THE ROLE OF CORPORATE GOVERNANCE IN EMERGING MARKET: TAX AVOIDANCE, CORPORATE SOCIAL RESPONSIBILITY DISCLOSURES, RISK DISCLOSURES, AND INVESTMENT EFFICIENCY

Amrie Firmansyah *, Gitty Ajeng Triastie **

* *Corresponding author*, Department of Accounting, Polytechnic of State Finance STAN, Banten, Indonesia
Contact details: Department of Accounting, Polytechnic of State Finance STAN, Bintaro Main Street 5th Sector, Bintaro Jaya, South Tangerang 15222, Banten, Indonesia
** Department of Accounting, Polytechnic of State Finance STAN, Banten, Indonesia

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Abstract

This study aims to examine the effect of tax avoidance, corporate social responsibility disclosures, and risk disclosures on investment efficiency. This study also examines the role of corporate governance in the association between tax avoidance, corporate social responsibility disclosures, risk disclosures, and investment efficiency. This study uses multiple linear regression with panel data. The sample uses 43 manufacturing companies listed on the Indonesian Securities Exchange from 2014 up to 2017 so that the total sample in this study amounted to 172 firm-years. The result suggests that tax avoidance is negatively associated with investment efficiency. However, corporate social responsibility disclosures and risk disclosures do not affect investment efficiency. Furthermore, another result suggests that corporate governance failed to moderate the effect of tax avoidance on investment efficiency. Besides, corporate governance can weaken the negative influence of corporate social responsibility disclosures on investment efficiency as well as corporate governance drives the negative effect of risk disclosures on investment efficiency.

Keywords: Corporate Governance, Disclosures, Risk, Social Responsibility, Tax Avoidance

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1. INTRODUCTION

The neoclassical theory explains that a company will invest until marginal profit equals marginal expenditure to maximize the value of the company (Hayashi, 1982). However, agency problems, especially in the relationship between shareholders and debt holders, can cause managers to behave in specific ways. Managers can act in their interests by choosing suboptimal projects that do not provide sufficient returns but are low risk by ignoring the shareholders' preference for riskier projects. On the other hand, managers can act in the interests of shareholders by making investment decisions that maximize the value of equity and not the value of the company, which can cause them to make suboptimal decisions that harm the debt holder (La Rocca, M., La Rocca, T., & Cariola, 2007). These decisions lead to investment efficiency.

Investment efficiency is the company's ability to invest optimally both in real and financial assets, by paying attention to costs, project selection, and allocation of expenses, so that overinvestment or underinvestment can be avoided and company value is maximized Berg, Buffie, Pattillo, Portillo, Presbitero, and Zanna (2018). Investment efficiency is related to the company's ability to invest optimally as a function of implied growth, investment opportunities, and financial capabilities. Companies that invest efficiently are less likely to overinvest, takes on projects with negative net present value (NPV), or underinvest, release projects with positive NPV (Biddle, Hilary, & Verdi, 2009). Managers have more personal information than investors, and can manage market time, issue securities that are too expensive, and invest more (Cook, Romi, Sánchez, D., & Sánchez, J. M., 2018). Besides, the manager's superiority concerning firm value information can lead to "lemons problems", where investors respond to the loss of this information by increasing capital costs (Cook et al., 2018). Thus, companies with undervalued securities can lack the capital to take on projects with positive NPV, which results in underinvestment (Cook et al., 2018).

Based on agency theory, managers may act according to their interests to maximize their utility, and differences in interests are what become agency problems. Two of the four main conflicts in agency problems are related to asset substitution and underinvestment. Asset substitution is a tendency for managers to take projects with a higher risk than optimal to allow the taking of projects with negative NPV (overinvestment). Meanwhile, underinvestment is related to the tendency of managers to only take on a project if the NPV exceeds their negative funds so that it is possible for projects with a positive NPV to be ignored. Both of these problems indicate the potential for inefficient investment.

Research on the factors that influence investment efficiency is essential to be conducted using Indonesia cases because the increase in investment, especially in the manufacturing industry sector, has consistently brought broad chain effects to the economy, such as the optimization of the added value of domestic natural resources, employment, and foreign exchange earnings from exports (Sulistiawati, 2012; Sutawijaya & Zulfahmi, 2010; Tiwa, Rumate, & Tenda, 2016).

Various studies have examined the factors on investment efficiency, including the quality of financial statements, financial limitations, managerial optimism, tax avoidance, corporate governance, debt maturity, corporate social responsibility, risk disclosures, and so on. (Al-Hadi, Hasan, Taylor, Hossain, & Richardson, 2016; Benlemlih & Bitar, 2016; Biddle et al., 2009; Chen & Lin, 2012; Gomariz & Ballesta, 2014; Handayani, Siregar, & Tresnaningsih, 2016; Hovakimian, 2011; Li & Wang, 2010; Mayberry, 2012). Meanwhile, other studies have found that internal resources are predictors that influence corporate investment (Almeida & Campello, 2007; Fazzari et al., 1988; Lamont, 1997 as cited in Mayberry, 2012). Furthermore, the factors that influence investment in Indonesia, such as domestic interest rates, national income, credit interest rates, government spending, and GDP (Lubis & Zulam, 2016; Sutawijaya & Zulfahmi, 2013).

There are imperfections in the capital market that result in two main problems, namely adverse selection and moral hazard (Stein, 2003 as cited in Cook et al., 2018). Adverse selection results in company costs to obtain investment funding from externally expensive, so companies seek funding from internal. One alternative that companies do to meet internal funding is through tax avoidance. Tax saving as a result of this tax avoidance can be used as an internal funding source for a company's investment. Tax saving can increase a company's funding sources so that if it is associated with the problem of asset substitution, companies that avoid taxes can make investments higher than the optimal level of investment. Besides, tax avoidance also increases the probability of moral hazard by increasing asymmetric information between managers and investors.

On the other hand, asymmetric information on agency problems raises agency costs, one of which is bonding costs. Bonding costs can take the form of a manager's time and effort to provide reports for principals, for example, related to corporate social responsibility and firm risk. These disclosures can reduce asymmetric information between managers and principals. Companies that disclose their corporate social responsibility activities are valued in the financial markets, thereby reducing risk premiums, reducing capital costs, and increasing investment efficiency. Meanwhile, risk disclosures could be a signal about the value of a superior company, to reduce risk premium, and increase investment efficiency.

This study put tax avoidance, corporate social responsibility disclosures, risk disclosures to be investigated on investment efficiency. According to Mayberry (2012), the shareholders of new and potentially aware of the problem of asymmetric information and rationed the capital they offer, thus making external funding becomes more expensive and encourage companies to use internal resources to fund financial investment, which is one of the cash saving results tax evasion. Tax avoidance will reduce the burden borne by the company, resulting in additional cash (cash saving) for the company. Managers use the cash saving it to invest beyond the level optimal for the sake of personal interests, so investing excess (Mayberry, 2012). However, the results of research on the effect of tax avoidance on investment efficiency are still contradictory. Khurana, Moser, and Raman (2018) and Comprix, Ha, Feng, and Kang (2016) found that tax avoidance has a positive effect on investment efficiency. Still, the research results of Mayberry (2012), Bailing & Rui (2018), and Goldman (2016) are just the opposite. Testing tax avoidance on investment efficiency is essential to be conducted in Indonesia because, based on the 2016 IMF investigative report, Indonesia is the 11th country with the most significant tax avoidance of 30 countries (Simanjuntak, 2017).

Meanwhile, Samet and Jarboui (2017) found that the adoption and implementation of strategies for corporate social responsibility limit the amount of free cash flow available, which can be used for personal benefit manager through taking on unprofitable projects, in other words reducing the potential for investment inefficiency. Several studies corporate social responsibility have found that the performance of corporate social responsibility to reduce the risk premium on equity so that companies can enjoy even lower financing costs or capital costs (Attig et al., 2013; Dhaliwal et al., 2011;

Sharfman & Fernando, 2008 as cited in Samet & Jarboui, 2017). However, there are several reasons that corporate social responsibility does not improve corporate investment efficiency (Cook et al., 2018). For example, with corporate social responsibility, the decision-making process can be more complicated or diluted and can lead to suboptimal investment decisions, as well as the possibility of greenwashing (Chatterji, Levine, & Toffel, 2009) or excessive disclosures of corporate social responsibility, which in reality has no real impact on the company. Corporate social responsibility is an activity that is commonly carried out by countries in the world, including Indonesia. In Indonesia, the implementation of corporate social responsibility has been regulated in the Act of the Republic of Indonesia No. 40 of 2007 concerning limited liability companies. According to the Act, corporate social responsibility is essential to be implemented in Indonesia because it is expected to realize sustainable economic development to improve the quality of life and the environment that benefits the company, the local community, and the public. Therefore, corporate social responsibility disclosures are essential to be examined on investment efficiency in Indonesia.

Furthermore, Al-Hadi et al. (2016) suggested that the provision of risk information in the company's annual report has a negative effect on both underinvestment and overinvestment. In line with these results, Li, He, and Xiao, (2019) and Smith (2018) found that risk disclosures positively affect the efficiency of corporate investment. However, other research shows that risk disclosures can have a negative impact. Li et al. (2019) found that risk disclosures cause markets to react negatively as well as lower-income that is expected to be obtained by the company (Li et al., 2019). Kravet & Muslu (2013) as cited in Li et al. (2019) found that disclosures of risk results in a higher rate of return volatility. In addition to these conditions, to date, there are two hypotheses regarding the effect of risk disclosures on investment efficiency, namely the convergence and divergence hypotheses that conflict with each other. The convergence hypothesis assumes that risk information is homogeneous, so disclosures of new risks can reduce investor risk perceptions and capital costs (Hope et al., 2014 as cited in Li et al., 2019).

Meanwhile, the divergence hypothesis assumes that risk information is heterogeneous so that new risk information can improve investor risk perceptions and capital costs (Li, 2006; Kravet and Muslu, 2013; Campbell et al., 2014 as cited in Li et al., 2019). Testing of risk disclosures on investment efficiency is still rarely performed. Based on the results of a survey for the Center for Risk Management Studies (CRMS) of Indonesia (2017), the risks faced by companies in Indonesia tend to shift from year to year. In addition, the level of maturity in applying the risk management framework varies, from very weak to optimal. Therefore, research on the effect of risk disclosures on investment efficiency is essential by using company data in Indonesia.

This study also includes the role of corporate governance as a moderating factor in testing the effect of tax avoidance, corporate social responsibility disclosures, and risk disclosures on investment efficiency. The implementation of corporate governance aims to minimize agency conflict (Darmawan & Sukartha, 2014). Corporate governance that is carried out according to OECD principles can encourage transparency, the function of supervision, regulation, and law enforcement (Otoritas Jasa Keuangan, 2014). Therefore, good corporate governance is considered to be able to strengthen the company's competitive position on an ongoing basis, manage risks and resources effectively and efficiently, and can increase investor confidence (Jaya, Arafat, & Kartika, 2013). Thus, corporate governance is a check and balance mechanism based on principles such as transparency, accountability, and responsibility with the aim that the management of the company is carried out professionally so that the resources owned can be utilized effectively and efficiently. Concerning agency theory, Godfrey, Hodgson, Tarca, Hamilton, and Holmes (2010) explained that the separation between principal and management leads to differences in management behavior, where they can act in their interests. The implementation of corporate governance can minimize the opportunistic behavior of management. The main objective of corporate governance is to create a check and balance system to prevent misuse of company resources and promote company growth (Solomon, 2010 as cited in Handayani et al., 2016).

Several previous studies have examined the role of corporate governance in moderating the effect of independent variables on investment efficiency, such as tax avoidance by Khurana et al. (2018), ownership concentration by Chen, Sung, and Yang (2017), corporate social responsibility by Ming-Te (2017), and earnings management by Yapono and Khomsatun (2018). Khurana et al. (2018) showed that corporate governance reinforces the positive effect of tax avoidance on investment efficiency. Also, corporate governance can weaken the negative influence of ownership concentration on investment efficiency (Chen et al., 2017). Furthermore, Yapono and Khomsatun (2018) found that corporate governance proxied by institutional ownership weakened the negative influence of earnings management on investment efficiency. Meanwhile, Ming-Te (2017) proved that corporate governance could strengthen the positive influence of corporate social responsibility on investment efficiency. Although there have been no previous studies examining the role of corporate governance moderation on the effect of risk disclosures on investment efficiency, the results show that corporate governance components, such as the size of the board of commissioners (Al-Shammari, 2014) and publication of the board of commissioners charter (Musa, Ali, & Haron, 2018) have a positive influence on risk disclosures. In other studies, government ownership, board size, and risk policy committees have a positive effect, while ownership concentration has a negative impact on risk disclosures (Seta & Setyaningrum, 2017). Meanwhile, corporate governance also influences investment efficiency, both positively and negatively, when tested directly (Chen, I.-J., & Chen, S.-S., 2017; Simanungkalit, 2017). These results illustrate that corporate governance has a role in corporate investment so that it becomes essential to put it as a moderating effect of tax avoidance, disclosures of corporate social responsibility, and risk disclosures on investment efficiency.

This study uses several control variables based on the previous literature related to investment efficiency namely leverage, profitability, and operating cash flow. Mayberry (2012), Khurana et al. (2018), Benlemlih and Bitar (2016), Li et al. (2019), Zhong and Gao (2017), Al-Hadi et al. (2016), and Chen et al. (2017) found that leverage has a positive effect on investment efficiency, while Comprix et al. (2016) found the opposite. Companies with high leverage tend to invest lower than other companies with lower leverage because management assumes that investment returns will flow to the debt holder, not to management or shareholders (Myers, 1977 as cited in Mayberry, 2012). Furthermore, the research of Khurana et al. (2018), Comprix et al. (2016), Zhong and Gao (2017), and Ming-Te (2017) suggested that profitability has a significant positive effect on investment efficiency. Still, Benlemlih and Bitar (2016), and Goldman (2016) found the opposite. In this study, high ROA shows low financial constraints and can make it easier for companies to make profitable investment opportunities (Comprix et al., 2016). Besides, Gomariz and Ballesta (2014), and Goldman (2016) found that operating cash flow has a positive effect on investment efficiency. Large operating cash flow can encourage companies to invest more than companies with smaller operating cash flows (Stein, 2003 as cited in Mayberry, 2012). Thus, the use of leverage, profitability, and operating cash flow in this study is expected to explain the phenomenon more optimally because it takes into account other factors outside the tested variable.

This research consists of six sections. Section 1 contains an introduction that consists of research phenomena, research problems, research objectives, differences in this study with previous research, and the selection of variables used in testing this study. Section 2 contains the literature review and hypotheses development. Section 3 contains the research methodology, including the sampling conducted in this study and the proxy used to measure each variable in this study as well as the research model. Section 4 is the result explains the testing results, including descriptive statistics and hypothesis testing. Section 5 is the discussion that explains the reviews based on the research findings. Section 6 is the conclusion, which is a summary of the discussion based on the research objectives as well as the limitations and implications of both the managerial implications and future research.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1. Literature review

Tax avoidance increases both the company's internal resources and the moral hazard probability by increasing asymmetric information between managers and investors (Balakrishnan et al. 2011; Desai & Dharmapala, 2009; Hope et al. 2012 as cited in Mayberry, 2012). Contradictory results were found from studies of the effect of tax avoidance on investment efficiency. Khurana et al. (2018) found that tax avoidance can increasingly improve investment efficiency. The significant positive effect of tax avoidance on investment efficiency was also found in Comprix et al. (2016). Meanwhile, Bailing and Rui (2018) found a significant negative relationship between tax avoidance and investment efficiency, namely that tax avoidance encourages investment, so there is a tendency for overinvestment, which shows investment inefficiency. Goldman (2016) found that tax aggressiveness has a significant positive effect on overinvestment or a significant negative effect on investment efficiency.

Cook et al. (2018) found that corporate social responsibility performance is positively associated with investment efficiency. The company is less likely to invest in projects with negative NPV (overinvestment) and less likely to release projects with positive NPV (underinvestment). The same findings were obtained from Benlemlih and Bitar (2016), Zhong and Gao (2017), Samet and Jarboui (2017), and Ming-Te (2017). Corporate social responsibility limits free cash flow, thereby reducing the potential for investment inefficiency due to the unprofitable project taking (Jensen, 1986 in Samet & Jarboui, 2017). On the other hand, another study found that corporate social responsibility can reduce risk premium on equity, so companies enjoy low capital costs (Attig et al., 2013; Dhaliwal et al., 2011; Sharfman & Fernando, 2008 as cited in Samet & Jarboui, 2017). However, there are several arguments about why corporate social responsibility does not improve the efficiency of corporate investment (Cook et al., 2018). These arguments include the possibility that managers take and disclose low-cost corporate social responsibility, but publicize corporate social responsibility initiatives excessively, commonly referred to as window dressing (Jo & Na, 2012) or greenwashing (Chatterji et al., 2009), which was designed to meet stakeholder demands for corporate social responsibility, even though corporate social responsibility does not have a real impact on corporate behavior and operations. Additionally, when a small set of companies might choose a proactive strategy and be a pioneer of corporate social responsibility, other companies might become free-rider or implement a reactive strategy (Eccles et al., 2014; Serafeim, 2018 as cited in Cook et al., 2018), so the strategy should not have an impact on the company. When companies consider the desires of several stakeholders, the decision-making process can be more complicated or diluted, especially if the various interests and needs of stakeholders conflict. It can lead to suboptimal investment decisions (Cook et al., 2018). Another reason is the manager's characteristics because the results of the study suggested that managers who are over-evidence tend to take on risky projects (Oltra, 2008; Li & Tang, 2010; Lawrence et al., 2011; Hirshleifer et al., 2012; Tang et al., 2015; Oh et al., 2016 as cited in Cook et al., 2018), including in environmental terms (Arena et al., 2018 as cited in Cook et al., 2018).

Furthermore, Jorgensen and Kirschenheiter (2003) as cited in Al-Hadi et al. (2016) found that companies have a lower risk premium if their managers disclose risk exposure. Al-Hadi et al. (2016) found that market risk disclosures reduce asymmetric information and agency problems so that it negatively affects both underinvestment and overinvestment. In line with these results, Li et al.

(2019) and Smith (2018) found a positive effect of risk disclosures on the efficiency of corporate investment. In his research, Li et al. (2019) measure risk disclosures using the risk disclosures index from the annual report by applying textual analysis using searches in the annual report with the keywords "risk" and "uncertainty". However, other research suggested that risk disclosures result in negative market reactions (Campbell et al., 2014 as cited in Li et al., 2019). Also, risk disclosures result in lower-income that is expected to be obtained by the company (Li, 2006 as cited in Li et al., 2019). Disclosures of risk can also result in higher volatility of returns (Kravet & Muslu, 2013 as cited in Li et al., 2019).

Several studies have tried to examine the role of corporate governance in moderating various variables tested on investment efficiency. Handayani et al. (2016) concluded that analysts following on companies in ASEAN did not moderate the quality of financial reporting and investment efficiency. Furthermore, Chen et al. (2017) found that incentive-based compensation moderated the relationship between ownership concentration and investment efficiency and had a negative impact on China. Meanwhile, Yapono and Khomsatun's (2018) research found that institutional ownership weakened the negative influence of earnings management on investment efficiency, and that independent commissioners and expertise had no effect. Ming-Te (2017) proved that corporate governance could strengthen the positive influence of corporate social responsibility on investment efficiency.

Meanwhile, Khurana et al. (2018) found that corporate governance drives the effect of tax avoidance on investment efficiency in the United States by using the E and G indices in measuring corporate governance disclosures obtained from the Investors Responsibility Research Center (IRRC). Conversely, Hadlock (1998) and Jensen (1986) as cited in Mayberry (2012) found that high levels of managerial ownership weaken the effect of tax avoidance on investment because managers refrain from overinvestment when they bear or internalize most of the costs of overinvestment. The previous research suggested that components of corporate governance, such as government ownership, board size, and risk policy committees, have a positive effect, while the concentration of ownership has a negative impact on risk disclosures (Seta & Setyaningrum, 2017). In other studies, the size of the board of commissioners (Al-Shammari, 2014) and the publication of the board of commissioners' charter (Musa et al., 2018) have a positive effect on risk disclosures.

On the other hand, the results of previous studies also show that corporate governance has a direct effect on investment efficiency, such as the research of Ferreira and Matos (2008) which found that companies with high institutional ownership have lower capital expenditures and higher valuations so that they can mitigate overinvestment. Furthermore, Chang et al. (2006) as cited in Biddle et al. (2009) found that analyst coverage increases financial policy flexibility, which can help mitigate underinvestment. Besides, Simanungkalit (2017) found that audit committee size had a negative effect, independent commissioners and managerial ownership had a positive effect, while institutional ownership did not affect investment efficiency. In other studies, Boubaker, Houcine, Ftiti, and Masri (2018) found a positive effect of audit quality on investment efficiency in France, while Garcia-Sanchez and Garcia-Meca (2018) found a positive influence of independent commissioners and gender differences, protection of minority rights, and enforcement of investment efficiency in companies. On the other hand, Chen, J.-I. and Chen, S.-S. (2017) found that companies with independent commissioners, institutional ownership, ownership other than high directors, CEO equity-based pay, or high audit quality and a low level of board activity encourage investment efficiency. Based on various studies, corporate governance has a role in investment efficiency.

2.2. Hypothesis development

Based on agency theory, the involvement of agents in the management of companies results in the possibility that agents do not adequately act in harmony with the principal's interests. Agents can act opportunistically by utilizing asymmetric information between themselves and the principals, one of which is tax avoidance. One alternative company to meet internal funding is through cash or tax saving as a result of tax avoidance (Mayberry, 2012). Tax avoidance is a company's effort to reduce the tax burden it bears. The reduction in tax burden makes the company has additional cash because the cash that should be used to meet the tax burden is not paid by the company. Also, tax avoidance increases the probability of moral hazard because tax saving can increase agents' opportunities to maximize their interests, by investing more company capital, even if the investments made do not maximize shareholder wealth (Fama & Jensen, 1985 as cited in Al-Hadi et al., 2016). Thus, tax saving as a result of tax avoidance can result in asset substitution problems in connection with agency problems because companies that avoid tax can make investments higher than the optimal level of investment.

Although Khurana et al. (2018) found that tax avoidance can improve investment efficiency, especially if moderated by managerial abilities or high corporate governance; other studies show the opposite. Mayberry (2012) and Goldman (2016) concluded that tax avoidance has a positive effect on overinvestment. Furthermore, Bailing and Rui (2018) found a negative relationship between tax avoidance and investment efficiency, including the tendency of overinvestment, which shows investment inefficiency. Tax avoidance will increase cash availability, to encourage management to overinvestment. However, if it is associated with another agency conflict, underinvestment, an increase in the company's cash availability can also encourage other deviant behavior. Management has a higher chance of utilizing the company's resources so that they can make suboptimal investment decisions for their interests. Thus, the first hypothesis of this study is as follows:

Hypothesis 1 (H1): Tax avoidance has a negative effect on investment efficiency.

Agency problems can lead to asymmetric information between managers and principals.

Because of the agency problem, some costs must be borne, such as bonding costs. One example of bonding costs is the time and effort that managers must spend to provide reports for stakeholders, including disclosing corporate social responsibility in them. It is in line with previous research, which states that in the perspective of the theory of the agency, several control mechanisms can help to reduce opportunistic behavior tick managers and mitigate asymmetric information, such as the activity of corporate social responsibility (Waddock & Graves, 1997; Eccles et al., 2012; Lopatta et al., 2015 as cited in Cook et al., 2018). In terms of manager behavior, the adoption and implementation of corporate social responsibility strategies limit the amount of free cash flow available, which can be used for the manager's interests to take on unprofitable projects (Jensen, 1986 as cited in Samet and Jarboui, 2017. Besides, some studies also showed that corporate social responsibility disclosures could reduce capital costs (Attig et al., 2013; Dhaliwal et al., 2011; Sharfman & Fernando, 2018 as cited in Samet & Jarboui, 2017). In another study, it was found that corporate social responsibility performance is positively related to investment efficiency (Cook et al., 2018). The same findings were obtained by Benlemlih and Bitar (2016), Ming-Te (2017), Samet and Jarboui (2017), Zhong and Gao (2017).

Corporate social responsibility disclosures will limit the amount of free cash flow for most of the cash used to realize strategies of corporate social responsibility, which can decrease the chance of management to invest capital in projects that are not profitable for the company or excessive. On the other hand, corporate social responsibility disclosures can be one manifestation of managers' efforts to align interests with principals. The social responsibility expressed by the company provides a guarantee to the principals or investors that the company will be more sustainable because the company chooses a strategy that is in line with the interests of the principal, including the selection of more efficient investments. This strategy can reduce the cost of capital so that the investment efficiency of the company will increase. Thus, the second hypothesis of this study is as follows:

Hypothesis 2 (H2): Disclosures of corporate social responsibility positive effect on the efficiency of investment.

The information disclosures can reduce asymmetric information between managers and principals, and risk disclosures are one of the bonding costs that must be borne by managers due to information imbalances owned by managers and principals. This kind of information disclosures, on the other hand, are not entirely regarded as a cost, but also an incentive to provide information or good news, neutral, or bad depending on the condition of the company as a signal to stakeholders. Disclosures of risk can be a signal about the value of a superior company, to reduce risk premium, and increase investment efficiency.

Jorgensen and Kirschenheiter (2003) as cited in Al-Hadi et al. (2016) suggested that companies have a lower risk premium if their managers disclose risk exposure. Subsequenly, Al-Hadi et al. (2016), Li et al. (2019), and Smith (2018) found that risk disclosures have a positive effect on investment efficiency. However, other research showed that risk disclosures result in negative market reactions, lower-income, and higher levels of return volatility, reflecting the negative impact of risk disclosures (Campbell et al., 2014; Li, 2006; Kravet & Muslu, 2013 as cited in Li et al., 2019). In addition to the results of these studies, there is no agreement internationally that whether risk disclosures increase or decreases investment efficiency, which is reflected in the development of the convergence and divergence hypotheses related to managers' investment behavior.

In this study, the company's risk disclosures are considered to reflect transparent management related to the company's worst conditions, so asymmetric information decreases. Thus, investors or principals will be more confident in the choice of management policies, including efficient investment. Therefore, risk disclosures conducted by companies can be a signal about the value of a superior company, so that it will reduce investor risk perceptions and can reduce risk premium, which has a positive impact on investment efficiency. Thus, the third hypothesis of this study is as follows:

Hypothesis 3 (H3): Risk disclosures have a positive effect on investment efficiency.

In agency theory, the separation between principal and management leads to differences in behavior by managers who are not in harmony with the principal. Godfrey et al. (2010) explained that the proportion of costs incurred by managers decreases with decreasing ownership of managers in the company. Therefore, the smaller holdings managerial, the more likely the manager to make additional income and other benefits in excess. These incentives continue as long as the marginal benefits exceed the marginal costs, such as the possibility of job loss or an increase in monitoring costs borne by managers when the protection of principal prices against deviant behavior.

This problem raises monitoring costs for the principal. These costs are realized in structured corporate governance. Corporate governance is believed to influence investment efficiency as Hadlock (1998) and Jensen (1986) as cited in Mayberry (2012), which found that overinvestment is related to managerial ownership because managers internalize more costs than overinvestment. The finding of this study indicates that corporate governance can weaken the negative influence of tax avoidance on investment efficiency.

However, Khurana et al. (2018) found that corporate governance can strengthen the positive influence of tax avoidance on investment efficiency. According to Khurana et al. (2018), tax avoidance reflects more than a transfer of resources from companies to shareholders. Tax avoidance is expected to benefit shareholders only in conditions of high managerial ability and good corporate governance. Conversely, in conditions of low managerial ability and weak corporate governance, managers tend to use tax avoidance not to increase shareholder value, but rather to facilitate rent extraction, which is more broadly defined as opportunistic managerial behavior. Thus, corporate governance is expected to weaken the opportunistic behavior of managers to make inefficient investment decisions, such as overinvestment by utilizing cash savings obtained from tax avoidance. On the other hand, corporate governance is expected to encourage investment efficiency in connection with increasing shareholder value through tax avoidance. Therefore, the fourth hypothesis of this study is as follows:

Hypothesis 4 (H4): Corporate governance moderates the effects of tax avoidance and investment efficiency.

Ideally, if a manager acts in harmony with the interests of the principal, he will seek to invest optimally and efficiently. However, agency problems can distort this and encourage managers to pursue their interests so that investment decisions taken are not entirely profitable for the company, either overinvesting or underinvesting. Viewed from agency theory, corporate governance is a system in a company, one of which was formed to safeguard the interests of the principal from the inconsistency of manager's behavior with the principal and asymmetric information. The elements of corporate governance such as independent commissioners, audit committees, managerial ownership, etc. function as supervision to minimize deviant behavior and asymmetric information by managers. Therefore, corporate governance disclosures may moderate the influence of corporate social responsibility, which becomes the bonding cost for the manager to the possibility of deviant behavior of managers in investing.

Previous studies have shown that better monitoring of managerial actions and environmental information can lead to value creation through decision making, investment opportunities, and efficient innovation (Kim et al. , 2012; Hoepner et al., 2016; Sun et al., 2017; Lopez Puertas-Lamy et al., 2017; Benlemlih & Girerd-Potin, 2017 as cited in Cook et al., 2018). Ming-Te (2017) found that strong corporate governance drives the influence of corporate social responsibility on investment efficiency. However, other research shows that the component of corporate governance can negatively influence investment efficiency (Simanungkalit, 2017).

Corporate governance as a monitoring mechanism is expected to reduce the deviant behavior of management and oversee the decision-making process and disclosures of corporate social responsibility. Through such supervision, inappropriate decisions on activities and disclosures of corporate social responsibility can be minimized, thereby increasing the quality of investment decisions more efficiently. However, when corporate social responsibility disclosures do not have a real impact on the company or are merely greenwashing, supervision of management actions may not be effective. It is considered that corporate governance will play a role in realizing corporate social responsibility disclosures that have no real impact or greenwashing, to weaken the effect of corporate social responsibility disclosures on investment efficiency. Therefore, the fifth hypothesis of this study is as follows:

Hypothesis 5 (H5): Corporate governance moderates the effect of corporate social responsibility disclosures on investment efficiency.

Godfrey et al. (2010) explained that in the relationship between shareholders and managers, it is possible to have conflicts related to risk avoidance. Rationally, managers prefer to minimize their risk rather than maximizing the value of the company for two reasons, namely the difference in the level of diversification that affects the risk and the substantial obligations they bear. Differences in risk appetite can cause asymmetrical information. To anticipate this, managers make disclosures of the risks they face. Previous research has shown that corporate governance factors encourage the level of mandatory and voluntary risk disclosures in Italy and the United Kingdom (Elshandidy & Neri, 2015). However, the role of corporate governance follows the confidence level of corporate governance in each of these countries. In this case, the United Kingdom, with a higher level of confidence, resulted in corporate governance being able to encourage managers to narrate risks voluntarily rather than the risks required. Meanwhile, corporate governance in Italy encourages managers to disclose the risks required rather than voluntary risks (Elshandidy & Neri, 2015).

Other studies showed that a component of corporate governance, such as board size (Al-Shammari, 2014), the publication of the charter commissioners (Musa et al., 2018) government ownership, the board size, and the policy committee, the risk of impact positively on the disclosures of risks (Seta & Setyaningrum, 2017). Meanwhile, the concentration of ownership negatively affects the risk disclosures (Seta & Setyaningrum, 2017). On the other hand, Simanungkalit (2017) found that corporate governance can have positive and negative effects on investment efficiency. The study found that independent commissioners and managerial ownership had a positive effect, while the size of the audit committee has a negative effect on investment efficiency.

As a supervisory mechanism, corporate governance is expected to ensure that managers disclose the risks facing the company. As such, asymmetric information between managers and stakeholders can be reduced. However, when a monitoring mechanism is conducted through corporate governance has not been effective, asymmetric information becomes not lowered, causing lemons problem, namely the response of investors for any loss information received by way of increasing the cost of capital (Jung et al., 2014 as cited in Cook et al., 2018). As a result, investment does not become more efficient. Therefore, the sixth hypothesis of this study is as follows.

Hypothesis 6 (H6): Corporate governance moderates the effect of risk disclosures on investment efficiency.

3. RESEARCH METHODS

This study employs a multiple regression analysis with panel data. The type of data used in this study is secondary data from financial statements and annual reports of companies listed on the IDX with the manufacturing sector from 2014 to 2017. The data is obtained from the IDX's official website and company websites. In this study, the object of research is limited to the manufacturing or industrial sector, so that research is more focused because the sector has the most significant investment contribution to the Indonesian economy than other sectors. The period of the study was chosen to start in 2014 with initial consideration applying the Global Reporting Initiatives G4 standard. The standard was first launched on May 22, 2013, resulting in a difference in the way in which corporate social responsibility is disclosed from previous years.

To obtain samples, a purposive sampling technique is used, which is a non-probability sampling method by selecting nonrandom samples. The following are the sample selection criteria used:

Table 1. Research sample

Criteria	*Amount*
Companies listed on the IDX as of September 2019	603
Companies engaged in sectors other than manufacturing	-440
Manufacturing sector companies listed on the IDX after January 1, 2015	-24
Companies with negative pre-tax profits	-59
Companies that provide annual reports other than in English	-10
Companies whose information in the annual report cannot be searched	-11
Companies that have incomplete data for the period 2012 to 2017	-8
Companies with outlier data	-8
Number of Samples	43
Year	4
Total observations	172

The dependent variable in this study is investment efficiency. To measure investment efficiency, there are two commonly used models, Biddle et al. (2009) and Richardson (2006). This study follows Biddle et al. (2009) because the model is an alternative to the investment measurement model known as Tobin's Q, as conducted by Hayashi (1982). In their research, Biddle et al. (2009) used the investment model as a function of growth opportunities as measured by sales growth.

$$InvEff_{i,t} = \beta_0 + \beta_1 Sales\ Growth_{i,t-1} + \mu_{i,t} \quad (1)$$

Where, *InvEff:* company investment in fixed assets measured from capital expenditure to obtain fixed assets less proceeds from the sale of fixed assets and scaled to total fixed assets *t-1*.

$Salesgrowth_{i,t-1}$ = average company sales growth in industry-year groups *[(sales t-1 – sales t-2)/sales t-2]*.

μ = residual.

The results of the regression model are then used as a basis for classifying companies based on residual values. A positive value indicates a company's overinvestment, while a negative value indicates underinvestment compared to the expected sales growth. In this study, the residual value is used as an absolute value and then multiplied by -1 to facilitate analysis.

There are three independent variables used in this study, tax avoidance, corporate social responsibility disclosures, and risk disclosures. Previous studies have used various measures to measure tax avoidance, such as the effective tax rate (ETR) and book-tax difference (BTD). ETR can be calculated in several ways, such as GAAPETR and CASHETR. However, there are several limitations to ETR. GAAPETR measurement is based on the accrual basis, so that it raises the possibility of not potential tax saving from tax avoidance activities such as acceleration of expense reduction or delay in revenue recognition in the measurement. Also, in the book, an effective tax rate can include tax contingencies or reserves related to the uncertainty of the tax position due to tax returns. To overcome these two limitations of GAAPETR, an annual effective cash tax rate can be used as used by Huang, Sun, and Zhang (2017). However, CASHETR is also not perfect but allows measurement errors due to its annual basis, causing limitations if there are differences in tax rates between years.

On the other hand, BTD illustrates the difference between accounting profit and fiscal profit, so that the greater BTD means the more aggressive tax avoidance is done, for example, as the results of research by Desai and Dharmapala (2006) and Wilson (2009). BTD can be measured in various ways, such as BTD discretionary as used by Desai and Dharmapala (2006) or permanent discretionary book-tax difference (DTAX) as used by Frank, Lynch, and Rego (2009). However, 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 for several reasons, one of which is more consistent with evidence related to the aggressive nature of tax shelter activities, which is an extreme form of tax avoidance. The higher tax shelter activity will result in a more significant permanent book-tax difference. In its development, there are measures of DTAX that have been tried to be adjusted to the conditions of Indonesia by Rachmawati and Martani (2017) by adapting Frank et al. (2009). These measurements are as follows.

$$PERMDIFF_{i,t} = \alpha_0 + \alpha_1 INTANG_{i,t} + \alpha_2 \Delta NOL_{i,t} + \alpha_3 LAGPERM_{i,t} + \varepsilon_{i,t} \quad (2)$$

Where, $PERMDIFF_{i,t}$: total book-tax difference minus temporary book-tax difference = *[book profit before tax - (tax expense/tax rate)] - (deferred tax expense/tax rate)].*

$INTANG_{i,t}$: goodwill and other intangible assets of the company *i* in year *t*.

$\Delta NOL_{i,t}$: change in the company's net operating loss carry forward in year t to the previous year.

$LAGPERM_{i,t}$: total difference in commercial profit and fiscal profit minus company temporary difference *i* in year *t-1* or *PERMDIFF* of the previous year.

$\varepsilon_{i,t}$: the permanent discretionary difference of company *i* in *t* ($DTAX_{i,t}$).

All variables are scaled to the total assets of each company in the previous year to control the size of the company.

In this study, corporate social responsibility disclosures are measured using measurements based on the Global Reporting Initiatives (GRI) indicators. The GRI standard is used because it represents global best practices in terms of reporting sustainability to the public, namely regarding the organization's positive or negative contribution to sustainable development goals. Standards are designed to improve global comparability and quality of information, thereby enabling greater organizational transparency and accountability (GRI, 2016).

In GRI, there are three material topics, namely economic, social, and environmental aspects. At present, the GRI that applies is GRI G4, in which there are 91 disclosures indicators. The selection of the use of GRI G4 proxy is based on research from Natalia, Gunawan, and Carolina (2017), Vira and Wirakusuma (2019). Based on this research, the proxy used to measure corporate social responsibility disclosures in the GRI disclosures index. With the data collection method in the form of content analysis, a score is given for each item of disclosures made by the company in the annual report, which is then added up and calculated further with the following calculation:

$$CSR_{i,t} = \frac{Total\ GRI\ indicators\ disclosed\ by\ the\ company}{Number\ of\ disclosure\ criteria\ by\ GRI} \tag{3}$$

The risk disclosures variable is calculated using the enterprise risk management (ERM) framework developed by the Committee of Sponsoring Organizations (COSO). The COSO ERM framework is used in this study for several reasons. COSO has been a leader in the making of guidelines and frameworks on internal control procedures, fraud prevention, and ERM. The COSO began in 1985 by studying the causes of fraudulent financial reporting and published the ERM framework for the first time in 2004 (Susan, 2019). Also, the COSO ERM framework is internationally guided and widely introduced through various educational works of literature in Indonesia. Although in its development, other standards can be adopted as guidelines for corporate risk management, namely the International Organization for Standardization (ISO) 31000. There are some similarities between ISO 31000 and the ERM COSO framework, such as 1) ISO 31000 and the ERM COSO framework. Focus on risk evaluation, risk management and risk monitoring on an ongoing basis, and 2) both emphasize risk assessment and the need for revision of the assessment of the threat continues to develop (Lynch, 2018). However, there are fundamental differences between the two, i.e. 1) the risk model presented in ISO 31000 is more significant. At the same time, the ERM COSO framework focuses directly on financial reporting, and 2) the risk process in ISO 31000 begins by determining the objectives and scope of ERM activities. In contrast, the risk process in the COSO ERM framework begins by reviewing the organization's strategy and aligning the risk with each strategy (Lynch, 2018).

Furthermore, risk disclosures are proxied by the ERM disclosures index, with data collection methods in the form of content analysis. Based on the content analysis, an unweighted dichotomous scale is carried out in scoring for each disclosures item made by the company in the annual report (Devi, Budiasih, & Badera, 2017). Within the COSO ERM framework, there are 108 ERM disclosures items covered in 8 dimensions, namely the internal environment, goal setting, event identification, risk assessment, risk response, control activities, information and communication, and monitoring. ERM disclosures index is calculated using the following formula:

$$ERM_{i,t} = \frac{Total\ ERM\ indicators\ disclosed\ by\ the\ company}{Number\ of\ disclosures\ criteria\ according\ to\ ERM\ framework} \tag{4}$$

This study employs a moderating variable in the form of corporate governance with a proxy for corporate governance index that refers to corporate governance guidelines developed by the Organization for Economic Co-operation and Development (OECD), as used in the Cheung, Jiang, Limpaphayom, and Lu (2010), Cheung, Connelly, Estanislao, Limpaphayom, Lu, and Utama (2014). The proxy was chosen for several reasons. First, most of the previous studies only examined some components of corporate governance on the dependent variable. Therefore, by using the criteria in the OECD guidelines in measuring these variables, it is hoped that a comprehensive picture of corporate governance practices in Indonesia can be obtained. Second, the selection of OECD criteria as an index basis is carried out because the corporate governance guidelines issued by the Financial Services Authority as a foundation for companies in Indonesia are developed regarding the OECD guidelines. Finally, three primary assessments conducted by international institutions on corporate governance in Indonesia, both in the form of Corporate Governance Watch, Reports on the Observance of Standards and Codes (ROSC), and the ASEAN CG Scorecard use OECD guidelines as the basis for its assessment. Therefore, the index based on OECD criteria is expected to be able to measure the implementation of corporate governance as a whole, so that the results of testing the role of corporate governance in this study can be better than previous studies.

Based on OECD guidelines, the index was developed with five main measurement dimensions, namely the rights of shareholders, the equitable treatment of shareholders, the role of stakeholders, disclosures, and transparency, and role of the board of directors. As the method used in measuring corporate social responsibility disclosures and risk disclosures, measurement of corporate governance is also carried out with content analysis. Content analysis is carried out in several stages, such as reducing the five principal dimensions to several checklist points that will be used to form a corporate governance index with a scale of 0 to 1. Furthermore, the criteria in the checklist are matched with the information presented in the company's annual report. The matching is conducted by searching for keywords in English according to the OECD guideline criteria. Therefore annual company reports that are presented in addition to using English are excluded from the research sample. The size of corporate governance is formulated as follows:

$$CG_{i,t} = \frac{Total\ CG\ indicators\ disclosed\ by\ the\ company}{Number\ of\ disclosures\ criteria\ according\ to\ OECD\ Guideline} \quad (5)$$

In this study, three control variables are used, leverage, profitability, and operating cash flow. As used in research (Ming-Te, 2017), leverage is defined as the ratio of total debt to total assets in year *t*. Profitability illustrates the company's ability to earn profits by utilizing the total assets owned. In this study, the proxy used to measure profitability is the return on assets (ROA). Comprix et al. (2016) defined ROA as the ratio of income before tax divided by total assets in year *t*. Meanwhile, cash flow from operations (illustrates the cash flow from the company's operating activities. In this study, operating cash flow is scaled to the total assets of the company at the beginning of the year to control the size of the company by referring to the Goldman's (2016) formula, which is as follows.

Model 1 is used to test the effect of tax avoidance, corporate social responsibility, and risk disclosures on investment efficiency.

$$Inv_{i,t} = \beta_0 + \beta_1 DTAX_{i,t} + \beta_2 CSR_{i,t} + \beta_3 ERM_{i,t} + \beta_4 LEV_{i,t} + \beta_5 ROA_{i,t} + \beta_6 CFO_{i,t} + \varepsilon_{i,t} \quad (6)$$

Meanwhile, to analyze the role of corporate governance in moderating the effect of the independent variables tested on investment efficiency, Model 2 is used as follows:

$$InvEff_{i,t} = \beta_0 + \beta_1 DTAX_{i,t} + \beta_2 CSR_{i,t} + \beta_3 ERM_{i,t} + \beta_4 LEV_{i,t} + \beta_5 ROA_{i,t} + \beta_6 CFO_{i,t} + \beta_7 CG_{i,t} + \beta_8 DTAX_{i,t} * CG_{i,t} + \beta_9 CSR_{i,t} * CG_{i,t} + \beta_{10} ERM_{i,t} * CG_{i,t} + \varepsilon_{i,t} \quad (7)$$

Where, $InvEff_{i,t}$: investment efficiency of the company *i* year *t*.

$DTAX_{i,t}$: corporate tax avoidance *i* year *t*.

$CSR_{i,t}$: index of corporate social responsibility disclosures *i* year *t*.

$ERM_{i,t}$: company risk disclosures index *i* year *t*.

$CG_{i,t}$: corporate governance index *i* year *t*.

$LEV_{i,t}$: company leverage *i* year is scaled to total assets.

$ROA_{i,t}$: profitability of the company *i* year *t* scaled to total assets.

$CFO_{i,t}$ = the company's operating cash flow in year *t-1* is scaled by total assets.

4. RESULTS

The descriptive statistical analysis in this study is described by using the mean, median, standard deviation, maximum, and minimum. The summary of the results of descriptive statistics on the variables data in this study presented in Table 2:

Table 2. Descriptive statistics

Variable	*Obs.*	*The mean*	*Median*	*Std. Dev*	*Max*	*Min*
InvEff	172	-0,161	-0.094	0.296	-0,000	-3.009
CSR	172	0.084	0.060	0.081	0.480	0.010
ERM	172	0.388	0.398	0.072	0.527	0.185
CG	172	0.590	0.604	0.098	0.805	0.220
LEV	172	0.384	0.371	0.182	0.838	0.070
ROA	172	0.087	0.069	0.076	0.401	-0,000
CFO	172	0.1031	0.086	0.095	0.484	-0.138

Furthermore, the results of regression model selection tests (Chow test, Lagrange multiplier test, Hausman test) suggest that the most appropriate regression model in this research is a fixed-effect model (FEM). The result of equation model regression is as follows:

Table 3. Equation model regression test results

Variable	*Hypothesis*	*Model 1*			*Model 2*		
		Coeff.	*t-Stat*	*Prob.*	*Coeff*	*t-Stat*	*Prob.*
C		0.408	3.413	0,000***	-0,165	-0.470	0, 639
DTAX	-	-0,348	-1.706	0.045**	-2.546	-1.563	0, 120
CSR	+	-0,460	-2.499	0.006***	-2,945	-2.966	0, 003***
ERM	+	-0.350	-2.305	0.011**	1,604	1.769	0, 079*
LEV		-0.882	-5.003	0.000***	-0.873	-4.344	0.000***
ROA		-0.810	-3.755	0,000***	-0,754	-3.362	0,000***
CFO		0.151	1.249	0.106	9.116	0.829	0, 408
CG					1.168	1.996	0, 048**
DTAX * CG	?				3,685	1.441	0, 152
CSR * CG	?				4,028	2.487	0, 014**
ERM * CG	?				-3,787	-2.445	0, 016**
R^2		0.636			0.667		
Adj. R^2		0.495			0.522		
F-Stat		4.492			4.602		
Prob. (F-Stat)		0.000			0.000		

*Note: ***significant at 1 percent level; **significant at 5 percent level; *significant at 10 percent level.*

5. DISCUSSIONS

5.1. The effects of tax avoidance on investment efficiency

Based on the result of hypothesis testing, tax avoidance is negatively associated with investment efficiency. The finding is relevant to several previous studies, which stated that there is a negative influence of tax avoidance on investment efficiency (Goldman, 2016; Mayberry, 2012). The similarity between the results of this study and previous research can be caused by the use of a sample of manufacturing companies in this study. In contrast, other studies such as Mayberry (2012) use a sample of companies other than financial services, and Goldman (2016) uses a sample of companies other than regulated utilities, which contains manufacturing sector companies.

Based on agency theory, some conflicts might arise in connection with agency problems that occur between debt holders, and shareholders, where managers act as shareholders, namely underinvestment and asset substitution. Underinvestment conflicts result in no investment in projects with positive NPV, while asset substitution results in investments in projects with negative net present value. This asset substitution conflict is synonymous with overinvestment. As expenses that must be borne by the company and its fulfillment can reduce the availability of company resources, it is undeniable that there is a possibility of the company's efforts to minimize the tax expenses through tax avoidance. The finding in this study indicates that management utilizes loopholes or weaknesses of taxation provisions in Indonesia through the application of various accounting methods or policies that can reduce company taxable income so that the tax expenses become smaller, then uses additional cash due to avoidance these taxes to maximize their interests. The practice of tax avoidance carried out can affect the efficiency of a company's investment because the tax expenses that must be paid is reduced and causes the company to have additional cash so that its internal resources increase and can encourage investment spending.

However, in addition to increasing the company's internal resources, tax avoidance also increases the probability of moral hazard by increasing asymmetric information between managers and investors (Balakrishnan et al., 2011; Desai & Dharmapala, 2009; Hope et al., 2012 as cited in Mayberry, 2012). Therefore, this study can explain agency theory to asymmetric information, namely the opportunity for managers to utilize their asymmetric information to avoid tax. Furthermore, with increasing asymmetric information due to tax avoidance, managers will try to maximize their interests, resulting in investments made lower or higher than the optimal value or, in other words, inefficient.

The number of companies that underinvested in this study indicated that additional cash from tax avoidance was not used for investment expenditure efficiently because managers had an incentive not to take on projects with positive net present value. After all, the action was not profitable for them, but rather for debt holders. On this basis, the additional cash from tax avoidance may allow managers to use it for other expenses besides investing in fixed assets, as analyzed in this study, which is more profitable for him. On the other hand, several other companies that conduct overinvestment indicate that the additional cash from tax avoidance is used for inefficient investment spending because of an asset substitution conflict. This conflict creates a tendency for managers to take risks because of the assumption that managers will benefit if investments in selected high-risk assets are profitable. Still, managers will only be affected by the minimum if the selected investments are not profitable. Thus, the negative effect of tax avoidance on investment efficiency in this study proves that tax avoidance by sample companies affects decreasing investment efficiency.

5.2. The effect of corporate social responsibility disclosures on investment efficiency

Hypothesis testing that has been conducted failed to suggest that corporate social responsibility failed to increase investment efficiency. Thus, it assumes that corporate social responsibility disclosures are not associated with investment efficiency. The result of this study is not in line with some previous studies, which state that corporate social responsibility drives investment efficiency (Cook et al., 2018; Ming-Te, 2017; Zhong & Gao, 2017). To fulfill its corporate social responsibility, the company runs a variety of programs and activities. It then reports on the programs and activities that have been carried out as well as other matters specified in the annual report or through a separate corporate social responsibility report (sustainability report). In terms of agency theory, corporate social responsibility disclosures are one manifestation of agency costs, namely bonding costs due to agency problems. Bonding costs are meant in the form of time and effort for managers to provide reports for principals, namely corporate social responsibility reports. Disclosures of corporate social responsibility can positively affect investment efficiency because disclosures can reduce asymmetric information between managers and principals, as well as manager opportunistic behavior (Waddock & Graves, 1997; Eccles et al., 2012; Lopatta et al., 2015 as cited in Cook et al., 2018). Also, in terms of managerial behavior, the adoption and implementation of corporate social responsibility strategies limit the amount of free cash flow available, which can be used for the personal benefit of managers to take on unprofitable projects (Jensen, 1986 as cited in Samet & Jarboui, 2017), in other words reducing the potential for investment inefficiency.

However, the finding of the study can be caused by several things. The average disclosures of corporate social responsibility in the sample, which tends to be low, namely 0.084. It indicates that the corporate social responsibility disclosures are not optimal to conducted in Indonesia. The ideal conditions expected after disclosures corporate social responsibility, such as reduced asymmetric information and opportunistic behavior of managers, cannot be achieved. As a result, a positive impact on investment efficiency cannot be realized. The low level of corporate social responsibility disclosures can be indicated because the disclosures of corporate social responsibility are voluntary, and its obligations are not regulated in financial accounting standards. Although the Indonesia Financial Services Authority has issued regulations relating to aspects that need to be disclosed incorporate social activities through Decree No. 431/BL/2012 regarding Submission of Issuer's Annual Report, the disclosures are voluntary. Additionally, in this study, the standard index measurement refers to the Global Reporting Initiatives (GRI)

The test result in this study is expected for several reasons. First, there is a possibility that managers take and disclose low-cost corporate social responsibility, but over-publicize corporate social responsibility initiatives. Conditions that can be called window dressing (Jo & Na, 2012) or greenwashing (Chatterji et al., 2009) is designed to meet the demands of stakeholders on corporate social responsibility, which did not leave a significant impact on the behavior and companies operations. Based on the result of this study, the quality of corporate social responsibility disclosures in Indonesia is allegedly not good or greenwashed. It is supported by the special report of CG Watch 2018, which states that the volume of environmental and social governance (ESG) data in Asia tends to skyrocket to meet the surge in demand for disclosures of these matters. Besides, CLSA Limited (2010) also stated that many companies regard the donation or charity as corporate social responsibility, while it is just a small part of its corporate social responsibility. Conditions of disclosures of corporate social responsibility that are not appropriate or have real impacts such as this cause investors are not confident enough with disclosures of corporate social responsibility information, so investors choose not to use it as a basis for decision-making (Sayekti & Wondabio, 2007 as cited in Vira & Wirakusuma, 2019). Second, investment decisions can be suboptimal because companies need to consider the wishes of several stakeholders, so the decision making process becomes more complicated or diluted (Cook et al., 2018). Based on GRI G4 standards, 91 disclosures criteria must be met by companies, which are divided into several categories, such as economic, environmental, social, human rights, society, and product responsibility. It shows the need to consider the interests of several stakeholders. Based on reports on the level of progress of sustainable reporting in ASEAN, which divides the level of disclosures based on the GRI indicator into four, namely government, economic, environmental, and social, there is a significant difference in the value of disclosures between one indicator and other indicators by companies in Indonesia. The level of disclosures of governance indicators is 60.7, while economic, social, and environmental are respectively 55.4, 46.1, and 31.4 (Loh, Thao, Sim, Thomas, & dan Yu, 2016). Based on the level of disclosures, it appears that companies in Indonesia are more concerned with expressing their responsibilities to the government and the economy rather than social and environmental, which shows the uneven focus of disclosures by companies. The finding of this study proves that corporate social responsibility disclosures are not able to reduce asymmetrical information as well as not successful in mitigating the problem that cannot drive investment efficiency.

5.3. The effect of risk disclosures on investment efficiency

Hypothesis testing that has been conducted failed to suggest that risk disclosures failed to increase investment efficiency. Thus, it concludes that risk disclosures are not associated with investment efficiency. The result is in line with other studies that show that disclosures of risk can result in negative impacts (Campbell et al., 2014; Li, 2006; Kravet & Muslu, 2013 as cited in Li et al., 2019). Besides, these results are also in line with the divergence hypothesis that is developing internationally that supports the heterogeneity of risk information. In a heterogeneous condition of risk information, when companies disclose previously unknown risk factors and unexpected events, investor risk perceptions increase and can reduce the efficiency of corporate investment (Li, 2006; Kravet & Muslu, 2013; Campbell et al., 2014 as cited in Li et al., 2019).

However, the result of testing this hypothesis is not relevant to several previous studies, which stated that risk disclosures have a positive effect on investment efficiency (Al-Hadi et al., 2016; Li et al., 2019; Smith, 2018). The difference in the results of this study can be caused by differences in the proxy measurement of risk disclosures and the sample company used. In the research of Al-Hadi et al. (2016), the proxy used is an index that is built by itself based on the type of disclosures, namely quantitative or qualitative, and the level of coercion, i.e., mandatory or voluntary. Meanwhile, this study uses a risk disclosures index based on the COSO ERM framework. Besides, the sample companies used in this study and previous studies were different; for example, the Al-Hadi et al. (2016) used banking, financial, insurance, and investment companies, while this study used manufacturing companies. Differences in objects and proxies used in this study can result in different research result from previous studies.

Nevertheless, despite this study and Li et al. (2019) are both conducted in developing countries, namely Indonesia and China, the results obtained are different. The difference in the results of this study and Li et al. (2019) can be caused by differences in the proxy used because Li et al. (2019) measure risk disclosures using an index based on textual analysis, i.e., searching in the company's annual report with the keywords "risk" and "uncertainty". The results showed that the higher the frequency of risk disclosures in the "Significant Risk Factors and MD&A", the higher the investment efficiency of the company.

Several previous studies stated that the level of maturity and regulatory mechanisms of capital markets in developing countries such as China are not as good as developed countries like the United States (Li et al., 2019). According to Li et al. (2019), the content and quality of risk disclosures in China are often questioned. It is similar to conditions in Indonesia, where the level of risk management implementation tends not to be optimal (CRMS of Indonesia, 2017). However, despite showing inconsistent results, the criteria for textual analysis based on the ERM COSO framework used in this study are considered more representative than the criteria in the study of Li et al. (2019). It is supported by previous studies examining the content of risk disclosures in developing countries. Hassan (2009) as cited in Ghazali (2012) found that the average risk disclosures item in the annual reports of the United Arab Emirates companies was 20 items, with a minimum value of 3 and a maximum of 33.

Meanwhile, Amran et al. (2009) as cited in Ghazali (2012) found that the average Malaysian company only discussed risk in 20 sentences, with a minimum value of 3 and a maximum of 78 sentences. It is far different from the risk disclosures by companies in developed countries like the United Kingdom, which ranges from 20 to 275 sentences, with an average of 78 sentences (Linsley & Shrives, 2006 in Ghazali, 2012). With this comparison, it is seen that the level of risk disclosures in developing countries is relatively lower, as shown in this study.

The absence of provisions regarding the disclosures of risk information and risk management for non-financial companies, including manufactures in Indonesia, can be the first cause of not having a positive effect on the disclosures of this risk on investment efficiency in Indonesia. Currently, in Indonesia, there are several regulations related to risk disclosures that are binding on manufacturing companies, such as PSAK 60 (IAI, 2018) concerning disclosures of financial instruments and Decree of the Chairman of Indonesia Financial Services Authority No. 431/BL/2012 regarding Submission of Issuer's Annual Report. However, these regulations do not yet set the minimum disclosures area that must be done by the company or, in other words, still voluntary. Voluntary disclosures of risk can result in the homogeneity of risk information not being created, or in other words, the conditions created are the heterogeneity of risk information, as stated in the divergence hypothesis. It is evidenced by the high difference between the maximum and minimum values of ERM disclosures, and both values when compared with the average.

In this study, the average of risk disclosures was 0.389. This value shows the still low implementation of ERM in Indonesia. It is in line with the results of a national risk management survey regarding the level of maturity of adopting risk management principles and frameworks in Indonesia (CRMS of Indonesia, 2017). In 2017, only 16% of companies in Indonesia implemented risk management optimally, with principles and processes that have been integrated into business processes, while 84% applied risk management with a very weak to good maturity level (CRMS of Indonesia, 2017). The lack of an optimal level of risk management maturity by most companies in Indonesia can also be the second reason not positively influencing risk disclosures on investment efficiency.

Furthermore, the main risks faced by companies tend to shift from year to year. In 2016, the risk of cooperation with third parties, reputation risk, and the risk of changes in the direction of the company became the most significant risk of the company. Meanwhile, reputation risk, the risk of failure in HR planning, and the uncertainty of government policy are the most significant risks in 2017 (CRMS of Indonesia, 2017). Based on the ERM framework, the risks regarding regulations disclosed by the company may include the risk of government policy uncertainty, which is one of the most significant risks in 2017. However, the existing risk disclosures criteria do not cover the other main risks. Thus, the risks disclosed by the company are thought not yet to reflect the main risks faced, so they cannot be used as a basis for decision making and the benefits of risk disclosures to mitigate the lemons problem and decrease investor risk perceptions do not materialize, so capital costs increase.

The government has not yet regulated the minimum risk disclosures area, the risk management implementation has not been optimally implemented, and the main risks in risk disclosures that have not been reflected by companies have created heterogeneity of risk information. This heterogeneity of risk information results in investor sensitivity to risk perception, which can affect the company's risk premium. In this case, the disclosures of new risks can lead to increased risk perception and increase the company's risk premium, so investment efficiency decreases. This condition results in the agency theory being unconfirmed that bonding costs, one of which is risk disclosures, can reduce asymmetric information. The result of the study proves that the disclosures of risk by companies in Indonesia cannot reduce asymmetric information, so it is unable to influence investment efficiency positively.

5.4. The moderation role of corporate governance on the association between tax avoidance and investment efficiency

Based on the result of hypothesis testing, corporate governance failed to moderate the effect of tax avoidance on investment efficiency. The finding of this study is not in line with Khurana et al. (2018), who found that the higher the tax avoidance, weak corporate governance can lead to increased investment inefficiency, both overinvestment, and underinvestment. Based on the finding of this study, several reasons can explain the role of corporate governance in moderating the effect of tax avoidance on investment efficiency. It indicates that some of the mechanisms of corporate governance in Indonesia are not functioning effectively according to their functions. Not all components are rated the best judgment to determine the level of supervision of tax policy and investment by the board of directors and commissioners (Armstrong, 2009 as cited in Khurana et al., 2018). Thus, the quality of corporate governance does not capture the effect of tax avoidance on investment efficiency in Indonesia.

Furthermore, the corporate governance disclosures in Indonesia itself are uneven. Because corporate governance disclosures are voluntary, the level of disclosures varies with a high enough gap between companies that have maximum corporate governance disclosures values (0.805) and minimum (0.220). This finding is supported by Black (2001) as cited in Wibowo (2010), which stated that in developing countries such as Asia; the implementation of corporate governance has a considerable variation, different from in developed countries. It can be concluded that corporate governance has poor quality in Indonesia. It is supported by CG Watch 2016 and 2018, which reported that the value of corporate governance culture in Indonesia is relatively low (CLSA Limited, 2016, 2018). However, there are still many companies that apply the principles of good corporate governance because of regulatory encouragement and avoid existing sanctions compared to regard these principles as part of corporate culture (Wibowo, 2010).

As a procedure for directing and controlling an organization, corporate governance is seen as being able to reduce asymmetric information between management and principals. Therefore, from the perspective of agency theory, corporate governance implementation can minimize opportunistic management behavior or align principal desires with management behavior, thereby mitigating the emergence of conflicts, such as asset substitution and underinvestment. However, due to the inadequacy of the quality of corporate governance in capturing the effect of tax avoidance on investment efficiency and the uneven quality of the implementation of corporate governance as a whole, corporate governance is allegedly not yet functioning optimally in monitoring corporate tax avoidance, so it is unable to strengthen or weaken the effect of tax avoidance on investment efficiency.

5.5. The moderation role of corporate governance on the association between corporate social responsibility disclosures and investment efficiency

Based on the result of hypothesis testing, corporate governance has moderated the effect of corporate social responsibility disclosures on investment efficiency. In the previous discussion, the disclosures of social responsibility without the corporate governance implementation did not succeed in increasing investment efficiency. The presence of corporate governance would encourage the influence of social responsibility disclosures on investment efficiency towards a better direction. The result of this study is in line with Ming-Te (2017) who stated that with strong corporate governance, corporate social responsibility reduces investment inefficiency as well as (Vira & Wirakusuma, 2019) who found that corporate governance can improve the negative effect of corporate social responsibility disclosures on the corporate value in Indonesia. When the company does not disclose more information about the impact of its business on the environment or appropriate efforts to reduce the impact on the environment, the company's reputation will be negative (Loh et al., 2016). It is supported by regulations in Indonesia, which regulate that social and environmental responsibility becomes an obligation for the company to carry out its business activities in the field and related to natural resources based on Act in article 3 of Indonesia Government Regulation No. 47 of 2012 concerning corporate environmental and social responsibilities. Therefore, the high disclosures of corporate social responsibility that is not matched by the high disclosures on the impact on the environment can result in the disclosures of social responsibility, which has a negative effect on reputation, so the company's risk premium will increase, and investment efficiency decreases.

Besides, research data shows that the level of corporate social responsibility disclosures in Indonesia is still low. It indicates the tendency of companies to avoid corporate social responsibility. Disclosures of low social responsibility can lead to a decrease in reputation and cannot enjoy low capital costs by the company, so investment efficiency decreases. However, based on the result of this study, the negative effect of corporate social responsibility disclosures on investment efficiency can be mitigated through the implementation of corporate governance. Among the components of corporate governance, according to the OECD, corporate social responsibility is included in the component of the role of stakeholders. The component of the role of stakeholders recommends disclosures of corporate social responsibility regarding 1) employee safety and welfare, 2) the role of key stakeholders, 3) environment, and 4) stock option programs or long-term employee incentives. Based on these criteria, corporate governance seeks to capture social and environmental indicators. With the capture of environmental indicators in corporate governance, asymmetric information will decrease, and perceptions of the company's reputation will increase so that companies can enjoy lower risk premiums and increase investment efficiency.

Based on this finding, corporate social responsibility cannot stand alone without good corporate governance in the case of Indonesia companies. The implementation of good corporate governance can improve the concept and quality of corporate social responsibility and encourage investment efficiency in a better direction. Thus, the result of this study confirms the agency theory that bonding costs in the form of corporate social responsibility disclosures borne by management will be able to reduce asymmetric information or opportunistic behavior of management in company investments.

5.6. The moderation role of corporate governance on the association between risk disclosures and investment efficiency

Based on the result of hypothesis testing, corporate governance moderates the effect of risk disclosures on investment efficiency. In the previous discussion, risk disclosures are not successful in increasing investment efficiency. The presence of corporate governance tends to reduce investment efficiency. In the case of companies in Indonesia, corporate governance can negatively influence risk disclosures as Seta and Setyaningrum (2017), Adam, Mukhtaruddin, Yusrianti, and Sulistiani (2016). On the other hand, the application of corporate governance can also negatively affect investment efficiency, as Simanungkalit (2017). Risk is uncertainty; if not anticipated, it can result in loss or loss of opportunity. Therefore, supervision from related parties on the disclosures and risk management of the company becomes essential so that the decisions made by the company are optimal, including investment decisions. Proper supervision is expected to mitigate risk management, which is not appropriate, thereby reducing the possibility that the company will suffer losses due to unanticipated threats or the possibility that the company will lose opportunities due to unanticipated profitable opportunities. On this basis, corporate governance is expected to function to reduce asymmetric information between management and principals.

However, there are several obstacles faced by companies in implementing risk management. In general, the three biggest obstacles faced by both companies in Indonesia, including companies in the manufacturing sector include: 1) the need for strong leadership and commitment from senior managers, 2) the need for a considerable effort to instill integrated risk management in all aspects company, and 3) the need for high commitment and the amount of time consumed (CRMS of Indonesia, 2017). Based on these matters, strong leadership and the capability of leaders in carrying out risk management initiatives are crucial issues that need attention. To obtain comprehensive risk protection, risk management needs to be led from the top companies that have the required capabilities (CRMS of Indonesia, 2017). Ideally, corporate governance through the role of the board directors can mitigate these barriers, especially since one of the criteria in that role is providing training to the board of commissioners and directors to improve their capabilities. However, risk management training by companies in Indonesia tends not to be structured (CRMS of Indonesia, 2017).

The further reason that can lead to the failure of corporate governance to improve investment efficiency is the implementation of corporate governance that is less touching regarding risk disclosures, which in ideal conditions is an excellent activity for the company. Of all the criteria in OECD (2015), there is only one criterion that reviews risk, which is contained in the dimensions of disclosures and transparency and state the need for disclosures of operational risk in the company's annual report. If assessed, the risk disclosures criteria have a deficient weight, i.e., 0.167, when compared with all disclosures and transparency criteria or 0.004 when compared to all corporate governance criteria. Therefore, the existence of an element of risk disclosures in corporate governance cannot encourage risk management activities and non-optimal risk disclosures of the company. Thus, corporate governance did not succeed in limiting asymmetric information about risk disclosures by management in the company to improve investment efficiency.

Furthermore, the role of corporate governance in risk disclosures is influenced by the confidence level or maturity level of a country's corporate governance system (Elshandidy & Neri, 2015). The study stated that in a country with a good level of system maturity such as the United Kingdom, strong corporate governance will tend to encourage managers to disclose risk information that is beneficial to the public voluntarily. However, in countries with lower system maturity, such as Italy, strong corporate governance will encourage managers to disclose mandatory risk information. A sophisticated corporate governance system in a country is considered to provide a high level of protection for investors so that the application of corporate governance in that country can effectively reduce asymmetric information (Elshandidy & Neri, 2015). Therefore, a sophisticated corporate governance system in a country will motivate companies to submit more risk information voluntarily.

However, the corporate governance system in Indonesia is still relatively weak when compared to other countries. It is expected that voluntary disclosures of more information by companies in Indonesia cannot reduce investor risk perceptions of companies and is not effective in reducing asymmetric information, in line with Elshandidy and Neri (2015). The prevailing corporate governance system in Indonesia has not been able to motivate companies to disclose risks voluntarily. Under these conditions, corporate governance in Indonesia is expected to encourage companies to disclose the risks that are required rather than those that are not required. Corporate governance guidelines also only touch on operational risks, but do not touch other risks that may be the principal risks of the company, such as reputation risk or strategic risk. The absence of extensive provisions on the minimum risk disclosures has failed in the role of corporate governance in improving the quality of risk disclosures. The bonding costs in the form of risk disclosures cannot reduce asymmetric information even if accompanied by monitoring costs incurred by the company in the form of corporate governance due to several failures, namely corporate governance failed to mitigate the obstacles faced by the company in implementing risk management, weak corporate governance systems, and the absence of regulations regarding the extent of minimum risk disclosures. Corporate governance is not able to motivate companies to disclose the actual risks faced, so asymmetric information cannot be derived.

6. CONCLUSION

This study found that tax avoidance has a negative effect on investment efficiency. The practice of tax avoidance can reduce investment efficiency because it increases asymmetric information. Asymmetric information occurs due to management opportunistic behavior to benefit its interests so that it can cause investment decisions to be suboptimal. It shows that companies that utilize additional cash from tax avoidance tend to invest less efficiently. Corporate social responsibility disclosures do not affect investment efficiency. The low average corporate social responsibility disclosures in Indonesia lead to the reduced asymmetric information and opportunistic behavior of managers, which cannot be achieved. Besides, it may be caused by the absence of a real impact on the company for the activities carried out. The complexity of the decision making process with corporate social responsibility can also lead to investment decisions that are not optimal. Risk disclosures do not affect investment efficiency. The government has not yet regulated the minimum risk disclosures area. The risk management implementation has not been optimized, and the main risks that have been faced in the disclosures made by companies in Indonesia. The heterogeneity of risk information available in this market can result in sensitivity to new risk or uncertainty information disclosed by the company, thereby affecting inefficient investment.

Furthermore, the result of the study indicates that corporate governance failed to moderate the effect of tax avoidance on investment efficiency. It may be caused by the inadequacy of the quality of corporate governance in capturing the effect of tax avoidance on investment efficiency and the not yet good quality of the implementation of corporate governance as a whole, so that corporate governance is allegedly not yet functioning optimally in monitoring corporate tax avoidance, so it is unable to reduce asymmetric information. Corporate governance has moderated the effect of corporate social responsibility disclosures on investment efficiency. Corporate governance can weaken the negative influence of corporate social responsibility disclosures on investment efficiency. Corporate governance is sufficiently touching on corporate social responsibility, especially regarding social and environmental issues, so that the company's reputation can improve and the company can enjoy lower capital costs. Thus, the implementation of corporate social responsibility must be accompanied by good corporate governance to be effective in influencing investment efficiency. Corporate governance has successfully moderated the effect of risk disclosures on investment efficiency. Corporate governance drives the negative effect of risk disclosures on investment efficiency. The level of corporate governance has failed to mitigate the obstacles faced by the company due to the need for functional leadership capabilities in managing risk, weak corporate governance systems in Indonesia, and the absence of regulations regarding the extent of minimum risk disclosures. Corporate governance is not able to increase corporate awareness in disclosing the main risk issues it faces, so asymmetric information cannot be derived.

The limitation of this research is in measuring the index score based on the company's annual report, both on the variable of corporate social responsibility disclosures, risk disclosures, and corporate governance. The index score process requires an automatic search using the Find function in the Adobe Acrobat Reader DC application to search for keywords and explanations related to the components of corporate social responsibility disclosures, risk disclosures, and corporate governance. However, there are several company's annual reports that are scanned directly or protected from the automatic search menu, resulting in information about these components not being found. Companies with such annual reports are ultimately excluded from the study sample. Furthermore, another limitation of this research is the process of giving an index score, which is conducted by the authors because no other parties have confirmed the index results.

Future research can use companies other than manufacturing to explain the nature of the research variables in companies in other sectors. Research can also be conducted with a sample of other sectors as well as to determine the effect of variables as a whole for all companies in general and partial effect so that the analysis can be carried out in more depth for each sector of the company observed. Future research can use longer time intervals to capture the phenomenon of the effects of tax avoidance, disclosures of corporate social responsibility, risk disclosures, and the role of corporate governance in moderating the effect of these variables on investment efficiency more comprehensively. Measurement of risk disclosures in this study uses a proxy risk disclosures index (ERM) based on COSO guidelines. Future studies can use measurement models such as ISO 31000 or other standards because each measurement model has its advantages to match the research conducted. Related to corporate governance, future research can compare this study with other index scores.

Based on the finding of the research, the efficiency of investments made by companies can be taken into consideration for investors in their investment decisions. Also, the company's ability to maintain its survival, including through efficiency of investments made, is a concern for creditors. In investing or providing loans, investors or creditors can map the company based on the tendency of tax avoidance and make it into consideration for decision-making. Besides, investors or creditors need to pay attention to the implementation of corporate governance because it can encourage investment efficiency through corporate social responsibility disclosures. To create a conducive business and investment climate, the government needs to periodically review existing policies and evaluate their implementation on the ground for these policies to be effective. The government needs to give appreciation to companies that conduct risk disclosures well as a follow-up to the minimum regulatory risk disclosures regulations set by the Financial Services Authority. The government, through its capital expenditure policy, can increase the development of adequate supporting infrastructure, so that the production process, distribution, and other companies' operations become efficient.

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