure of social responsibility. Prihastiw & Fatimah (2020) found different results using ASEAN data, namely that there was no effect between CSR disclosure and the cost of debt. The inconsistency of the results of CSR testing on the cost of capital, either fully or partially, has resulted in the CSR testing of the cost of capital needing to be investigated further. Based on 2019 Global Intangible Finance Tracker data, Indonesia is one of the countries where the value of intangible assets not reported in the financial statements reaches 40% of the company's value (Brand Finance, 2019). One reason is that this intangible asset is intellectual capital, which accounting standards cannot measure accurately. (Salvi et al., 2020) argued that if there is a significant difference between the market value and the company’s book value, it could be caused by intellectual capital. This effect is even more significant in the knowledge-based economy era, namely structural changes from activities that generally rely on tangible assets to innovation-based activities that rely more on human capital and knowledge (OECD, 2006). Companies with excess intangible assets will voluntarily increase the disclosure of non-financial information to bridge the gaps that arise due to accounting standards (Caputo et al., 2016). Information about intellectual capital is not necessarily in the financial statements. Hence, stakeholders ask the company to voluntarily disclose intellectual capital so that it is used to evaluate better the company’s performance (Eccles et al., 2011; Salvi et al., 2020).

Research that examines intellectual capital disclosure on the cost of capital was conducted by Gomes et al. (2019), concluding that the disclosure does not affect the cost of capital in Indonesia. Research related to intellectual capital disclosure is generally tested for its effect on the cost of equity. Intellectual capital disclosure can reduce the company’s cost of equity (Barus & Siregar, 2014; Mangena et al., 2016; Mondal & Ghosh, 2020; Salvi et al., 2020). However, Ningsih & Ariani (2016) found different results, which did not affect Indonesia’s equity cost. Regarding private Slovenian companies, Stropnik et al. (2017) found that creditors do not consider intellectual capital information when determining the debt cost. Barus & Siregar (2014) also found the same results in the context of technology-rich companies in Indonesia. Different results were found by Orens et al. (2009); the disclosure of web-based intellectual capital can reduce the cost of debt to companies in several European countries. There are still few studies that examine the disclosure of intellectual capital to the cost of capital and the differences in the research results, so it is necessary to test the disclosure of intellectual capital to the cost of capital.

Companies running their business will face various risks, such as business, financial, and non-financial (UN-CTAD, 2017). The company’s expertise in managing each risk will determine the success of achieving company goals. The 2009 financial crisis could occur due to excessive risk-taking without adequate disclosure. Therefore, users of financial statements increasingly need risk-related disclosures to assess the level of risk the company faces and how it is managed (Almania, 2019). Risk disclosure will reduce asymmetric information in the decision-making of investors and creditors. However, if the company’s risk information is sensitive and important, its disclosure will reduce its competitive advantage, increase business risk, and even endanger its sustainability (Campbell et al., 2014).

Research related to risk disclosure has been carried out on cost of capital and cost of equity. Almania (2019) found that risk disclosure could reduce the cost of capital of Saudi Arabian state companies. Semper & Beltrán
In addition, research conducted by the Asian Development Bank and Korea Capital Market Institute shows that the cost of capital in Indonesia was 11.6%, higher than in the Philippines (8%) and Thailand (9%) (Become a Better Investor, 2017). As a developing country, Indonesia has a high cost of capital compared to other developing countries.

The survey conducted by Becoming a Better Investor in 2017 showed that the average cost of funding in developing countries. This positive result indicates that the more risk disclosure, the greater the company’s risk, so a higher cost of equity compensates for it. Nahar et al. (2016) found different results: corporate risk disclosure could reduce the cost of equity in Bangladesh. In Indonesia, it was found that risk disclosure reduces the cost of equity (Cornelia & Syafruddin, 2019; Heryantama & Syafruddin, 2019; Sumardani & Handayani, 2019).

The difference in the results of previous studies and the lack of research that examines the disclosure of risk to the cost of capital is the reason for re-examining the disclosure of risk to the cost of capital.

This study aims to empirically examine the sustainability disclosure, intellectual capital disclosure, and risk disclosure on the cost of capital. Disclosure of such information is voluntary and is used by managers to manage the demands of various stakeholders for information related to the company’s activities. The difference between this study and previous studies is that joint testing of these three variables on the cost of capital has never been conducted in Indonesia or internationally. This study uses the Global Reporting Initiatives (GRI) Standard to measure the level of CSR disclosure. Previous research uses GRI G3/G3.1 and GRI G4 (Kumala & Siregar, 2020; Rahmasari, 2013). GRI Standards were chosen because this standard is a restructuring of GRI G4, which was originally a single structure turned into 36 modular document schemes. The overall content with the GRI G4 is almost the same, but there are some clarifications and additional revisions, although they are minor. In addition, risk disclosure is measured using ISO 31000:2009 on Risk Management. Previous research on risk disclosure generally uses COSO: ERM, such as (Firmansyah & Triastie, 2020; Fitania & Firmansyah, 2020). ISO 31000:2009 was chosen as a proxy because many companies apply this standard. After all, it is easier to implement than COSO: ERM (Dias, 2017). Based on the literature mapping that has been conducted, the previous studies that have used this index in testing the cost of capital are still limited.

In addition, this study includes earnings management as a moderating variable in examining the effect of disclosure of social responsibility, intellectual capital and risk disclosure on the cost of capital. Dechow et al. (2010) concluded that earnings are considered quality if they provide information about the company’s financial performance for decision-making. They have the following three attributes: reflect current performance, predict future performance, and are the basis for determining firm value. From the agency theory perspective, companies that perform high earnings management show low earnings quality and can lead to conflicts of interest between managers and shareholders. Investors and creditors can use voluntary disclosures such as disclosure of social responsibility, intellectual capital, and risk disclosure to detect earnings management (Alzoubi, 2016). Managers have less incentive to make voluntary disclosures because the reliability of financial statements does not support them. Lower voluntary disclosures will increase the company’s cost of capital.

Apergis et al. (2012) found that the cost of capital can be increased with low earnings quality. Eliwa (2016) suggested that low earnings quality can raise the UK’s cost of equity. Eliwa (2019) continued his research by examining the effect of accrual quality on the cost of debt and found the same effect as previous research. Persakis & Iatridis (2015) found that earnings quality reduced the cost of debt and the cost of equity both before and after the 2008 financial crisis. Persakis & Iatridis (2017) continued their previous research. They found that European and Asian companies with low earnings quality before adopting IFRS will have higher costs of debt and equity after IFRS adoption.

Kumala & Siregar (2020) found that less socially responsible companies will manage more earnings and have lower earnings quality. Khajavi et al. (2016) found that a decrease in the company’s intellectual capital will reduce the quality of earnings. Wang et al. (2017) found that risk disclosure reduces the accuracy of analyst forecasting, especially in companies with poorer earnings quality. Based on previous studies, each independent variable can be associated with earnings management, which also affects the cost of capital. In the statement of Indonesia financial accounting standards (PSAK) 1 regarding the presentation of financial statements, it is stated that the purpose of financial statements is to provide information about the financial position, financial performance, and cash flows of entities that are useful for the majority of report users in making economic decisions (IKatan Akuntan Indonesia, 2019). High earnings management will reduce the ability of investors and creditors to make the right economic decisions. Thus, earnings management is expected to weaken the relationship between social responsibility disclosure, intellectual capital, and risk to become important as a moderating variable.

This study contributes to the literature related to research on the effect of voluntary disclosure on the cost of capital. Previous research generally focuses on one aspect of the cost of capital, and it is still rare to directly examine voluntary disclosure of the cost of capital. This study also contributes to research on voluntary disclosure in developing countries. As a developing country, Indonesia has a high cost of capital compared to other developing countries. The survey conducted by Becoming a Better Investor in 2017 showed that the average cost of funding in Indonesia was 11.6%, higher than in the Philippines (8%) and Thailand (9%) (Become a Better Investor, 2017).

In addition, research conducted by the Asian Development Bank and Korea Capital Market Institute shows that...
Indonesia’s cost of equity from 2000 to 2012 was generally higher than other ASEAN countries (Setiany et al., 2017). The high cost of capital indicates that Indonesian companies are generally riskier than other ASEAN countries.

In addition, the benefits of disclosing non-financial information, such as disclosure of social responsibility, may differ in each country depending on the context of the country (Cahan et al., 2016; Kumala & Siregar, 2020). One of the characteristics of developing countries is a weak corporate governance system, so previous research often associates research in developing countries with low levels of voluntary disclosure (Zaini et al., 2018). This condition provides an interesting context for researching the cost of capital. According to (Botosan, 1997), the negative influence between disclosure and the cost of equity can only be found in companies in an environment with low levels of disclosure.

This study employs four control variables: firm size, leverage, profitability, and operating cash flow. The control variable was selected based on the frequency of use in previous studies that tested the cost of capital. The company’s size was chosen because larger companies will be more stable and diversified to have more consistent cash flows, lowering the cost of capital (Almania, 2019). Previous studies such as Bhuiyan & Nguyen (2019), Ellili (2020), and Prihastiwi & Fatimah (2020) used firm size in research on the cost of capital. Bhuiyan & Nguyen (2019) found that the company’s cost of debt and equity will decrease with size. Leverage shows that the more outstanding debt the company owes, the higher the risk of company bankruptcy. Almania (2019), Bhuiyan & Nguyen (2019), and Ellili (2020) used leverage as a control variable in a study that reviewed the cost of capital. Ellili (2020) found that increasing leverage will increase the firm’s cost of capital.

More profitable companies will require less external funding, so bankruptcy risk lowers the company’s bankruptcy. Previous studies employed profitability as a control variable in research examining the cost of capital (Ellili, 2020; Prihastiwi & Fatimah, 2020; Yeh et al., 2019). Ellili (2020) found that profitability can lower a company’s cost of capital. The last control variable in this study is operating cash flow. Operating cash flow shows how much operating cash is generated from company assets and can indicate the company’s ability to pay debts. Prihastiwi & Fatimah (2020) and Yeh et al. (2019) found that the cost of equity can be reduced by operating cash flows.

**RESEARCH METHODS**

This study employs quantitative methods using secondary data from financial statements, annual and sustainability reports. Data was obtained from www.idnfinancials.com and the company’s official website. The research sample based on purposive sampling is shown by table 1. Cost of capital for a company is a weighted average of the rate of return earned on the sources of capital used to finance the business. The cost of capital is measured by the weighted average cost of capital (WACC) because the company’s external funding consists of the company through debt and shares. Many previous studies have employed this proxy to measure the cost of capital (Almania, 2019; Atan et al., 2018; Ellili, 2020; Gjergji et al., 2021; Johnson, 2020). The measure used as a weight in calculating WACC is to use of book value for debt and equity. The formula for the cost is shown by equation 1.

\[
WAC{C}_{it} = BO{E}_{it}x\left(\frac{E_{i} + D_{i}(1-T)}{E_{i} + D_{i}}\right) + CD{O}_{i}(1-T)x\left(\frac{D_{i}}{E_{i} + D_{i}}\right)
\]

\[
\text{WACC}_{it} = \text{COE}_{it}x\left(\frac{E_{i} + D_{i}(1-T)}{E_{i} + D_{i}}\right) + CD{O}_{i}(1-T)x\left(\frac{D_{i}}{E_{i} + D_{i}}\right)
\]

\[\text{COE}_{it} = \text{Cost of Equity} \]

\[\text{WACC}_{it} = \text{Cost of Capital} \]

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing companies listed on the IDX as of May 2021</td>
<td>195</td>
</tr>
<tr>
<td>Companies that conduct IPOs after 31 December 2015</td>
<td>59</td>
</tr>
<tr>
<td>Companies with incomplete data</td>
<td>18</td>
</tr>
<tr>
<td>Companies whose annual reports are in the form of images or cannot be searched</td>
<td>17</td>
</tr>
<tr>
<td>Companies that have negative equity</td>
<td>9</td>
</tr>
<tr>
<td>Companies whose reports are not bilingual</td>
<td>3</td>
</tr>
<tr>
<td>Companies that have been suspended for more than one year</td>
<td>1</td>
</tr>
<tr>
<td>Companies that have different annual reporting periods</td>
<td>2</td>
</tr>
<tr>
<td>Companies that have data outliers</td>
<td>7</td>
</tr>
<tr>
<td>Amount of companies data that can be used in research</td>
<td>79</td>
</tr>
<tr>
<td>Year</td>
<td>5</td>
</tr>
<tr>
<td>Total Sample (Firm-year)</td>
<td>395</td>
</tr>
</tbody>
</table>

Source: Processed
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The cost of debt (equation 2) is calculated by the percentage of the company’s interest expense for one year to the company’s average long-term and short-term debt that generates interest (interest-bearing debt) as Almania (2019), Barus & Siregar (2014), Johnson (2020), and Yeh et al. (2019). It is practical in calculating the cost of debt and has been used in previous studies. In Indonesia, the corporate tax for 2016-2019 is 25%, and for 2020 it is 22%.  

\[
\text{COD}_it = \frac{\text{Interest Expenses}_it}{\text{The average interest-bearing debt of the company}}
\]

The cost of equity is measured using the capital asset pricing model (CAPM). CAPM is an alternative to calculating the cost of equity and has been widely used in previous studies (Almania, 2019; Bhuiyan & Nguyen, 2019; Boujelbene, 2013; Johnson, 2020; Yeh et al., 2019). According to (Berk & van Binsbergen, 2016), CAPM was chosen because this model is most consistent with investor behavior and empirically proved that investors use CAPM the most in making investment decisions and calculating discount rates. The following is the CAPM formula (equation 3).

\[
\text{COE} = \text{Rf} + \beta (\text{Rm} - \text{Rf})
\]

\[Rf = \text{risk-free rate in year t}\]
\[Rm = \text{Market return in year t}\]
\[\beta = \text{year t systematic risk on stock i}\]
\[E(r) = \text{excess return of shares or cost of equity}\]

The rate of return on government bonds maturing in 10 years and coupons is still chosen as the risk-free rate because the risk of default is small and is commonly used by practitioners in Indonesia (Rudiyanto, 2019). The systematic risk or beta and market return data derives from Yahoo.Finance.com. The stock beta is calculated using the company’s monthly stock return data and the IDX composite (close price) and then regressed to get the coefficient. The coefficient is beta for the company in each period. Market return (Rm) is calculated from the average monthly return on the IDX composite.

The independent variables in this study are corporate social responsibility disclosure, intellectual capital disclosure and risk disclosure. All independent variables are measured using an index and carried out by content analysis on the company’s annual report. Corporate social responsibility disclosure is the delivery of financial and non-financial information related to the company’s performance in providing economic, social and environmental impacts and meeting the information needs of stakeholders for the company’s sustainability. Social responsibility disclosure is measured by an index based on the Global Reporting Initiatives (GRI) Standards. GRI is the most relevant institution in CSR disclosure (Moneva et al., 2006). The GRI standards are developed to guide organizations to report on their environmental, social, and economic performance and increase accountability (Moneva et al., 2006). This measure aims to improve global comparability and quality of information, thereby enabling greater organizational transparency and accountability (Global Reporting Initiative, 2016). Previous research uses GRI Standards to measure corporate CSR disclosure (Priahastiwi & Fatimah, 2020). This study employs annual or sustainability reports to assess corporate social responsibility disclosure. The GRI index consists of 77 disclosure items with three non-financial categories.

Table 2. Social Responsibility Disclosure Index

<table>
<thead>
<tr>
<th>Scale</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Not making disclosures</td>
</tr>
<tr>
<td>1</td>
<td>Minimum disclosure or mention briefly</td>
</tr>
<tr>
<td>2</td>
<td>Descriptive: presenting a clear impact on the company or policy</td>
</tr>
<tr>
<td>3</td>
<td>Quantitative: the impact on the company is clearly defined in terms of the monetary or physical quantity.</td>
</tr>
<tr>
<td>4</td>
<td>Truly extraordinary</td>
</tr>
</tbody>
</table>

Table 3. Intellectual Capital Disclosure Index

<table>
<thead>
<tr>
<th>Scale</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Items not disclosed in the annual report</td>
</tr>
<tr>
<td>1</td>
<td>Items are expressed in narrative form</td>
</tr>
<tr>
<td>2</td>
<td>Items are expressed in numeric form</td>
</tr>
<tr>
<td>3</td>
<td>Items are expressed with monetary value</td>
</tr>
</tbody>
</table>

Source: Salvi et al. (2020)
categories: social with 30 items, economical with 13 items, and environmental with 34 items. Assessment of each disclosure item by scoring an index scale from 0-4 (table 2), following Firmansyah & Estutik (2020) and Lee (2017).

After each disclosure item’s score is given, it is added and calculated further with the following calculation (equation 4).

$$\text{CSRD}_i = \frac{\text{Total disclosure score}}{\text{Number of disclosure criteria according to GRI Standards}}$$ ........................................4

Intelectual capital disclosure is the submission of intellectual capital information that demonstrates the company’s competitive advantage and is submitted voluntarily through annual reports and aims to meet the information needs of internal and external stakeholders. Intellectual capital disclosure is measured using an index developed by (Salvi et al., 2020). This index divides intellectual capital into three categories with 33 items. There are nine items in the human capital category, eight structural capital items, and 16 social and relationship capital items. Scoring each disclosure item uses four numerical code systems (0-3). With this method, the quality aspect of the disclosure is not only from the extent of intellectual capital disclosure in quantity (Ulum, 2015). The numeric code used is shown by table 3.

If the item is expressed in a narrative form but contains both numerical and monetary elements, a score of “3” is awarded. After each disclosure item’s score is given, it is added and calculated further with the following calculation (equation 5).

$$\text{ICD}_i = \frac{\text{Total disclosure score}}{\text{Total cumulative score}}$$ ..................................................................................5

Risk disclosure is the voluntary submission of company risk information in the company’s annual report and relates to opportunities, prospects, hazards, disturbances, threats, or exposures that have affected or will affect company goals. Risk disclosure is measured using an index based on the 2009 version of the ISO 31000 risk management framework. This index was chosen because companies consider ISO 31000 easier to implement than other risk management frameworks such as COSO ERM 2004 and AS/NZ 4360:2004 (Ernawati et al., 2012). Previous studies such as Triyanti (2018) and Utami (2015) used ISO 31000:2009 to measure risk disclosure. There are 25 disclosure items comprising five dimensions: mandates and commitments, framework planning, risk management implementation, monitoring, and continuous improvement. Assessment is done on a scale of 0-1. A score of 0 is given when the company does not disclose according to the criteria. A score of 1 is given when the company discloses according to the criteria. The total score is summed and divided by the maximum number of disclosures (equation 6).

$$\text{RD}_i = \frac{\text{Total disclosure score}}{\text{Number of disclosure criteria according to ISO 31000:2009 (25)}}$$ .........................6

This study employs earnings management as a moderating variable. Discretionary accruals measure earnings management. To measure discretionary accruals, the model proposed by (Kothari et al., 2005) in measuring earnings management, namely the performance-adjusted modified Jones model. This model was used in previous studies (Karajeh, 2019; Y. Kim et al., 2012; Kumala & Siregar, 2020). This model is estimated cross-sectionally every year to obtain discretionary accruals residuals. This study follows Kumala & Siregar (2020) in using the absolute value of the residuals that have been obtained and does not consider whether the residuals are positive or negative. The absolute residual will be the earnings management data (ADA) used in the research model. The smaller the residual value, the less earnings management is carried out to improve the quality of the company’s earnings. The first step to calculating discretionary accruals is to calculate the total accruals first (equation 7)

$$\text{TACC}_i = \text{NI}_i - \text{CFO}_i$$ ............................................................................................................7

Where:

$$\text{TACC}_i = \text{Total company’s accruals i in year t, the difference between profit before extraordinary items and operations discontinued cash flows.}$$

$$\text{NI}_i = \text{Income before extraordinary items from the income statement at the company i in year t}$$

$$\text{CFO}_i = \text{Operating cash flow at the company i in year t}$$

After calculating the total accruals, the next step is to regress the following model cross-sectionally every year to get the coefficients.

$$\frac{\text{TACC}}{\text{TACC}} = \beta_0 + \beta_1 (\frac{1}{\text{TACC}}) + \beta_2 (\frac{\Delta \text{REV}_i - \Delta \text{REC}_i}{\text{TA}_{i-1}}) + \beta_3 \text{ROA}_{i-1} + \beta_4 (\frac{\text{PPE}_{i-1}}{\text{TA}_{i-1}}) + \epsilon_i$$ ..........................................................................7.1

Where:

$$\Delta \text{REV}_i = \text{Change in net income of company i in year t with t-1}$$

$$\Delta \text{REC}_i = \text{Change in net receivables in year t with t-1}$$

$$\text{TA}_{i-1} = \text{Total assets of the company in the year i in year t-1}$$

$$\text{ROA}_{i-1} = \text{Return on assets of the previous year (net profit/total assets)}$$

$$\text{PPE}_{i-1} = \text{Gross value of fixed assets of the company i in year t}$$
The coefficients obtained from the previous regression results will be used to calculate non-discretionary accruals (NDACC) through the following equation.

\[
NDACC_{it} = \beta_0 + \beta_1 \text{CSRD}_{it} + \beta_2 \text{ICD}_{it} + \beta_3 \text{RD}_{it} + \beta_4 \text{SIZE}_{it} + \beta_5 \text{ROA}_{it} + \beta_6 \text{OCF}_{it} + \epsilon_{it}
\]  

Then, discretionary accruals (ADA) are calculated by the following equation and absolute.

\[
ADA_{it} = \frac{\text{TACC}_{it}}{\text{TA}_{it}} - NDACC_{it}
\]

This study has four control variables: firm size, leverage, profitability, and operating cash flow. The use of control variables aims to increase the accuracy of the model. According to Ngadiman & Puspitasari (2017), firm size is a metric to determine how rich a company is from the value of equity, sales, number of employees, or total assets. Larger companies will find getting loans easier and issuing shares (Prihastiwi & Fatimah, 2020). Larger companies disclose more information than smaller companies (Barus & Siregar, 2014). The proxy is the natural logarithm of total assets (Bhuiyan & Nguyen, 2019; Ellili, 2020; Prihastiwi & Fatimah, 2020). The formula is shown by equation 8.

Firm Size (SIZE) = ln(total assets)

Godfrey et al. (2010) stated that leverage is the use of debt to finance a company and is often measured by debt to equity or the ratio of debt to assets. Companies with high asymmetric information tend to use debt financing (Yeh et al., 2019). More debt financing will increase the risk of bankruptcy, increasing the company's cost of capital. The proxy used to measure leverage is the debt ratio following (Almania, 2019; Bhuiyan & Nguyen, 2019; Ellili, 2020). This proxy was chosen because the debt ratio better describes where the company’s assets are financed. The formula is shown by equation 9.

Debt Ratio (LEV) = Total Liabilities/Total Assets

Profitability (equation 10) is the ability of a company to generate relative profits from total sales, assets, and equity (Hermuningsih, 2012). Profitability illustrates how efficiently the company generates earnings from its operations. The proxy used is the return on assets (ROA) because a high ROA can reduce the cost of equity and the cost of debt (Prihastiwi & Fatimah, 2020). The use of this proxy follows (Ellili, 2020; Prihastiwi & Fatimah, 2020; Yeh et al., 2019).

\[
\text{ROA} = \frac{\text{Net income}}{\text{Total assets}}
\]

Operating cash flow is cash generated from transactions that include the production, sale, or delivery of goods or services. The operating cash flow ratio in year \( t \) to the average total assets calculates operating cash flow. The selection of operating cash flow as a control variable follows (Prihastiwi & Fatimah, 2020; Yeh et al., 2019).

\[
\text{OCF} = \frac{\text{company cash flow}}{\text{Average total assets}}
\]

This study examines the hypothesis employing panel data regression. There are two models in this study. The first model examines the effect of social responsibility disclosure, intellectual capital disclosure, and risk disclosure on the cost of capital as hypotheses 1, 2, and 3. The regression model is shown by equation 12.

\[
\text{WACC}_{it} = \alpha + \beta_1 \text{CSRD}_{it} + \beta_2 \text{ICD}_{it} + \beta_3 \text{RD}_{it} + \beta_4 \text{SIZE}_{it} + \beta_5 \text{ROA}_{it} + \beta_6 \text{OCF}_{it} + \epsilon_{it}
\]

Meanwhile, to analyze the role of earnings quality in moderating the effect of the tested independent variables on the cost of capital as hypotheses 4, 5 and 6, model 2 is shown by equation 13.

\[
\text{WACC}_{it} = \alpha + \beta_1 \text{CSRD}_{it} + \beta_2 \text{ICD}_{it} + \beta_3 \text{RD}_{it} + \beta_4 \text{ADA}_{it} + \beta_5 \text{CSRD}_{it} \times \text{ADA}_{it} + \beta_6 \text{ICD}_{it} \times \text{ADA}_{it} + \beta_7 \text{RD}_{it} \times \text{ADA}_{it} + \beta_8 \text{SIZE}_{it} + \beta_9 \text{LEV}_{it} + \beta_{10} \text{ROA}_{it} + \beta_{11} \text{OCF}_{it} + \epsilon_{it}
\]

Where:

- \( \text{WACC}_{it} \) = Cost of capital of company \( i \) year \( t \)
- \( \alpha \) = Constant
- \( \text{CSRD}_{it} \) = Corporate social responsibility disclosure index \( i \) year \( t \)
- \( \text{ICD}_{it} \) = Intellectual capital disclosure index of the company \( i \) year \( t \)
- \( \text{RD}_{it} \) = Company risk disclosure index \( i \) year \( t \)
- \( \text{ADA}_{it} \) = Earnings quality of company \( i \) year \( t \)
- \( \text{SIZE}_{it} \) = Company size \( i \) year \( t \)
RESULTS AND DISCUSSIONS

To obtain information on the data employed in this study, descriptive statistical analysis needs to be done on the data that has been obtained. The descriptive statistics used in this study are the mean, median, maximum value, minimum value and standard deviation is shown by Table 4. After performing the Chow, Hausman, and Lagrange multiplier tests for model 1 and model 2, the fittest model uses the random effect model. The summary of the results of hypothesis testing is shown by Table 5.

The Association Between Corporate Social Responsibility Disclosure and The Cost of Capital

The hypothesis testing result indicates that corporate social responsibility disclosure is negatively associated with the cost of capital, so the hypothesis is accepted. This finding is in line with Ellili (2020) and Johnson (2020) but not in line with Atan et al. (2018) and Suto & Takehara (2017). The difference in results between the two studies

Table 4. Research Descriptive Statistics

<table>
<thead>
<tr>
<th>Var.</th>
<th>Mean</th>
<th>Median</th>
<th>Max</th>
<th>Min</th>
<th>Std. Dev.</th>
<th>Obs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>WACC</td>
<td>0.0507</td>
<td>0.0529</td>
<td>0.5636</td>
<td>-0.3758</td>
<td>0.1088</td>
<td>395</td>
</tr>
<tr>
<td>CSRD</td>
<td>0.5704</td>
<td>0.4545</td>
<td>26.234</td>
<td>0.1169</td>
<td>0.4066</td>
<td>395</td>
</tr>
<tr>
<td>ICD</td>
<td>0.3563</td>
<td>0.3535</td>
<td>0.6364</td>
<td>0.1414</td>
<td>0.0957</td>
<td>395</td>
</tr>
<tr>
<td>RD</td>
<td>0.6597</td>
<td>0.6400</td>
<td>0.9600</td>
<td>0.2800</td>
<td>0.1138</td>
<td>395</td>
</tr>
<tr>
<td>ADA</td>
<td>0.0800</td>
<td>0.0490</td>
<td>12.576</td>
<td>0.0005</td>
<td>0.1125</td>
<td>395</td>
</tr>
<tr>
<td>LEV</td>
<td>0.4461</td>
<td>0.4657</td>
<td>0.9151</td>
<td>0.0769</td>
<td>0.1937</td>
<td>395</td>
</tr>
<tr>
<td>ROA</td>
<td>0.0486</td>
<td>0.0424</td>
<td>0.4481</td>
<td>-0.5688</td>
<td>0.0864</td>
<td>395</td>
</tr>
<tr>
<td>OCF</td>
<td>0.0868</td>
<td>0.0677</td>
<td>13.413</td>
<td>-0.1965</td>
<td>0.1236</td>
<td>395</td>
</tr>
</tbody>
</table>

Source: Processed

Table 5. The Summary of Hypothesis Test Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th></th>
<th></th>
<th>Model 2</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cons</td>
<td>0.058</td>
<td>0.515</td>
<td>0.303</td>
<td>0.038</td>
<td>0.333</td>
<td>0.370</td>
</tr>
<tr>
<td>CSRD</td>
<td>-0.047</td>
<td>-2.802</td>
<td>0.003 ***</td>
<td>-0.044</td>
<td>-2.137</td>
<td>0.017 **</td>
</tr>
<tr>
<td>ICD</td>
<td>0.048</td>
<td>0.588</td>
<td>0.279</td>
<td>0.225</td>
<td>2.099</td>
<td>0.018 **</td>
</tr>
<tr>
<td>RD</td>
<td>-0.003</td>
<td>-0.040</td>
<td>0.484</td>
<td>-0.086</td>
<td>-1.023</td>
<td>0.154</td>
</tr>
<tr>
<td>ADA</td>
<td>0.077</td>
<td>0.227</td>
<td>0.410</td>
<td>-0.07</td>
<td>-0.287</td>
<td>0.387</td>
</tr>
<tr>
<td>CSRD*ADA</td>
<td>-2.272</td>
<td>-2.340</td>
<td>0.010 ***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ICD*ADA</td>
<td></td>
<td></td>
<td></td>
<td>1.166</td>
<td>1.595</td>
<td>0.056 *</td>
</tr>
<tr>
<td>RD*ADA</td>
<td></td>
<td></td>
<td></td>
<td>0.0004</td>
<td>0.092</td>
<td>0.463</td>
</tr>
<tr>
<td>SIZE</td>
<td>-0.011</td>
<td>-0.386</td>
<td>0.350</td>
<td>-0.010</td>
<td>-0.327</td>
<td>0.372</td>
</tr>
<tr>
<td>LEV</td>
<td>0.200</td>
<td>2.728</td>
<td>0.003 ***</td>
<td>0.246</td>
<td>3.367</td>
<td>0.000 ***</td>
</tr>
<tr>
<td>ROA</td>
<td>-0.133</td>
<td>-2.736</td>
<td>0.003 ***</td>
<td>-0.197</td>
<td>-3.568</td>
<td>0.000 ***</td>
</tr>
<tr>
<td>OCF</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R²</td>
<td>0.047</td>
<td></td>
<td></td>
<td>0.183</td>
<td></td>
<td>0.428</td>
</tr>
<tr>
<td>Adj R²</td>
<td>0.030</td>
<td></td>
<td></td>
<td>0.039</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F-stat</td>
<td>2.740</td>
<td></td>
<td></td>
<td>2.481</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prob-F</td>
<td>0.009</td>
<td></td>
<td></td>
<td>0.005</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Processed
is because the proxies for calculating WACC differ. Atan et al. (2018) obtained WACC data from Bloomberg Terminal, while Suto & Takehara (2017) calculated one component of the cost of capital, namely the cost of equity, using the Fama & French model. This study employs the CAPM to calculate the cost of equity, one of the WACC components. The various demands from stakeholders faced by manufacturing companies will pressure companies to make quality social responsibility disclosures. However, based on descriptive statistics, the average quality of social responsibility disclosure in a sample of manufacturing companies in Indonesia is still relatively low.

The low disclosure quality can be caused by the absence of regulations in both Indonesian accounting standards and regulations that require items to be disclosed related to corporate social responsibility. Government Regulation No. 47 of 2012 concerning Social and Environmental Responsibility of Limited Liability Companies only mandates that every company as a legal subject has social and environmental responsibilities. The low quality of corporate social responsibility disclosures can also be attributed to the small number of manufacturing companies that adopt the current GRI standards, namely the GRI Standards. Although the quality of disclosure of social responsibility in manufacturing companies is still low, disclosure of social responsibility can reduce the cost of capital. Therefore, this finding confirms the stakeholder theory in disclosing social responsibility to fulfill stakeholder demands. The company is responsible to shareholders and stakeholders such as employees, customers, suppliers, communities, and the government. Various aspects of the company’s business can positively or negatively impact stakeholders. According to stakeholder theory, the disclosure of social responsibility is a means to meet the demands of various stakeholders for the company’s CSR activities. Various CSR activities can show whether the company has behaved ethically in its business processes by integrating economic, environmental, and social aspects. Companies that increasingly apply ethics in the company business processes will make the company more transparent, thereby reducing asymmetric information between managers and shareholders. The reduced asymmetric information shows the increasing confidence of investors and creditors in the company.

This finding can also be interpreted that companies that actively carry out social responsibility initiatives have a lower risk profile and are more sustainable long-term (Hajawiyah et al., 2019). Investors and creditors are willing to accept lower rates of return. The lower risk profile can be caused by a good CSR implementation that can benefit the company. Social responsibility activities can help companies avoid sanctions from regulators and increasingly stringent regulations in the future. The analysis conducted by Mckinsey showed that CSR initiatives could reduce pressure from regulators, thereby reducing the risk of adverse government intervention (Henisz et al., 2019). In addition, CSR initiatives can also reduce the company’s chances of being exposed to litigation (Księżak, 2017). When the company does not respect human rights or create a work environment that meets standards, the company’s chances of litigation will be greater. They will have an impact on the company’s reputation. Therefore, social responsibility is a form of legal compliance, so litigation is less likely to occur in companies actively carrying out social responsibility.

CSR initiatives can also improve company performance. One form of performance improvement is reducing operational costs (Aluchna, 2017). Initially, the company had to spend money to invest in environmentally friendly technology. However, in the long term, the company reduces operational costs by reducing the consumption of energy, water, and waste (Księżak, 2017). Manufacturing companies are closely related to a large number of workers. Corporate social responsibility relates to environmental and economic aspects and social aspects such as human resources. Therefore, the workforce is one of the stakeholders affected by the company’s business processes. Various social responsibility initiatives related to human resources can motivate the workforce to increase productivity and work more efficiently and effectively (Lako, 2015). These initiatives can be related to work-life balance, gender equality, work safety, training, and fair remuneration. Employee turnover will be lower, and employee retention will also increase (Sprinkle & Maines, 2010). These arguments are also supported by (Ali et al., 2020). CSR can improve manufacturing sector companies’ performance and employee engagement in Pakistan, a developing country.

Another benefit of CSR is increasing consumer loyalty (Zychlewicz, 2015). Consumer loyalty is achieved by maintaining the quality of the product by eliminating all defective products at the time of production. As a result, product complaints are reduced, and customer satisfaction increases (Mullerat, 2010). Consumers are also increasingly assertive about their demands for environmentally friendly and responsibly produced products (Johnson, 2020). It can be related to McKinsey research which shows that 70% of customers are willing to pay 5% more for environmentally friendly products as long as they can function normally like alternative products that are not environmentally friendly (Henisz et al., 2019). For investors, disclosure of social responsibility can increase the company’s chances of attracting long-term investors (Raimo et al., 2020a). This investor is increasingly less interested in short-term performance and more focused on the company’s long-term performance (Raimo et al., 2020a).

According to Mullerat (2010), companies that actively carry out CSR generally have more stable stock movements. More socially responsible companies have a lower risk profile and are less likely to have a reputation for falling and lowering the company’s stock price (Księżak, 2017). The company’s lower risk profile will make creditors offer loans with lower interest rates. A good CSR implementation will make the company avoid various risks, such as bankruptcy and product recall risks. If CSR can improve the company’s financial performance, the company’s cash flow will be more secure, so the risk of default on debt and interest can be avoided. Various CSR implementations, if implemented properly, will bring several benefits to the company, such as avoiding sanctions and litigation, reducing operational costs, employee productivity, and customer loyalty. Therefore, CSR initiatives can lower the
company’s risk profile because the company’s business processes have considered the ethics and demands of stakeholders such as investors, creditors, employees, society, customers, and the government. Investors and creditors will perceive companies with high CSR performance as less risky. Creditors will offer loans with lower interest rates, and investors will buy company shares to hold for a long time.

**The Association Between Intellectual Capital Disclosure and The Cost of Capital**

Based on the result of hypothesis testing, intellectual capital disclosure is not associated with the cost of capital, so the hypothesis is rejected. This result aligns with Gomes et al. (2019), which also found that intellectual capital disclosure could not affect the cost of capital in Indonesia. According to Gomes et al. (2019), intellectual capital disclosure is still not relevant enough and sufficient in the eyes of investors. In scoring intellectual capital disclosure, this study uses the index used by Salvi et al. (2020). In contrast to this study which found that intellectual capital disclosure did not affect the cost of capital, Salvi et al. (2020) found that intellectual capital disclosure could reduce the cost of equity. Research results could be due to Salvi et al. (2020) only examining the equity cost aspect. In addition, the sample used in this study are companies that publish integrated reporting from 12 countries, while this study only uses companies in the manufacturing sector in Indonesia. This study suggests different results from Barus & Siregar (2014), who found that intellectual capital disclosure could reduce the cost of equity but not debt. This difference in results could be caused by the different indexes used to measure intellectual capital.

Barus & Siregar (2014) used an index based on Mangena et al. (2016) that consists of 48 items. In addition, the tests conducted by Barus & Siregar (2014) are still separate on the cost of debt and the cost of equity. (Barus & Siregar, 2014) also focused on companies classified as technology-intensive, while this study used a sample of manufacturing companies. According to stakeholder theory, companies will voluntarily disclose intellectual capital to meet stakeholder demands (Guthrie et al., 2006) and be responsible for managing aspects of their intellectual capital, such as human resources, intangible assets, and relationships with various stakeholders’ interests, such as customers and suppliers. The absence of a significant effect between the disclosure of intellectual capital and the cost of capital means that investors and creditors still do not consider the disclosure relevant in determining the desired return on the capital to be submitted. As a result, the disclosure does not reduce asymmetric information in the relationship between managers and shareholders. Therefore, the agency theory is also not confirmed.

The number of stakeholders faced by manufacturing companies causes demands for companies to disclose intellectual capital as a form of accountability to stakeholders. Manufacturing companies need workers to operate equipment and machines (Baroroh, 2013), so every workforce needs to be trained to have the required competencies and skills. Companies must also create a comfortable work environment, so employees become loyal and motivated. In addition, companies also need to establish good relationships with external stakeholders, such as suppliers, to obtain raw materials and equipment at favorable prices and of good quality. Manufacturing companies must also conduct research and development to produce new product innovations. Therefore, intellectual capital disclosure can be a means for manufacturing companies in Indonesia to demonstrate their competitive advantage and meet stakeholder demands for intellectual capital management by companies. However, descriptive statistics show that the average intellectual capital disclosure is still low at 35.63%. The range between the maximum value (63.63%) and the minimum value (14.14%) is also quite far. Barus & Siregar (2014) also found that the average intellectual capital disclosure was not much different, namely 37.79%. Salvi et al. (2020) obtained an average intellectual capital disclosure of 67.68% using a sample of companies that publish integrated reporting from 12 countries. (Mangena et al., 2016) used a sample of British companies to get an average intellectual capital disclosure of 70% in the context of developed countries. Boujelbene (2013) used a sample of French companies to get an average intellectual capital disclosure of 77.43%. Various comparisons of these average values indicate that intellectual capital disclosure in developing countries is still low. It confirms previous research showing that the quality of voluntary disclosure in developing countries is still low (Zaini et al., 2018).

There are several reasons why the quality of intellectual capital disclosure is still low. First, no standard regulates the disclosure of intellectual capital in Indonesia. However, internally developed intangible assets cannot be fully reported in the financial statements. In addition, intangible assets in financial statements such as patents, trademarks, and licenses are only one aspect of intellectual capital and do not include other aspects such as workforce competence and customer satisfaction rates. In the Decree of the Indonesian Financial Services Institution concerning the Submission of the Issuer’s Annual Report, one of the items that must be disclosed in the annual report is human resources. However, there is no minimum number of items that must be disclosed and how to disclose these items, so that information is still scattered in the annual report.

Intellectual capital disclosure is still voluntary in Indonesia. Also, manager has discretion regarding how companies disclose their intellectual capital information. The company does not necessarily intend to disclose information about its intellectual capital. Intellectual capital disclosure can eliminate the company’s competitive advantage because some of the company’s intellectual capital information is confidential (Smith, 2017). Competitors can use information about company employees’ various skills and competencies to persuade them to join them for higher pay. Therefore, the company discloses information about its human resources by considering the benefits obtained by attracting new employees with the potential to lose employees to competitors (Smith, 2017). Disclosure
of various relationships with key customers can also worsen trust and relationships with the company if the customer prefers a relationship with a more closed company (Smith, 2017). Thus, one of the reasons for the low level of intellectual capital disclosure is that the information can be exploited by competitors so that the company loses its competitive advantage. In addition to the low quality of intellectual capital disclosure, another aspect that causes the intellectual capital of manufacturing companies not to become the main aspect of corporate risk assessment is the implementation of human resource policies in manufacturing companies.

According to Budiyanti (2016), the quality of human resources in manufacturing companies is still relatively low. A Japan External Trade Organization (JETRO) survey in 2019 showed that the productivity level of the manufacturing industry was still lower than in other ASEAN countries such as the Philippines, Singapore, Thailand, and Vietnam (JETRO, 2019). There are two reasons for the low quality of the manufacturing workforce. First, most manufacturing employees’ education level is low (Bano & Ridhwan, 2020). Second, the quality of human resource training in Indonesia is generally not focused on (Rowley & Abdul-Rahman, 2008).

One of the reasons the productivity level of manufacturing companies is lower than in other ASEAN countries is alleged that the education level of human resources in manufacturing companies is still low. According to (Bano & Ridhwan, 2020), the education level of human resources in manufacturing companies is lower than in service companies. This condition could be because human resources in the manufacturing sector are laborers. Employees who work in the manufacturing sector generally have a low level of education (61.1%), and a small proportion is highly educated (4.9%) (Bano & Ridhwan, 2020). A different situation occurs in the service sector, where the difference between highly educated workers (38.6%) and low-educated workers (23.9%) is not too far apart (Bano & Ridhwan, 2020). The manufacturing sector also absorbs fewer female workers than the service sector. The low level of education and the lower absorption of female labor causes the disparity in the wage level of the manufacturing sector to be higher than that of the service sector (Bano & Ridhwan, 2020). In addition, implementing human resource development in manufacturing companies also needs to be questioned. Generally, training in Indonesia is not carried out in a targeted or clear program (Rowley & Abdul-Rahman, 2008). The company’s internal and external training is carried out only because the HR department needs to spend a budget so that the next annual budget can still be approved (Rowley & Abdul-Rahman, 2008). Therefore, human resource training does not significantly increase productivity because it is only symbolic. Almost half of the capital structure of manufacturing companies comes from debt. The average leverage of the sample of manufacturing companies in this study is 44.61%.

Wulandari & Setiawan (2020) also suggested that manufacturing companies rely more on debt than stocks. Previous research has shown that intellectual capital disclosure has a negative effect on the cost of equity (Barus & Siregar, 2014; Mangena et al., 2016; Orens et al., 2009; Salvi et al., 2020). However, in terms of debt, disclosure of intellectual capital does not affect the cost of debt in developing and developed countries (Barus & Siregar, 2014; Stropnik et al., 2017). This difference in results could be due to the different preferences of investors and creditors. Creditors only bear the downside risk, while investors bear the upside and downside risks. Therefore, creditors are more concerned with the company’s ability to repay the principal and interest. According to (Sudarmadji & Sularto, 2007), the reason creditors do not consider voluntary disclosures such as disclosure of intellectual capital is that creditors pay more attention to aspects of the company’s credit eligibility called “5C” (character, capability, collateral, condition of the economy, and capital). One of these aspects is “capital,” which shows the company’s money. It can be attributed to one of the control variables in this study, namely operating cash flow (OCF), which negatively affects the cost of capital. Investments and creditors may also consider investing in human capital as a wasted investment compared to developing fixed assets (Tarijan et al., 2019). The main business process of a manufacturing company is to produce goods by relying on fixed assets such as machinery and factories. Therefore, the fixed assets of manufacturing companies have a more vital role in the company’s business processes than the company’s intellectual capital, such as human resources and intangible assets.

The Association Between Risk Disclosure and The Cost of Capital

Based on the results of hypothesis testing, risk disclosure is not associated with the cost of capital, so the hypothesis is rejected. This study’s result differs from those obtained by Almania (2019). The study suggests that wider risk disclosure can reduce the cost of capital for companies in Saudi Arabia. Companies carry out risk disclosures to attract investors to get the lowest possible cost of capital, especially when the company needs liquidity (Almania, 2019). The different results obtained by this study show no relationship between risk disclosure and the cost of capital. This difference in results could be caused by differences in the proxies and samples used in the study. The proxy used in Almania (2019) is to count sentences in the annual report related to risk. On the other hand, this study uses an ISO 31000 version 2009 index based.

Descriptive statistics suggest that the risk disclosure of manufacturing companies is quite good, with an average of 0.6597 or 16 items out of a total of 25 items. However, the distance between the maximum value (0.96) and the minimum value of risk disclosure (0.28) shows that the application of risk management in manufacturing companies is still varied. These figures can be linked to risk disclosure regulations in Indonesia. Unlike the banking sector, there are no specific regulations governing risk disclosure in the non-financial sector, including Indonesia’s manufacturing sector (Fitiania & Firmansyah, 2020). There are several standards related to risk disclosure, such as
PSAK 60 (2016) regarding the disclosure of financial instruments and the Decree of Indonesia Financial Services Authority concerning the Submission of Issuer Annual Reports. However, these standards and regulations do not require a minimum number of items disclosed concerning enterprise risk management. Therefore, risk disclosure that manufacturing companies can do is still voluntary and only fulfills regulations or is symbolic.

According to ICAEW (2011), the credibility of risk disclosure cannot be verified because it is subjective or a unilateral claim. Credibility can only be achieved if an independent party directly examines it. Therefore, risk disclosure cannot be relied on by investors and creditors to assess the success of the company's risk management. In addition, implementing risk management in Indonesian companies is still not optimal. The Risk Management Survey conducted by the Center for Risk Management & Sustainability Indonesia shows that only 33% of companies implement risk management optimally, and the remaining 67% implement risk management informally or only comply with standards (CRMS, 2019). This condition can be interpreted that although risk disclosure is more than adequate, the implementation of risk management is not yet optimal, causing risk disclosure to be irrelevant for investors and creditors. This study uses ISO 31000:2009 in measuring risk disclosure. Risk disclosure is given a score of 0 when the company does not disclose according to the criteria and a score of 1 if it discloses according to the criteria. Therefore, the proxy used in this study only measures the extent of risk disclosure, not the quality. Investors and creditors are suspected of being more concerned with the quality of the risk disclosure, not how much manufacturing companies make risk disclosure.

Based on stakeholder theory, companies disclose risk as a form of accountability for risk management activities. Stakeholders such as investors need information related to the company's risk management activities to reduce uncertainty and make more rational investment decisions (Veltri, 2020). Therefore, the absence of a significant relationship between risk disclosure and the cost of capital can mean that investors and creditors consider the risk disclosure of manufacturing companies still not following their needs in understanding the various risks faced by the company. Descriptive statistics show that manufacturing risk disclosure is quite good. However, the absence of the effect of risk disclosure on the cost of capital indicates that companies disclose risk only to comply with regulations. The absence of a minimum number of items that must be disclosed causes voluntary risk disclosure in manufacturing companies in Indonesia. Risk disclosure does not affect the cost of capital. Therefore, intellectual capital disclosure cannot meet stakeholder demands for risk disclosure.

According to agency theory, managers can take advantage of asymmetric information to take actions not in the interests of shareholders (Almania, 2019). The unproven disclosure of risk in reducing the cost of capital shows that shareholders do not consider risk disclosure to be able to help assess the risks faced by the company, so asymmetric information between managers and shareholders cannot be reduced.

The absence of regulations that regulate the minimum amount of risk disclosure causes risk disclosure to be voluntary. As a result, risk disclosure is still merely a regulatory requirement and is symbolic. In addition, risk disclosure is also not necessarily credible because it is in the form of unilateral claims. The implementation of risk management is still not optimal, causing risk disclosure to have no benefit for investors and creditors in determining the desired rate of return. As a result, stakeholder theory and agency theory is not proven that risk disclosure can meet stakeholder demands for information on corporate risk management and reduce asymmetric information between managers and shareholders.

The Moderating Role of Earnings Management in The Association Between Corporate Social Responsibility Disclosure and The Cost of Capital

The result of testing the fourth hypothesis indicates that earnings management does not moderate the effect of social responsibility disclosure on the cost of capital, so the hypothesis is rejected. The result of this test does not confirm the agency theory that earnings management activities that occur due to high asymmetric information (Alzoubi, 2016) will lower the quality of social responsibility disclosure so that the company's cost of capital increases. Managers can perform opportunistic earnings management to report earnings to maximize their utility. Managers' motivation to carry out opportunistic earnings management is to get bonuses, compensation, or maintain their positions. This type of earnings management will benefit the manager in the short term and harm the company in the long term (Chandren, 2016). The trust of investors and creditors in the company's financial statements can also be questioned, impacting the credibility of corporate social responsibility disclosure. Opportunistic earnings management is unethical and can have a negative impact on stakeholders, especially shareholders. Investors and creditors can utilize social responsibility disclosure as voluntary disclosure to detect corporate earnings management practices (Alzoubi, 2016). Financial statements and corporate social responsibility disclosures that are not credible cause investor and creditor confidence to decline and perceive companies as riskier. As a result, investors will sell the company's shares, and creditors will increase the company's debt interest rate. However, the role of earnings management in weakening or strengthening the negative effect of social responsibility disclosure on the cost of capital could be due to several reasons.

From the management side, non-financial information, such as corporate responsibilities disclosure, can reduce asymmetric information through greater transparency (Bhuiyan & Nguyen, 2019; Michaels & Grüning, 2017; Raimo et al., 2020b). Low asymmetric information will reduce the incentive for managers to carry out earnings
management for its own sake because the opportunity for managers to do so is getting lower. Investors also consider that social responsibility disclosure is less important than financial information. Companies that actively implement CSR have healthy financial performance because they can set aside resources for non-profit activities (Putri et al., 2020). Investors in developing countries also trust more socially responsible companies, reflected through high stock prices and improved reputations (Kansal & Joshi, 2014). Creditors are also willing to lend money to companies with an increased awareness of CSR activities because these activities can improve the company’s reputation to produce high profitability and guarantees for debt interest (Bhuiyan & Nguyen, 2019).

A good reputation will create a competitive advantage for the company, but a bad reputation will lose the trust of stakeholders (Gong & Gong, 2017). Various CSR initiatives such as gender equality, donations, social investment, and using local workers will help build an ethical company image. Companies that actively carry out CSR initiatives will develop a positive reputation to maintain the trust of stakeholders (Gong et al., 2020). CSR activities will provide the impression to stakeholders that the company is more transparent (Y. Kim et al., 2012). This reputation benefit causes CSR to be considered reputation insurance (Minor, 2010).

Investing in CSR will help build a social reputation, reducing the negative impact of future business shocks on firm value, such as product recalls (Minor, 2010). Managers can shock the company’s business if investors and creditors detect opportunistic earnings. Earnings management can be detrimental to the company’s performance in the long run. Opportunistic earnings management will also increase asymmetric information between managers and shareholders, making the company riskier. However, earnings management activities carried out by the company will not reduce the confidence of investors and creditors. The reputation built over the years through CSR will provide the impression that the company is ethical in carrying out its business processes so that it can be trusted. They assume that ethical companies will not perform earnings management. Even if investors and creditors suspect the company is carrying out earnings management, this action will not reduce the credibility of corporate social responsibility disclosure. CSR activities carried out properly will provide tangible benefits to stakeholders, which outweigh the negative impacts caused by earnings management. The trust of investors and creditors in companies that disclose social responsibility causes the company’s earnings management activities not to affect investors’ and creditors’ risk perceptions.

The moderating role of earnings management in the association between intellectual capital disclosure and the cost of capital.

The hypothesis testing result indicates that earnings management can strengthen the negative effect of intellectual capital disclosure on the cost of capital, so the hypothesis is rejected. Based on agency theory, managers use discretion in accounting policies, including earnings management. Earnings management can be efficient or opportunistic. Management’s earnings management actions can be efficient if earnings management carried out by managers can increase shareholder wealth or produce a positive performance for the company (Chandren, 2016). If earnings management is carried out only to maximize the welfare of managers and harm the company and shareholders, then earnings management is considered opportunistic (Siregar & Utama, 2008). The interaction between earnings management and intellectual capital disclosure is efficient earnings management because it can reduce the cost of capital. This test confirms the agency theory that efficient earnings management reflects the alignment of interests between managers and shareholders. Managers do earnings management for the benefit of the company and shareholders, not to maximize the welfare of managers. Efficient earnings management is useful for communicating private information to investors, reducing estimation risk, and profitably affecting stocks (Scott, 2015). Earnings management in companies with low agency costs will benefit the company or shareholders (Jiraporn et al., 2008). The company should have a small but stable profit than large but untenable earnings (Scott, 2015). Managers actions to create stable profits can make the company’s success in the long term more secure because this action can meet the expectations of shareholders as owners of the company. The interaction between efficient earnings management and intellectual capital disclosure makes intellectual capital disclosure, which previously did not affect the cost of capital, have a negative effect on the cost of capital. Efficient earnings management with intellectual capital disclosure has a similar basis. Both focus on the long-term aspects of the company. Intellectual capital disclosure relates to how companies manage various intellectual capital, such as human resources, to create a competitive advantage in the long term (Salvi et al., 2020). Efficient earnings management also focuses on the long-term aspects of the company because it is carried out for the benefit of the company and shareholders, not for managers’ interests.

In addition, both can improve company performance. Companies with good intellectual capital performance are associated with lower chances of bankruptcy (Cenciarelli et al., 2018). Optimal intellectual capital management will result in a good performance and long-term financial stability (Cenciarelli et al., 2018). Companies that perform well or do not experience financial difficulties tend to carry out efficient earnings management (Abbas & Ayub, 2019).

On the other hand, intellectual capital disclosure and efficient earnings management are also related to good relations with stakeholders. Earnings management shows the alignment of objectives with the company and shareholders. Intellectual capital relates to human resources and good relations with other stakeholders such as investors, creditors, customers, and business partners. Therefore, investment in the company’s intellectual capital will reduce
the incentive for managers to take actions that can undermine the company’s image among stakeholders, such as opportunistic earnings management. If the company needs to carry out earnings management, it is efficient because it is carried out for its sustainability in the long term.

Therefore, intellectual capital disclosure and efficient earnings management have similar foundations: focusing on the long term, improving performance, and establishing good stakeholder relations. There is a complementary relationship between intellectual capital disclosure and efficient earnings management. Efficient earnings management makes financial reports more reliable because private information in earnings can help users of financial statements assess the company’s performance (Scott, 2015). More credible financial statements, such as intellectual capital disclosures, will give credibility to voluntary disclosures (Karajeh, 2019). Managers will be incentivized to disclose more intellectual capital because stakeholders perceive the information as more reliable. The impact is that asymmetric information between managers, shareholders, and creditors will decrease, and their trust in the company will increase so that its cost of capital will be lower.

The moderating role of earnings management in the association between risk disclosure and the cost of capital

The hypothesis testing result indicates that earnings management can weaken the effect of risk disclosure on the cost of capital, so the hypothesis is accepted. This test confirms the agency theory that managers utilize asymmetric information with shareholders to maximize their welfare through opportunistic earnings management. High earnings management causes the quality of the company’s earnings to decrease so that the financial statements become reliable. Managers’ motivations for opportunistic earnings management include bonuses, share-based compensation, or external funding (Nagar & Sen, 2018). Another motivation for managers to do opportunistic earnings management is that they are in an unhealthy financial condition or financial distress. Unhealthy financial conditions cause the company not to fulfill its debt covenants, and manager is afraid of losing their job (Nagar & Sen, 2018). For financial performance to improve quickly, managers manage earnings so that the company’s financial statements look healthier. Several studies have shown that companies with unhealthy financial conditions tend to manage opportunistic earnings (Abbas & Ayub, 2019) and high accrual earnings (Muljono & Suk, 2018).

Although opportunistic earnings management can provide benefits in the short term, in the long term, it will harm the company’s financial performance and shareholder wealth in the long term (Chandren, 2016). Companies that carry out opportunistic managers also have a high level of asymmetric information between managers and shareholders. Managers can use their discretion to carry out opportunistic earnings management. As a result, shareholders’ trust in managers become decreasing.

On the other hand, risk disclosure relates to the voluntary submission of company risk information that appears in the company’s annual report and relates to opportunities, prospects, dangers, distractions, threats, or exposures that have had an effect or will affect the achievement of company goals in the future. Risk disclosure can provide information about the success of risk management in mitigating company risks. Sufficient risk disclosure will make investors and creditors more confident that the capital submitted to the company is more secure by not defaulting on debt or falling stock prices. Empirical evidence also shows that risk disclosure can increase firm value in developing countries (Abdullah et al., 2015).

However, risk disclosure in manufacturing companies in Indonesia is generally still symbolic or merely fulfilling regulations. There are no specific regulations governing the disclosure of company risk other than in the banking sector (Fitania & Firmansyah, 2020). Risk management information is one of the items that must be disclosed in the annual report but does not set a minimum amount that must be disclosed. The characteristics of risk disclosure in developing countries are also generally generic, repetitive, and selective (Mazumder & Hossain, 2019). Risk disclosure is considered too general because it does not contain specific information at a certain time and place. Risk disclosure is repetitive because it is disclosed almost yearly (Mazumder & Hossain, 2019). Risk disclosure is selective when the company only displays information that does not give a negative impression to the company (Mazumder & Hossain, 2019). Corporate risk disclosures cannot be verified directly and are not necessarily credible (ICAEW, 2011). Implementing risk management in Indonesia is also not optimal (CRMS, 2019), so investors and creditors have not appreciated the relevant risk disclosures in decision-making. Risk disclosure that is still not optimal causes no reduction in asymmetric information between managers and shareholders.

On the other hand, opportunistic earnings management can cause a conflict of interest between shareholders because earnings management is carried out for personal interests. Earnings management can reduce the quality of company earnings if it is done to deceive financial users regarding the actual financial condition (Menicucci, 2020). Risk disclosures are displayed in the notes to the financial statements and are displayed quantitatively, such as liquidity risk, market risk, and credit risk. Disclosure of the risk becomes inaccurate because it uses manipulated numbers. This condition can be fatal to the quality of decision-making by investors and creditors, namely investing in companies that are very risky and default on loans.

Risk disclosure that is not optimal and the adverse impact of opportunistic earnings management causes higher asymmetric information between managers, investors, and creditors. Investors and creditors consider that risk disclosure does not reflect actual risk management activities because reliable financial reports do not support it. The confidence of investors and creditors in the company is decreasing. Creditors will increase the interest rate
on debt lent to the company, and investors will demand a higher rate of return and even sell the company’s shares. Therefore, the company’s cost of capital will increase.

CONCLUSIONS

This study finds that corporate social responsibility disclosure is negatively associated with the cost of capital. Corporate social responsibility benefits from avoiding sanctions and litigation, reducing operational costs, employee productivity, and customer loyalty. Intellectual capital disclosure is not associated with the cost of capital. The disclosure of information regarding intellectual capital, such as human resources, cannot meet the demands of stakeholders, especially investors and creditors. Human resources policies in manufacturing companies are still not optimal, so intellectual capital disclosure is irrelevant in reducing asymmetric information between managers, investors, and creditors. Risk disclosure is not associated with the cost of capital. The company’s risk disclosure cannot meet stakeholders’ demands, especially investors and creditors. The company’s risk management activities have not been implemented optimally, so risk disclosure is irrelevant to reducing asymmetric information between managers, investors, and creditors. Earnings management cannot moderate the effect of social responsibility disclosure on the cost of capital. Investors and creditors consider that the company’s earnings management activities will not reduce the company’s reputation built over the years through the disclosure of CSR activities. Earnings management strengthens the negative effect of intellectual capital disclosure on the cost of capital. Efficient earnings management carried out by the company can improve the quality of intellectual capital disclosure to make it more relevant to investors and creditors. Investors and creditors believe that intellectual capital can create a competitive advantage in the long run and are willing to accept lower rates of return. Earnings management weakens the negative effect of risk disclosure on the cost of capital. It shows that opportunistic earnings management can make the credibility of the company’s risk disclosures unreliable, so the asymmetric information between management, investors, and creditors is getting higher.

This study uses three independent variables measured using an index. To assess the disclosure score of each company, an automatic search was used using the search function in the PDF X-Change Editor application to search for keywords and explanations according to the criteria in the index used. However, several company annual reports are scanned or protected from the automatic search menu. Information about these components cannot be found, and the company must be issued. The content analysis method uses the scoring of the variable index of social responsibility disclosure, intellectual capital disclosure, and risk disclosure. The use of the content analysis method is closely related to the issue of researcher subjectivity. This study only uses manufacturing sector companies listed on the IDX, so the results of this study cannot be used to generalize the behavior of all companies in Indonesia. The research time interval in future studies can be longer to capture the phenomenon of the effect of disclosure of social responsibility, disclosure of intellectual capital, and disclosure of risk on the cost of capital, as well as the role of earnings management in moderating the effect of these variables on the cost of capital more comprehensively. Future research can use samples from other sectors not limited to manufacturing companies or companies listed on stock exchanges in other countries, such as Southeast Asia, to become more comprehensive. The measurement of social responsibility disclosure uses GRI standards. Future research can use ESG data from Bloomberg Terminal to measure more accurate social responsibility disclosure.

This study suggests that Indonesia Financial Services Authority (OJK) improves regulations related to information disclosure in the company’s annual report. The quality of CSR disclosure in Indonesia is still low but is still appreciated by investors and creditors through a lower cost of capital. Quality is still low because only a few apply GRI standards in disclosing CSR. It can be a consideration for OJK to formulate CSR disclosure regulations in Indonesia based on best practices such as the GRI standard. The regulations governing risk disclosure and intellectual capital disclosure in manufacturing companies must also be evaluated. Also, OJK needs to evaluate the current regulations concerning the Guidelines for Corporate Governance and oversee the implementation of this rule to improve investor protection.

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