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ABSTRACT

This research investigates the influence of financial reporting quality, tax avoidance, and debt maturity on investment efficiency in Indonesia. This study also examines the role of corporate social responsibility disclosure as a moderating variable. Samples of manufacturing companies listed in Indonesia between 2014 and 2019 were selected (414 observations). Using panel regression, this study unveiled a positive effect of financial report quality, while a negative effect of tax avoidance and debt maturity on investment efficiency. Corporate social responsibility disclosure fails to moderate the impact of financial report quality and tax avoidance on investment efficiency. In contrast, corporate social responsibility disclosure strengthens the influence of debt maturity on investment efficiency. This study suggests that the Indonesian Tax Authority needs to improve its supervision on Indonesian companies to suppress tax avoidance by companies that may reduce investment efficiency.

Kata Kunci:
Jatuh tempo utang, kualitas laporan keuangan, keberlanjutan, penghindaran pajak

1. Introduction

Investment is one component that can affect economic growth in developing countries (Sari et al., 2016). Increased investment at the corporate level has a broad impact on a country's economy, such as optimizing domestic natural resources, absorbing labor, and receiving foreign exchange from exports. Companies as economic actors have a role as producers, providing goods or services needed by consumers (Gischa, 2020). The increase in capital in the company will impact the company's
real investment to increase labor productivity. Hamdani (2016) stated that increasing labor productivity positively affects economic growth. However, agency problems arise because of a conflict of interest between managers and shareholders. Shareholders are concerned about managers' performance as the party making decisions, while shareholders only obtain information from the financial performance. Managers can use the limited information obtained by shareholders to achieve their interests, making their investment activities inefficient. Thus, investment efficiency is essential to be further investigated.

Research on investment efficiency has been carried out in Indonesia and at the international level to examine the factors that affect investment efficiency and the financial report's quality (Al ‘Alam & Firmansyah, 2019; Aulia & Siregar, 2018; Biddle et al., 2009; F. Chen et al., 2011; Christine & Yanti, 2017; Herbert & Harto, 2021; Kurniawan & Firmansyah, 2019; Li & Wang, 2010; Shahzad et al., 2019), debt maturity (Al ‘Alam & Firmansyah, 2019; Aulia & Siregar, 2018; Gomariz & Ballesta, 2014; Hung et al., 2020), tax avoidance (Asiri et al., 2020; Bailing & Rui, 2018; Ding, 2019; Firmansyah & Triastie, 2020; Khurana et al., 2018; Mayberry, 2012; Zeng, 2019), corporate governance (Lee, 2017; Salin et al., 2018), corporate responsibility disclosure (Benlemlih & Bitar, 2018; Firmansyah & Triastie, 2020; Samet & Jarboui, 2017), capital structure (Anela & Prasetyo, 2020; Pranata & Fitriyah, 2020), audit quality (Bae et al., 2017; Boubaker et al., 2018), tax risk (Kurniawan & Firmansyah, 2019).

Based on the results of previous studies, research that investigates three hypotheses within the scope of agency theory, financial report quality, tax avoidance, debt maturity, on investment efficiency in one study is still rarely conducted (Jadi et al., 2021; Sakessia & Firmansyah, 2020). These three components can represent the behavior of managers related to the selection of company policies that can affect the company's investment efficiency. Financial reporting quality can be a good guide for determining optimal investment decisions. The decrease in asymmetric information between managers and shareholders can reduce the possibility for company managers to take actions that only benefit managers. Bushman & Smith (2001) stated that financial statements provide information related to financial position so that users of financial statements can make the right decisions. Wang et al. (2015) revealed that the company's presentation of quality financial statements suggests the actual conditions to reduce asymmetric information. Herbert & Harto (2021) found that financial reporting quality is negatively associated with investment efficiency. While, Al ‘Alam & Firmansyah (2019), Biddle et al. (2009), Chen et al. (2011), Christine & Yanti (2017), Li & Wang (2010) and Shahzad et al. (2019) concluded that financial reporting quality is positively associated with investment efficiency. However, Aulia & Siregar (2018), Handayani et al. (2016), Kurniawan & Firmansyah (2019) suggested that financial reporting quality is not associated with investment efficiency. Thus, the inconsistency result from the previous studies leads to examining the association between financial reporting quality and investment efficiency should be reconducted.

Taxes are a high cost to the company and reduce the cash flow available to shareholders (S. Chen et al., 2010). Therefore, management tends to do tax planning to minimize the tax expenses. Tax avoidance will generate additional cash for the company, so managers can employ the extra cash to invest beyond the optimal level for personal gain. Bailing & Rui (2018), Ding (2019), Firmansyah & Triastie (2020), Mayberry (2012), and Zheng (2019) stated that tax avoidance is negatively associated with investment efficiency. However, Asiri et al. (2020) found that tax avoidance is positively associated with investment efficiency. Another study has shown otherwise (Khurana et al., 2018). Thus, the variation result of the previous studies leads to examining the association between tax avoidance and investment efficiency should be
Short-term debt can reduce asymmetric information and costs between shareholders, creditors, and managers (D’Mello & Miranda, 2010). Faster debt maturities can improve the supervisory function of creditors who have asymmetric information problems (Ortiz-Molina & Penas, 2008). From the lender's perspective, short-term debt maturities are relatively more appropriate than long-term debt maturities because they will facilitate the supervision and monitoring of company management (Diamond, 1993; Rajan, 1992). Childs et al. (2005) predicted that the high flexibility of the firm's faster debt maturity could help increase the firm's investment efficiency. Al ‘Alam & Firmansyah (2019), Gomariz & Ballesta (2014), Hung et al. (2020), Jafari (2016), Suaidah & Sebrina (2020) concluded that short debt maturities could improve investment efficiency. Short-term debt will be paid in a shorter period so that the company's interest expense is not too significant, making the profits entirely belong to the company. Short-term debt can also reduce agency conflicts between shareholders and creditors so that underinvestment problems can be suppressed (Al ‘Alam & Firmansyah, 2019; Gomariz & Ballesta, 2014; Suaidah & Sebrina, 2020). However, Aulia & Siregar (2018) stated that debt maturity would reduce investment efficiency. The difference in test results in previous studies has resulted in the need to reexamine debt maturity testing with investment efficiency.

This study examines financial reporting quality, tax avoidance, and debt maturity on investment efficiency. This study employs corporate social responsibility disclosures to moderate financial report quality, tax avoidance, and debt maturity on investment efficiency, which is still rare in previous studies. Corporate social responsibility is a form of moral responsibility and corporate concern for all stakeholders. Benlemlih & Bitar (2018) proved that corporate social responsibility would encourage company investment efficiency by reducing asymmetric information between agents and principals. Implementation of corporate social responsibility strategies can also limit the amount of cash available, which can be used for the personal benefit of managers by taking on unprofitable projects.

Chiang et al. (2015) suggested that companies with high social responsibility improve their financial reporting quality. It reflects responsible behavior towards their social environment. Company managers with a high level of social responsibility will disclose corporate social responsibility that increasing company transparency meets stakeholder interests. Meanwhile, (Sari & Adiwibowo, 2017) revealed that corporate social responsibility disclosure reduces the level of corporate tax avoidance. Following stakeholder theory, the company reduces unethical actions such as tax avoidance. Corporate social responsibility also directly reduces cash held by managers to suppress managers' opportunistic behavior in making investment decisions for the company (Sari & Adiwibowo, 2017). Furthermore, Nguyen et al. (2020) found that companies with high corporate responsibility facilitate companies to access long-term debt that will be used to fund company investment activities, making the company's investment activities more efficient. Corporate responsibility disclosure is associated with companys’ acting ethically, operating legally, and contributing to improving the quality of life of all stakeholders. Thus, corporate social responsibility disclosure is appropriate for this study to become a moderating variable.

This study employs the control variables, namely profitability and firm size. Khurana et al. (2018) suggested that profitability is positively associated with investment efficiency. High profitability can make it easier for companies to take profitable investments (Zhong & Gao, 2016). In addition, Gomariz & Ballesta (2014) stated that firm size has a negative effect on investment efficiency. High company size indicates that managers use the company's internal resources.
excessively.

2. Theoretical framework and hypotheses development
Agency theory
Jensen & Meckling (1976) revealed that an agency relationship is a contract between one or more people (principals) that involves another person (agent) to carry out actions on behalf of the principal by giving the agent the authority to make decisions. In a company, shareholders and managers have different goals, and both want their dreams to be achieved (Jensen & Meckling, 1976). It causes agency problems. The principal needs to pay to overcome the agency problem called agency cost. Agency cost reduces the principal's welfare due to differences in interests between the principal and the agent. Jensen & Meckling (1976) separated these agency costs into 3, supervision costs, bond costs, and residual losses. Supervision costs are costs incurred by the principal to monitor agents' behavior. Supervision costs are initially borne by the principal but will be charged to the agent through adjustments to the manager's remuneration (Godfrey et al., 2010). Examples of supervision costs are audit fees or operating rules. Bonding costs are costs borne by agents because they align the manager's interests with the principal's (Godfrey et al., 2010). Examples of bond costs are the time and effort of managers providing more frequent financial reports or limiting managers' activities. The remaining losses are losses experienced after supervision costs and bonding costs because they cannot fully align the agent's interests with the principal (Godfrey et al., 2010).

Two agency problems occur between managers and shareholders that cause the company's investment to be inefficient: risk aversion and horizon problems (Godfrey et al., 2010). The risk aversion problem is when managers will only choose investments with negligible risk, causing the company's investment activities inefficient (underinvestment). In contrast, the horizon problem is a condition where managers have a shorter time than shareholders. Hence, managers are more concerned with short-term profits and more significant gains in the long run (Godfrey et al., 2010). Managers who only see a close perspective cause investment activity to be underinvested because managers should make investments with positive NPV with long-term returns.

Furthermore, agency problems can also occur between debt-holders and shareholders, assuming that managers are the owners of the entire company or have interests entirely in line with the owners' interests. With the alignment of interests between shareholders and managers, the principal is the creditor, and the agent is the manager acting on behalf of the shareholders. Two agency problems occur between creditors and managers that cause the company's investment activities to be inefficient, namely, asset substitution and underinvestment (Godfrey et al., 2010). Asset substitution is a condition where the company will make investments that have a high risk, where if the investment in assets has a high risk, the results will also be high. However, the company is not involved in the downside risk. If the investment has a high risk of experiencing losses, the company is only obliged for a certain amount according to its share. Thus, the company invests in projects that have a high risk for the benefit of shareholders.

Meanwhile, the investment is of no benefit to the creditor but instead makes him share the risk of loss. This condition causes creditors to be reluctant to provide loans to shareholders, which will make the company's investment activities inefficient (underinvestment). Underinvestment problems arise due to shareholders refusing to invest in positive values because the profits obtained will only be enjoyed by debt-holders, which causes the company's investment to become inefficient.

Stakeholder theory
Stakeholders have the right to obtain information regarding company activities that affect them. Freeman (1984) stated that
organizations have an honest relationship with people other than shareholders. Organizations and individuals have moral status. Therefore, organizations must be morally responsible to all stakeholders. A stakeholder is any group or individual who can influence or achieve organizational goals. Stakeholder theory emphasizes the relationship between a business entity and its suppliers, employees, customers, communities, investors, and people interested in the organization. Freeman (1984) stated that stakeholder theory describes which parties the company should be responsible for. Companies have a responsibility to create value for all stakeholders, not just shareholders. Stakeholder theory emphasizes the importance of organizational accountability far beyond financial or economic performance (Fatchan & Trisnawati, 2016).

In developing stakeholder theory, Freeman (1984) expressed the concept of stakeholders in two models, (1) the policy model; and (2) the corporate social responsibility model of stakeholder management. The first model focuses on developing and evaluating the company's strategic decision agreements with groups with the influence and support needed by the company. Therefore, in this model, stakeholder theory focuses on how the company manages the company's relationship with those who directly influence the company, such as shareholders and management. The second model explains that corporate planning and analysis are extended to include external influences opposite the firm. In this second model, the groups referred to include regulatory agencies (government), the environment, and groups (communities) with particular interests concerned with social problems.

Corporate social responsibility is a form of corporate moral responsibility to stakeholders. Corporate social responsibility is a business strategy contributing to sustainable development by providing economic, social, and environmental benefits for all stakeholders. Social responsibility is also a form of corporate responsibility to act ethically, operate legally, and improve the quality of life of employees and society. Corporate social responsibility is a typical activity carried out by countries, including Indonesia. In Indonesia, the implementation of corporate social responsibility has been regulated in the Law of the Republic of Indonesia Number 40 of 2007 concerning Limited Liability Companies. According to the law, implementing corporate social responsibility is essential in Indonesia. It is expected to realize sustainable economic development to improve the quality of life and the environment for companies, local communities, and society.

Hypothesis development

Based on agency theory, investors do not have enough information to make the right decisions. Improving the quality of financial reporting and disclosure in financial statements can be used as a tool to reduce asymmetric information, information risk and more control over managerial activities (Healy & Palepu, 2001; Hope & Thomas, 2008). Financial statements can be judged by the accuracy of describing the actual condition of the company and how relevant and reliable the information in financial statements is to help the users predict the company's future.

Al ‘Alam & Firmansyah (2019), Biddle et al. (2009), Chen et al. (2011), Christine & Yanti (2017), Li & Wang (2010) and Shahzad et al. (2019) stated that the financial reporting quality positively affects investment efficiency. Li & Wang (2010) found that high-quality financial reporting will suppress overinvestment and underinvestment, increasing investment efficiency. Good financial report quality could suppress company underinvestment, encouraging companies to improve investment efficiency (Handayani et al., 2016). Financial reporting quality can reduce asymmetric information between managers and investors by providing more transparent financial information (Al ‘Alam & Firmansyah, 2019). Reduced asymmetric information can attract investors to provide funding to companies that can mitigate underinvestment. High-quality financial
reporting will also reflect the company's information well to assist managers in making efficient investment decisions and assist shareholders in supervising managers (Li & Wang, 2010).

H1: financial reporting quality is positively associated with investment efficiency

Based on the agency theory, the involvement of managers in a company results in the possibility that managers do not fully act by the principal's interests (Jensen & Meckling, 1976). Managers can act opportunistically by taking advantage of the asymmetric information between themselves and the tax avoidance principal. Tax avoidance can be one way for managers to overcome the adverse selection problem. Adverse selection costs companies to obtain investment funding from external sources, seeking internal sources. However, tax avoidance can also increase the agent and principal (Mayberry, 2012).

Bailing & Rui (2018), Ding (2019), Firmansyah & Triastie (2020), Mayberry (2012), and Zheng (2019) suggested that tax avoidance has a negative effect on investment efficiency. Tax avoidance by companies tends to overinvest, which means lowering the efficiency of the company's investment (Mayberry, 2012). Companies' tax avoidance can increase the availability of cash for companies to carry out investment activities. However, tax avoidance activities carried out by managers can increase asymmetric information between managers and shareholders (Bailing & Rui, 2018). An increase in asymmetric information can increase the probability of managers behaving opportunistically, secretly using company resources for personal gain, making the company's investment activities inefficient.

H2: Tax avoidance is negatively associated with investment efficiency

Based on agency theory, agency problem between creditors and managers leads creditors to be reluctant to provide loans due to opportunistic behavior from managers (Jensen & Meckling, 1976). However, asymmetric information can be mitigated by monitoring mechanisms carried out by creditors (Scott, 2015). Creditors who offer short-term debt will find it easier to monitor companies that reduce asymmetric information.

Al ‘Alam & Firmansyah (2019), Gomariz & Ballesta (2014), Hung et al. (2020), Jafari (2016), Suaidah & Sebrina (2020) concluded that debt maturity positively influences investment efficiency. The company's use of short-term debt can overcome the underinvestment problem owned by the company (Al ‘Alam & Firmansyah, 2019). Short-term debt has requirements that tend to be easy so that it is fast to fulfill and has a quick disbursement process (Hung et al., 2020). Therefore, short-term debt will more quickly provide the company with a source of funds that can increase the efficiency of the company's investment. From the creditor's point of view, the company's short-term debt can make it easier for creditors to supervise the company, which can suppress the opportunistic behavior of managers.

H3: Debt maturity is positively associated with investment efficiency

In stakeholder theory, companies create value for all stakeholders, not just shareholders (Freeman, 1984). The company has responsibilities to all stakeholders, including consumers, producers, employees, shareholders, communities, and the environment, in all aspects of the company's operations, including economic, social and environmental aspects. To balance stakeholders' interests, the company will strive to behave ethically and in line with the objectives of all stakeholders. Chiang et al. (2015) suggested that companies with high CSR positively affect the financial reporting quality. Lemus (2016) stated that adopting corporate social responsibility toward financial statements will increase the relevance of the information contained in companies' financial statements. Almahrog et al. (2018) stated that companies that have carried out corporate social
responsibility would suppress the opportunistic behavior of managers not to carry out earnings management. Gras-Gil et al. (2016) found that corporate social responsibility is negatively associated with corporate earnings management. Choi et al. (2021) found that companies with high social responsibility tend to reduce earnings management carried out by companies. Companies with high social responsibility are committed to playing a role and being responsible for economic, social, and environmental objectives and meeting stakeholder expectations. Thus, corporate social responsibility can increase the transparency and accountability of the company and reduce the opportunistic behavior of managers so that the company's investment activities become more efficient.

H4: Corporate social responsibility disclosure strengthens the positive influence of the quality of the financial reporting on investment efficiency

In stakeholder theory, companies have responsibilities to suppliers, customers, communities, investors, employees, and other people interested in partner organizations, communities, and legal entities in which the company is incorporated, not just to shareholders. One important aspect of corporate social responsibility is people. The concept reveals that the purpose of business is also to improve the welfare of the surrounding community, not just look for profit. By carrying out social responsibility, companies can improve the company image in the community's perspective and develop cooperation with other companies.

L. L. P. Sari & Adiwibowo (2017) revealed that corporate responsibility disclosure has a negative effect on tax avoidance in manufacturing companies listed on the Indonesia Stock Exchange. Tjondro et al. (2016) stated that corporate responsibility has a negative effect on tax avoidance. Rista & Mulyani (2019) concluded that corporate social responsibility has a negative effect on tax avoidance. Lanis & Richardson (2012) revealed that corporate social responsibility could suppress unethical behavior of managers, such as tax avoidance. Moreover, Park (2017) stated that companies with social responsibility tend not to tax avoidance. Companies with high social responsibility are committed to implementing good social responsibility and reducing unethical behavior in their company activities, such as tax avoidance. Corporate social responsibility disclosure can also be used as a monitoring tool by investors to suppress the opportunistic behavior of managers. In addition, corporate responsibility activities will reduce the resources controlled by managers, thereby preventing managers from doing something that makes the company's investment activities inefficient.

H5: Corporate social responsibility disclosure weakens the negative effect of tax avoidance on investment efficiency

In stakeholder theory, companies are responsible for creating value for all stakeholders, not just shareholders. Corporate social responsibility is a form of corporate moral responsibility to stakeholders. The company's social responsibility activities will indirectly increase public trust in the company, which will increase the company's reputation. Companies with high social responsibility signal to creditors that the company has high stability and low risk so that creditors do not have to worry about the risk of default (Attig et al., 2013). There are various control mechanisms to minimize asymmetric information and better control over managerial activities, such as quality and disclosure of social responsibility. Credit rating agencies also tend to evaluate the credit reliability of companies based on their non-financial information, such as sustainability reports (Bao et al., 2020). Therefore, companies with high social responsibility tend to find it easier to get long-term debt (Hung et al., 2020).

Managers in companies with a good social responsibility implementation tend to avoid high-
risk investment activities because creditors will also bear these risks by increasing company default risk. The company manages its business to benefit shareholders and other parties outside the company, including creditors. Therefore, companies with high social responsibility can increase creditor confidence to provide long-term loans to companies. Long-term debt provided by creditors lowers administrative costs and gives the company time to collect money to make payments, making the company's investment activities more efficient. Thus, the sixth hypothesis of this study is as follows.

H₆: Corporate social responsibility disclosure weakens the positive effect of debt maturity on investment efficiency

3. Research method

This study uses quantitative methods to obtain conclusions on the proposed hypothesis through data acquisition, processing, and analysis. The

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Companies listed on the IDX as of November 2020</td>
<td>713</td>
</tr>
<tr>
<td>Companies listed on the IDX after January 1, 2013</td>
<td>-275</td>
</tr>
<tr>
<td>Non-manufacturing sector companies</td>
<td>-245</td>
</tr>
<tr>
<td>Companies with negative pre-tax income</td>
<td>-124</td>
</tr>
<tr>
<td>Incomplete financial report elements and/or information</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total studied companies</strong></td>
<td><strong>69</strong></td>
</tr>
<tr>
<td><strong>Year</strong></td>
<td><strong>6</strong></td>
</tr>
<tr>
<td><strong>Total observations</strong></td>
<td><strong>414</strong></td>
</tr>
</tbody>
</table>

The dependent variable in this study is investment efficiency. This investment efficiency proxy follows Al ‘Alam & Firmansyah (2019), Biddle et al. (2009), Firmansyah & Triastie (2020), and Gomariz & Ballesta (2014) as follows:

\[
\text{InvEff}_it = \alpha_0 + \alpha_1 \text{Salesgrowth}_it + \epsilon_it...... (1)
\]

Where:

- \( \text{InvEff}_it \): The company's investment in fixed assets is measured from capital expenditures to acquire fixed assets minus the proceeds from the sale of fixed assets and scaled by total fixed assets \( t-1 \)
- \( \text{Salesgrowth}_it \): Company's average sales growth
  
  \[
  \text{Salesgrowth}_it = \frac{[(\text{sales } t-1 - \text{sales } t-2) / \text{sales } t-2]}{\text{sales } t-2}
  \]
- \( \epsilon_it \): Residual value

The residual value of the cross-section regression each year reflects the deviation from the expected level of investment. This residual value is employed as a company-specific proxy for investment efficiency. The cross-section regression was chosen to see the quality of earnings from year to year because there may be differences in results...
in different years due to industry conditions and policies in that year. A positive residual value means that the company invests more than expected by sales growth (overinvestment). Conversely, a negative residual assumes that investment is less than expected (underinvestment). In this study, the residual value was absolute and then multiplied by -1 to facilitate research analysis. The independent variables in this study consist of financial reporting quality, tax avoidance, and debt maturity. In this study, the proxy of the financial reporting quality employs the discretionary accruals model developed by Kothari et al. (2005), which is:

$$TA_{it} = \alpha_0 + \alpha_1(\Delta REV_{it} - \Delta REC_{it}) + \alpha_2 PPE_{it} + \alpha_3 ROA_{it-1} + \varepsilon_{it} \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots (2)$$

Where:

- \( TA_{it} \): Total accruals of the company \( i \) in year \( t \)
- \( \Delta REV_{it} \): The difference in revenue of company \( i \) in years \( t \) and \( t-1 \)
- \( \Delta REC_{it} \): The difference in net receivables of the company \( i \) in year \( t \) and \( t-1 \)
- \( PPE_{it} \): Property, plant, and equipment of company \( i \) in year \( t \)
- \( ROA_{it-1} \): Return on assets of the company \( i \) in year \( t-1 \)
- \( \varepsilon_{it} \): Residual

Total accruals are obtained by subtracting net income from cash flow from operations, and then all variables in equation 2 are scaled to total assets in year \( t-1 \). The residual value of the cross-section regression in each year is a proxy for the discretionary accrual. The value of discretionary accruals is then absolute because this study does not distinguish between upward and downward earnings. The financial reporting quality is the opposite of discretionary accruals (the value is multiplied by -1).

Tax avoidance proxy employs the permanent book-tax difference (DTAX). According to Frank et al. (2009), the permanent book-tax difference is a better measure than other measures, such as total ETR, cash ETR, or total discretionary book-tax difference, because it is more consistent with evidence regarding the aggressive nature of tax shelter activity, which is an extreme form of tax shelter activity. There is a DTAX measure that has been tried to adapt to Indonesian conditions by Rachmawati & Martani (2014) by adjusting the (Frank et al., 2009), which is:

$$PERMDIFF_{it} = \alpha_0 + \alpha_1 INTANG_{it} + \alpha_2 \Delta NOL_{it} + \alpha_3 LAGPERM_{it} + \varepsilon_{it} \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots (3)$$

Where:

- \( PERMDIFF_{it} \): Book profit before tax - (tax expense/tax rate) - (deferred tax expense/tax rate)
- \( INTANG_{it} \): Company intangible assets \( i \)
- \( \Delta NOL_{it} \): Change in net operating loss carry forward of firm \( i \) in years \( t \) and \( t-1 \)
- \( LAGPERM_{it} \): The difference between commercial profit and taxable profit minus the temporary difference of company \( i \) in year \( t-1 \) or permdiff in the previous year
- \( \varepsilon_{it} \): The permanent discretionary difference of firm \( i \) in year \( t \)
Debt maturity proxy follows Gomariz & Ballesta (2014) and Al ‘Alam & Firmansyah (2019), is as follows:

\[ STDEBT_{it} = \frac{Current\ Liabilities_{it}}{Total\ Liabilities_{it}} \]  \hspace{1cm} (4)

The moderating variable in this study is the disclosure of corporate social responsibility. Corporate social responsibility is measured using measurements based on K. H. Lee (2017) and Firmansyah & Estutik (2020), which employed a scale (Table 2) to score each disclosure item in the annual report and sustainability report with data collection methods in content analysis by GRI G-4 criteria. The CSR index using GRI 4 in research is still relevant for years above 2017 because, in general, the contents of GRI 4 and GRI standards are not much different (Pusaka, 2017). In the GRI Standards, only two specific indicators are discontinued, and the rest undergo minor changes or changes in indicator classification (Pusaka, 2017).

Table 2. Social responsibility disclosure index scale

<table>
<thead>
<tr>
<th>Scale</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>No disclosure</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>

The scores obtained are then added up to obtain the total score of each company (Firmansyah & Estutik, 2020; K. H. Lee, 2017). The following formula calculates disclosure of social responsibility:

\[ CSRI_{it} = \frac{\sum X_{it}}{N} \]  \hspace{1cm} (5)

Where:
- \( CSRI_{it} \): Corporate social responsibility index i in year t
- \( X_{it} \): The total value of corporate social responsibility disclosure i in year t
- \( N \): The maximum amount of social responsibility disclosure

Firm size is calculated by the natural logarithm of the company's total assets as Gomariz & Ballesta (2014), is as follows:

\[ SIZE = \ln(\text{total assets}) \]  \hspace{1cm} (7)

This study employs two models. The first regression model to examine the effect of financial statements, tax avoidance, and risk disclosure on investment efficiency as hypothesis 1 to hypothesis 3 is as follows:

\[ \text{InvEff}_{it} = \beta_0 + \beta_1 FRQ_{it} + \beta_2 DTAX_{it} + \beta_3 STDEBT_{it} + \beta_4 ROA_{it} + \beta_5 SIZE_{it} + \varepsilon_{it} \]  \hspace{1cm} (8)

Furthermore, the second regression model to analyze the role of corporate social responsibility in moderating the influence of the independent variable on the dependent variable, as shown in hypothesis 4 to hypothesis 6, is as follows:
InvEff\_it = \beta_0 + \beta_1 \text{FRQ}_{it} + \beta_2 \text{DTAX}_{it} + \beta_3 \text{STDEBT}_{it} + \beta_4 \text{CSRI}_{it} + \beta_5 (\text{FRQ}_{it} \times \text{CSRI}_{it}) + \\
\beta_6 (\text{DTAX}_{it} \times \text{CSRI}_{it}) + \beta_7 (\text{STDEBT}_{it} \times \text{CSRI}_{it}) + \beta_8 \text{ROA}_{it} + \beta_9 \text{SIZE}_{it} + \epsilon_{it} \quad \ldots \ldots \ (9)

Where:

- **InvEff**: Investment efficiency
- **FRQ**: Financial report quality
- **DTAX**: Tax avoidance
- **STDebt**: Debt maturity
- **CSR**: Corporate social responsibility
- **ROA**: Profitability
- **SIZE**: Company size
- **\beta**: Constant
- **\beta_s**: Coefficient of the regression equation
- **\epsilon_{i,t}**: Error at company i, year t

4. Results and discussion

The descriptive statistical analysis results are presented in Table 3, which describes the central tendency and distribution of data on the variables used in this study.

<table>
<thead>
<tr>
<th>Var</th>
<th>Obs</th>
<th>Mean</th>
<th>Med</th>
<th>Std.Dev</th>
<th>Max</th>
<th>Min</th>
</tr>
</thead>
<tbody>
<tr>
<td>InvEff</td>
<td>414</td>
<td>-0.0513</td>
<td>-0.0417</td>
<td>0.0481</td>
<td>-0.0002</td>
<td>-0.3592</td>
</tr>
<tr>
<td>FRQ</td>
<td>414</td>
<td>-0.0525</td>
<td>-0.0373</td>
<td>0.0703</td>
<td>0.000</td>
<td>-1.128</td>
</tr>
<tr>
<td>DTAX</td>
<td>414</td>
<td>2.17E-06</td>
<td>-0.0014</td>
<td>0.0241</td>
<td>0.216</td>
<td>-0.0742</td>
</tr>
<tr>
<td>STDebt</td>
<td>414</td>
<td>0.7082</td>
<td>0.7432</td>
<td>0.1963</td>
<td>0.9994</td>
<td>0.1127</td>
</tr>
<tr>
<td>CSRD</td>
<td>414</td>
<td>0.4739</td>
<td>0.3407</td>
<td>0.4069</td>
<td>2.4725</td>
<td>0.044</td>
</tr>
<tr>
<td>ROA</td>
<td>414</td>
<td>0.0828</td>
<td>0.0609</td>
<td>0.0817</td>
<td>0.5267</td>
<td>0.0003</td>
</tr>
<tr>
<td>SIZE</td>
<td>414</td>
<td>28.789</td>
<td>28.5326</td>
<td>1.6117</td>
<td>33.494</td>
<td>25.718</td>
</tr>
</tbody>
</table>

Furthermore, the test is carried out using panel data, with the common effect model (CEM) for both model 1 and model 2. The summary of the results of hypothesis testing is as follows.

<table>
<thead>
<tr>
<th>Var</th>
<th>ExpSign</th>
<th>Model 1</th>
<th>Model 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coef</td>
<td>t-Stat</td>
<td>Prob</td>
</tr>
<tr>
<td>C</td>
<td>-0.213</td>
<td>-7.944</td>
<td>0.000</td>
</tr>
<tr>
<td>FRQ</td>
<td>-</td>
<td>0.046</td>
<td>-1.703</td>
</tr>
<tr>
<td>DTAX</td>
<td>-</td>
<td>-0.356</td>
<td>-4.365</td>
</tr>
<tr>
<td>Variable</td>
<td>Coefficient</td>
<td>p-value</td>
<td>Significance</td>
</tr>
<tr>
<td>----------</td>
<td>-------------</td>
<td>---------</td>
<td>--------------</td>
</tr>
<tr>
<td>STDEBT</td>
<td>0.025</td>
<td>0.001</td>
<td>***</td>
</tr>
<tr>
<td>ROA</td>
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<td>-0.034</td>
<td>0.001</td>
</tr>
<tr>
<td>SIZE</td>
<td>0.005</td>
<td>-0.011</td>
<td>0.001</td>
</tr>
<tr>
<td>CSR</td>
<td>0.252</td>
<td>0.001</td>
<td>***</td>
</tr>
<tr>
<td>FRQ*CSR</td>
<td>0.046</td>
<td>0.436</td>
<td></td>
</tr>
<tr>
<td>DTAX*CSR</td>
<td>-0.006</td>
<td>0.076</td>
<td></td>
</tr>
<tr>
<td>STDEBT*CSR</td>
<td>0.006</td>
<td>0.004</td>
<td>***</td>
</tr>
<tr>
<td>R²</td>
<td>0.128</td>
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<tr>
<td>Adj. R²</td>
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<td>0.128</td>
<td></td>
</tr>
<tr>
<td>F-Stat.</td>
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<td>7.739</td>
<td></td>
</tr>
<tr>
<td>Prob. (F-Stat.)</td>
<td>0.000</td>
<td>0.000</td>
<td></td>
</tr>
</tbody>
</table>

Where:
***) effect on the level of significance 1%
**) effect on the level of significance 5%
*) effect on the level of significance 10%

**Financial report quality and investment efficiency**

The hypothesis testing results suggest that financial reporting quality is negatively associated with investment efficiency. The test result of this study confirms the research conducted by Herbert & Harto (2021). However, this study finding differs from Al ‘Alam & Firmansyah (2019), Biddle et al. (2009), Chen et al. (2011), Christine & Yanti (2017), Li & Wang (2010) and Shahzad et al. (2019). Also, this finding obtain the different result from Aulia & Siregar (2018), Handayani et al. (2016), Kurniawan & Firmansyah (2019). Differences in test results may be due to differences in proxies and research data.

Asymmetric information will cause the initial goal of the company's investment not to be achieved, namely increasing investor wealth. Managers tend to avoid high-risk investment activities because the risk from these activities is borne by management, while shareholders generally do not invest only in one company (Godfrey et al., 2010). Investors expect the results of investment activities in dividends because investment income is a dividend shared by management every year and profits from rising stock prices. In contrast, management intends to use as many profits as possible to develop (Godfrey et al., 2010). Furthermore, management works for a short time, causing a situation where management only prioritizes investment activities that generate high profits during their tenure by using accounting policies in their favor (Godfrey et al., 2010).

The result of this study indicates that earnings management carried out by the company can increase the company's investment efficiency. However, management also needs funding to take on the project. Thus, management performs earnings management to beautify financial statements to obtain external funding, which will later be used to finance investment activities. Companies using discretionary accruals show positive prospects and increase the value of their shares in the short term (Herbert & Harto, 2021). The descriptive analysis in this study also shows that the sample in this study is...
dominated by undervalued companies, which means the company needs additional funds to finance its investment activities.

**Tax avoidance and investment efficiency**

The hypothesis testing results suggest that tax avoidance is negatively associated with investment efficiency. The result of this study is in line with Bailing & Rui (2018), Ding (2019), Firmansyah & Triastie (2020), Mayberry (2012), and Zheng (2019). The studies employed the DTAX proxy based on Frank et al.'s (2009) equation to measure corporate tax avoidance activities. However, the result of this study differs from those of Asiri et al. (2020) and Khurana et al. (2018). Currently, Indonesia employs a self-assessment tax system; the taxpayer is viewed as the person who knows most accurately about the number of assets and income (Siregar, 2015). However, taxes are a high cost for the company, and a reduction in cash flow available to the company and shareholders creates an incentive for companies to avoid tax (Kovermann, 2018). Tax avoidance is a strategy that can benefit companies and investors or shareholders because it can increase the company's resources needed to develop the company through investment or increase dividends distributed to shareholders (Drake et al., 2019). Tax avoidance practices carried out by companies can also increase the efficiency of the company's investment because the tax expenses to be paid are reduced. Lower tax expenses provide the company with additional cash to increase internal resources and encourage investment spending (Khurana et al., 2018).

From the point of view of agency theory, tax avoidance by companies does not always provide optimal benefits for shareholders because of the opportunistic behavior of managers (Desai & Dharmapala, 2006). The increase in asymmetric information caused by corporate tax avoidance can increase the probability of managers secretly using company resources for personal gain, making the company's investment activities inefficient. Descriptive analysis in this study also shows the increasing number of company's underinvestment from year to year. The increase in the number of companies experiencing underinvestment indicates that the additional cash resulting from tax avoidance makes managers employ existing resources for expenses other than investment in fixed assets, which is more profitable for managers.

**Debt maturity and investment efficiency**

The result of hypothesis testing suggests that debt maturity is positively associated with investment efficiency. The result confirms the findings of Al ‘Alam & Firmansyah (2019), Gomariz & Ballesta (2014), Hung et al. (2020), Jafari (2016), Suaidah & Sebrina (2020). However, the result is not in line with the investigation of Aulia & Siregar (2018). In the agency problem, it is stated that managers will make decisions that benefit themselves, which causes the company's investment activities to be inefficient. The relationship between debt maturity and investment efficiency lies in the role of debt in reducing managers' policies in making investment decisions (D’Mello & Miranda, 2010). Shorter debt maturities can reduce the problem of asymmetric information between companies and creditors (Firmansyah et al., 2020; Ortiz-Molina & Penas, 2008).

Managers may tend to provide creditors with the information needed rather than shareholders to fulfil loan requirements. This condition will encourage companies to use short-term debt in funding their investment activities because the terms are more accessible than long-term debt requirements. Short-term debt can also improve the company's credit rating, which will benefit the company when applying for another loan (Nguyen et al., 2020). In addition, the use of short-term debt also has a fast disbursement process so that companies can quickly get funds for their investment needs. From the lender's perspective, the use of short-term debt maturity is relatively more appropriate than the use of long-term debt maturity because it will make it easier for creditors to monitor the company's management so that the company's investment
activities will be more efficient (Diamond, 1993; Rajan, 1992).

The moderating role of corporate social responsibility

The hypothesis testing result suggests that corporate social responsibility disclosure does not strengthen the positive association between financial reporting quality and investment efficiency. The financial statements describe the economic and financial conditions of the company to provide information to managers and shareholders for decision-making so that they can overcome agency problems (Ikatan Akuntan Indonesia, 2019). However, financial statements have a weakness: the absence of information about social and environmental aspects (Martinez-Ferrero et al., 2015). In stakeholder theory, the company focuses on the welfare of the company and all parties affected by the company's strategy or policy actions. Therefore, CSR carried out by the company can increase the transparency and accountability of the company and reduce the opportunistic behavior of managers so that the company's investment activities become more efficient (Cook et al., 2019; X. Wang et al., 2018). Companies operating in Indonesia have a profit-seeking motive in their social responsibility practices. They are not the core of the company's operations because many companies do not consider the importance of CSR practices as indicated by management orientation which is still limited to whether CSR practices are profitable and have not integrated the value of CSR. In Indonesia, corporate social responsibility is generally regulated (Firmansyah & Estutik, 2020). It only regulates environmental issues, and there are no special sanctions for companies that do not carry out corporate social responsibility, so corporate social responsibility in Indonesia is still low (Firmansyah & Estutik, 2020).

The descriptive analysis in this study also shows that the average sample corporate social responsibility disclosure tends to be low, 0.4740. It illustrates that the exposure of corporate social responsibility has not been optimal. The ideal conditions expected by all stakeholders after the disclosure of corporate social responsibility, such as reducing asymmetric information and suppressing opportunistic behavior of managers, have not been achieved. Indonesia has the lowest corporate social responsibility disclosure (Loh et al., 2016). Based on the quality of social responsibility in Indonesia, companies in Indonesia disclose corporate social responsibility only to improve the company's image from the public's perspective. Companies with low CSR disclosures tend to reduce their reputation (Loh et al., 2016).

Furthermore, the hypothesis testing result suggests that corporate social responsibility disclosure has weakened the negative effect of tax avoidance on investment efficiency. Tax is a high cost for the company and a reduction in cash flow available to the company and shareholders, which causes incentives for managers to avoid tax (Kovermann, 2018). Companies employ tax avoidance to increase the company's internal resources, one of which is for profitable activities for the company. Huseynov & Klamm (2012) assumed that tax avoidance could be considered the company's obligation to shareholders to reduce the company's expenses, which can increase shareholder value. However, in addition to increasing the company's internal resources, tax avoidance activities will increase asymmetric information, which causes agency problems, namely moral hazard (Zheng, 2019). Tax avoidance can also increase the risk for companies that can harm shareholders (Gloria, 2018). Furthermore, tax avoidance is also an unethical act because it has a significant impact on state revenue which causes a decrease in public facilities that can be provided by the government (Sikka & Willmott, 2010).

Companies cannot do tax avoidance and good corporate social responsibility simultaneously because corporate social responsibility is a form of corporate responsibility to all stakeholders (Sikka & Willmott, 2010). Managers who carry good social responsibility will not engage in unethical behavior.
such as tax avoidance because it can harm society. This condition aligns with the stakeholder theory, which states that the company is not an entity that only operates for its interests. Thus, corporate social responsibility can suppress the behavior of managers to do tax avoidance (Gulzar et al., 2018). Corporate social responsibility also has a role as a supervisory tool for investors to reduce managers' opportunistic behavior that makes the company's investment activities more efficient (Benlemlih & Bitar, 2018). The company's responsibility activities can also reduce cash flows controlled by managers to mitigate the occurrence of overinvestment (Samet & Jarboui, 2017).

The hypothesis testing result suggests that the social responsibility disclosure has strengthened the positive effect of debt maturity on investment efficiency. Manufacturing sector companies have the characteristics of significant fixed assets that can be used as collateral and have good debt management capabilities. The use of long-term debt will increase the company's investment efficiency. Corporate social responsibility has a role in extending the maturity of the company's debt through several things. First, corporate social responsibility can help reduce the risk of default for companies because they have high customer loyalty, team members, and community support, especially in times of crisis (Oiikonomou et al., 2012). Low default risk due to high corporate social responsibility can signal company stability and good management capacity (McGuire et al., 1988).

Companies with high social responsibility can increase creditor confidence to provide long-term loans to companies. Furthermore, corporate social responsibility can affect the maturity of the company's debt due to increased information related to the company's environment. Corporate social responsibility activities involve increasing information with stakeholders, including creditors, thereby increasing transparency (Cui et al., 2018). The use of long-term debt also gives the company time to collect payments so that the resources currently owned can be used for the company's investment activities. One way to ensure a long-term company reputation is to look at corporate social responsibility in the long term. Creditors tend to provide short-term debt to the company because corporate social responsibility is still considered not to show its ability to pay its debts. In addition, short-term debt will also facilitate the supervisory process for creditors towards managers to suppress managers' opportunistic behavior so that the company's investment activities can be more efficient.

5. Conclusions

Increasing the company's ability to attract additional capital will assist the company in financing these projects, thereby reducing underinvestment. Managers will be encouraged to behave opportunistically by taking advantage of asymmetric information caused by corporate tax avoidance. In addition, creditors will only provide short-term debt to companies to increase companies' supervision, making the company's investment activities more efficient. In this study, it is proven that corporate social responsibility disclosure is still unable to suppress the opportunistic behaviour of managers to improve financial reporting quality. However, corporate social responsibility can suppress tax avoidance activities and has a role in improving the positive association between debt maturity and investment efficiency.

This study has several limitations. The corporate social responsibility disclosure variable index uses the content analysis method, which is always related to subjectivity. However, the level of subjectivity has been minimized by confirming the reliability of the index to the Asia Sustainability Reporting Rating (ASSRAT). This research was only conducted from 2014 to 2019 due to GRI G4 in 2013, implemented in 2014. Future research can employ the latest GRI standards or the indicators from other CSR disclosures, a longer time horizon, and larger sector data to obtain better test results.

This study indicates that the Indonesia Tax Authority can carry out its role by facilitating
licensing and providing fiscal facilities for companies in Indonesia. The authority also needs to improve the supervision of companies in Indonesia to suppress tax avoidance by companies that reduce investment efficiency. Also, the Indonesian Financial Services Authority shall improve the implementation of corporate social responsibility disclosure in Indonesia and increase supervision of its implementation in POJK Number 51/POJK.03/2017, which will apply—starting January 1, 2021. To create a better investment climate, the Indonesia Tax Authority can carry out its role by facilitating licensing and providing fiscal facilities for companies in Indonesia. The authority needs to periodically evaluate facility policies related to licensing facilities, tax allowances, or tax holidays and their implementation to determine their effectiveness in encouraging investment efficiency in Indonesia.

Based on agency theory, agency problems can occur between managers and investors or shareholders due to differences in objectives. Such conditions result in investors needing to monitor management through agency costs, one of which is monitoring costs to align goals between managers and investors. Based on the results of this study, investors can monitor managers through financial reports made by the company. Therefore, investors can consider the quality of financial reports as the basis for making investment decisions in investing. Furthermore, investors also need to consider tax avoidance activities carried out by Indonesian companies. Companies in this study have been exploited by managers who make profits for investors, not maximized. Agency problems do not only occur to managers and investors, but agency problems can also occur between companies and creditors. Given the agency problem, creditors need to monitor the company. Based on the results of this study, creditors need to consider the manager's ability to manage their debts in deciding on lending. In addition, creditors also need to consider companies with social responsibility because companies with social responsibility in this study tend to make inefficient investments.

References


