

Hajawiyah, Ain; Kiswanto, Kiswanto; Suryarini, Trisni; Yanto, Heri; Harjanto, Atta Putra

Article

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*Corresponding author: Ain Hajawiyah,
Department of Accounting, Faculty of
Economics, Universitas Negeri
Semarang, Semarang, Semarang,
Jawa Tengah 50229, Indonesia
E-mail: ainhajawiyah@mail.unnes.ac.id

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David McMillan, University of Stirling,
UNITED KINGDOM

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ACCOUNTING, CORPORATE GOVERNANCE & BUSINESS ETHICS | RESEARCH ARTICLE

The bidirectional relationship of tax aggressiveness and CSR: Evidence from Indonesia

Ain Hajawiyah^{1*}, Kiswanto Kiswanto¹, Trisni Suryarini¹, Heri Yanto¹ and Atta Putra Harjanto¹

Abstract: This study aims to examine the simultaneous relationship between tax aggressiveness and CSR of non-financial companies in Indonesia. This study also aims to examine the moderating role of risk management in this relationship. This paper is an empirical work using a sample of Indonesian publicly listed companies that comprises 328 firm-years (2013–2020). The data was then processed using simultaneity test and 2sls regression. This paper finds that there is a simultaneous relationship between tax aggressiveness and CSR. Tax aggressiveness has a negative significant effect on CSR. Also, CSR has a significant negative effect on tax aggressiveness. Risk management strengthens the effect of tax aggressiveness on CSR and strengthens the effect of CSR on tax aggressiveness. This paper contributes to the current tax aggressiveness and CSR literature by examining the probable bidirectional relationship between the two. Existing studies have examined the one-direction relationship only, whether CSR to tax aggressiveness or tax aggressiveness to CSR. This is the first study examining the role of risk management in moderating the relationship between CSR and tax aggressiveness. This study is useful for corporate management in making CSR and tax aggressiveness strategy. Government can make a regulation that mandates the companies to do risk management activities and disclose their risk management policies and implementation. Shareholders can rely on companies' disclosures regarding CSR activities because this study supports that firms with higher CSR disclosure have low-level tax aggressiveness.

Subjects: Business, Management and Accounting; Accounting; Management Accounting; Corporate Social Responsibility

Keywords: Corporate Social Responsibility (CSR); risk management; tax aggressiveness

PUBLIC INTEREST STATEMENT

The tax has the most significant revenue contribution in Indonesia. But taxpayers tend to try to minimize tax payments. This action is called tax aggressiveness. Tax aggressiveness is tax planning by lowering the value of the taxable income, either through tax evasion or not. An entity is obliged to pay tax under applicable regulations. Besides, an entity is also obliged to be responsible for its social and environmental through CSR activity. Taxes have a central role in a company's management and affect society's welfare. Paying taxes is a positive contribution to the welfare of society. Tax aggressiveness, on the other hand, is socially irresponsible because the reduction in tax revenue makes a potentially irreversible loss to the community. The relationship between tax aggressiveness and CSR is interesting to be studied.

1. Introduction

Tax revenue has the biggest contribution to Indonesia's Central Government Budget, which amounted to 82.5% of the country's revenue in 2019 (Ministry of Finance Republic of Indonesia, 2019). Every taxpayer is obliged to calculate, pay, and report tax with a self-assessment system. As there is a difference between government and taxpayer's interest, there is a potential action to avoid or minimize tax. Taxpayers try to pay tax as minimum as possible whether it is still under tax law and regulations or not. This action is called tax aggressiveness. Tax aggressiveness is a tax planning by lowering the value of the taxable income, either through tax evasion or not (Frank et al., 2009).

Companies are not only obliged to make an optimum profit for shareholder's wealth but also responsible for their social and environmental aspect. The triple bottom line which consists of profit, people, and the planet becomes the spirit to conduct Corporate Social Responsibility (CSR) action. This action is then disclosed by companies in their annual report, some of them also publish a sustainability report.

Tax aggressiveness and CSR are related because taxes have a central role in the management of a company, but they also have effects on the welfare of society (Vacca et al., 2020). Tax is used to fund infrastructure development, education, health, national defense, and support society's welfare. Paying taxes is a positive contribution to the welfare of society (Sikka, 2010). On the other hand, tax aggressiveness is a socially irresponsible action because the reduction in tax revenue makes the potentially irreversible loss to society (Lanis & Richardson, 2013). Tax aggressiveness can promote social inequality (Baudot et al., 2019) and become socially irresponsible activity (Zeng, 2016).

Previous studies have examined the relationship between tax aggressiveness and CSR. Most of them study the effect of CSR on tax aggressiveness. Only a few have studied the effect of tax aggressiveness on CSR. As far as we know, there is no previous study that examined the potential simultaneous or bidirectional relationship among CSR and tax aggressiveness

Research by Lanis and Richardson (2016) found that CSR negatively affected tax aggressiveness. Payment of corporate taxes supports government programs created to improve social welfare thereby making a positive contribution to society. Firms with better CSR performance are less likely to be tax aggressive (Hoi et al., 2013; Karthikeyan & Jain, 2017; Lanis & Richardson, 2012, 2015; Shafer & Simmons, 2008). Other studies have found that CSR positively affects tax aggressiveness (Marsdenia & Martani, 2018; Zeng, 2018). Firms with higher CSR scores engage in more tax avoidance activities. CSR is used by managers to conceal their risky and opportunistic tax avoidance activities and mitigate reputation and image damages resulted from tax avoidance.

Lanis and Richardson (2013), Pratiwi and Djakman (2017), and Davis et al. (2016) found that tax aggressiveness has a significant positive effect on CSR. This result confirms legitimacy theory. Legitimacy theory suggests that a tax-aggressive corporation will disclose additional information related to its CSR to alleviate such public concern, to show that it is fulfilling its obligations to the community, or to alter social expectations about its activities (Deegan, 2002). Tax-aggressive corporations have greater CSR disclosures to alleviate potential public concerns arising from the negative impact of their tax aggressiveness on the community and to show that they are meeting community expectations in other ways. This result was confirmed by Whait et al. (2018) and Abdelfattah and Aboud (2020) who also found a significant positive impact of tax aggressiveness on CSR. On the other hand, Zeng (2016) concludes that there is a negative relationship between tax aggressiveness and CSR. This means that paying more tax contributes to a higher overall CSR ranking. Zeng (2016) confirms the corporate culture theory. Mohanadas et al. (2019) found that no statistical support that CSR performance is related to corporate tax aggressiveness in Malaysia.

CSR must be ensured as a form of firms' responsibility, not a way to avoid tax. Therefore, effective supervision is needed through a Corporate Governance (CG) mechanism in the company (Lanis & Richardson, 2015). One of the CG mechanisms that are expected to affect the relationship between CSR and tax aggressiveness is risk management. The CG mechanism through effective risk management is a way to reduce tax aggressiveness (Richardson et al., 2013). Risk management is expected to maintain the consistency of CSR as a form of responsibility, not as a form of tax aggressiveness because it can potentially result in companies experiencing tax compliance problems (Qodraturassiyid, 2017). Corporate Governance and Corporate Social Responsibility (CSR) are popular topics in business and management literature (Zeng, 2020).

The inconsistency of the results of previous studies encourages researchers to test a variable that may moderate the effect of CSR on tax aggressiveness and tax aggressiveness on CSR, namely risk management. Additionally, most of the previous studies only tested the one-way effect of CSR on tax aggressiveness and only a few examined the effect of tax aggressiveness on CSR. Few studies have examined the simultaneous effect between the two. This motivates the authors to examine the simultaneous relationship between tax aggressiveness and CSR.

Using a sample of 328 firm years listed in the Indonesia Stock Exchange (IDX) from 2013 to 2020, this study examines the simultaneous relationship between CSR and tax aggressiveness and the moderating role of corporate risk management. Previous research only analyzed the relationship between CSR and tax aggressiveness partially (the effect of CSR on tax aggressiveness only or the effect of tax aggressiveness on CSR only). This study is also different from previous studies by examining risk management variables as moderating variables.

The object of this research is non-financial firms in Indonesia. This is done to analyze the different contexts of research compared to previous studies. This study also enriches the literature on CSR and tax aggressiveness due to different law enforcement and developing capital markets of the research objects.

To strengthen the hypothesis development and analysis, this study uses corporate culture theory in examining the effect of CSR on tax aggressiveness and the effect of tax aggressiveness on CSR. This quantitative research uses Durbin Wu Hausman Specification Test to test the simultaneous relationship between CSR and tax aggressiveness. This study also uses balance panel regression (OLS) with STATA software to test the effect of CSR on tax aggressiveness and tax aggressiveness on CSR if it is concluded that there is no simultaneous relationship between the two.

This study not only examines the effect of CSR on tax aggressiveness but also examines the effect of tax aggressiveness on CSR. This paper also examines the simultaneous effect of the relationship between CSR and tax aggressiveness. This needs to be examined because the relationship between tax aggressiveness and CSR is still ambiguous, whether CSR triggers the firms to conduct tax aggressiveness or vice versa. The bidirectional relationship among them also needs to be examined.

This study uses a sample of firms in the non-financial industry listed on the Indonesia Stock Exchange with the 2013–2020 observation year. The data source used is secondary data in the form of annual reports and sustainability reports.

This research is important because it can be useful for filling the research gap that has been described previously, namely, to examine the simultaneous relationship between CSR and tax aggressiveness. This study contributes to current CSR and tax aggressiveness literature by highlighting the importance of risk management in moderating the relationship. This study also presents the latest empirical evidence using company financial statement data in a developing country (Indonesia) from 2013 to 2020. This research is also useful for the industry in making CSR and tax aggressiveness strategies. This research can be useful for tax authorities to evaluate the possible risk of corporate tax aggressiveness through CSR.

To the best of our knowledge, no research has analyzed the simultaneous relationship between CSR and tax aggressiveness in Indonesia. Davis et al. (2016) conducted a similar study in the United States. The next section will discuss the literature review and hypothesis development (section 2), research design including variables, models, and sample (section 3), results, and discussion (section 4). The last section discusses the conclusion, limitation, and recommendation for future research (section 5).

2. Literature review and hypotheses development

This section discusses the theory, hypothesis development, and research framework used in this study.

2.1. Corporate culture theory

The firm's decisions must reflect the value of the right behavior (Col & Patel, 2016). It means that there is a negative relationship between CSR and tax aggressiveness. Companies should not be involved in activities that can have negative consequences on society.

The company carries out CSR for the welfare of various stakeholders including shareholders, employees, customers, suppliers, regulators, creditors, and the community. If the government is also considered as part of these stakeholders, then tax aggressiveness should be inconsistent with CSR. Therefore, if corporate culture drives corporate decisions, then socially responsible companies have a low level of tax aggressiveness.

Although ethically CSR can be said to be one of the symbols of corporate ethics (Garriga & Mele, 2004), other studies (Lanis & Richardson, 2013; Amidu et al., 2016) have found that CSR is used by companies to cover up unethical actions such as corporate tax avoidance practices. This study will refer to corporate culture theory as has been done by Lanis and Richardson (2015), Bozzolan et al. (2015), and Col and Patel (2016).

2.2. CSR

The definition of CSR according to The World Business Council for Sustainable Development is a business commitment to contributing to sustainable economic development through the interaction of employees or company representatives with the surrounding community to create a better-quality life. Meanwhile, according to ISO 26000 (2010), CSR is the responsibility of the organization for the impact of activities carried out on the community and the surrounding environment through transparency and ethical behavior that contribute to sustainable development including public health and welfare.

2.3. Tax aggressiveness

Tax aggressiveness is an act of reducing taxable income through tax planning, whether in the form of tax evasion or not (Frank et al., 2009). It is feared that the act of tax aggressiveness encourages management to be opportunistic if it is done without regard to the long-term sustainability of the company (Minnick & Noga, 2010). Companies that carry out tax aggressiveness are companies that do not have social responsibility (Lanis & Richardson, 2012). CSR can be considered as a benchmark for determining the sustainability of a company.

The company considers that tax is a cost that can suppress company profits so that the company tries to minimize the tax burden. One way to do this is by tax aggressiveness. Tax aggressiveness is an effort made to minimize corporate tax payments. However, several studies use different terms to describe the act of corporate tax aggressiveness even though there is no completely accepted definition yet (Hanlon & Heitzman, 2010).

Tax aggressiveness is the manipulation of lowering income tax through tax planning that is classified or cannot be classified as tax evasion (Chen et al., 2010; Frank et al., 2009; Lanis & Richardson, 2016). One of the ways of tax aggressiveness is tax avoidance. Tax evasion aims to

reduce taxes paid by using transactions that lead to a reduction in the tax burden. Tax avoidance is a continuation of tax planning.

Not all acts of tax aggressiveness can be categorized as violations because companies may carry out tax planning that is still within the framework of tax regulations, but only take advantage of existing regulatory loopholes or things that have not been regulated in tax regulations.

Tax aggressiveness can be concluded as a form of tax avoidance carried out by companies or a form of tax minimization that is closest to tax evasion. Tax aggressiveness has a high risk because it will cause uncertainty (Christensen & Murphy, 2004). Companies must pay attention to the benefits and disadvantages that may arise before engaging in tax aggressiveness.

2.4. Risk management

Risk management is a form of implementing effective governance mechanisms (Richardson et al., 2013) because it is an important aspect of governance mechanisms. The risk management system is implemented by identifying company risks with measurement and completion methods at a certain tolerance level. The implementation of an effective risk management system allows the supervision of the board of commissioners to be maximized.

2.5. Hypothesis development

Tax aggressiveness is carried out for the benefit of shareholders without considering the negative impact on other stakeholders such as the government and society (Sikka, 2010). Tax aggressiveness is considered unethical and irresponsible by the community and other stakeholders (Amidu et al., 2016). In the practice of tax aggressiveness, there is a transfer of the tax burden from the company to other parties, such as the government and the public, even though taxes are used to build infrastructure that indirectly supports the company's operations.

CSR and the fulfillment of tax obligations are still considered large expenses for companies so that many companies carry out CSR to indulge in tax aggressiveness to minimize their tax obligations (Rusydi & Siregar, 2014). This act is considered socially irresponsible and unacceptable (Lanis & Richardson, 2012). Companies that carry out CSR are considered ethical and responsible companies (Shafer & Simmons, 2008) so they have a good reputation.

Based on corporate culture theory, company decisions must reflect the value of good behavior (Kreps, 1996; Col & Patel, 2016) resulting in a negative relationship between CSR and tax aggressiveness. Companies should not be involved in activities that may have negative consequences for society. The company carries out CSR for the welfare of various stakeholders including the government. Tax aggressiveness is seen as inconsistent with CSR. Therefore, socially responsible companies have a low level of tax aggressiveness (Lanis & Richardson, 2012; Hoi et al., 2013; Lanis & Richardson, 2015; Qodraturassid, 2017; Laguir et al., 2015; Karthikeyan & Jain, 2017; Shafer & Simmons, 2008; Hoi et al., 2013).

Tax aggressiveness is carried out for the benefit of shareholders, with little regard for the consequences for other stakeholders such as the government and society (Sikka, 2010). Tax aggressiveness is considered unethical and irresponsible by the community and other stakeholders (Amidu et al., 2016). Companies are expected to be more careful in carrying out tax aggressiveness to maintain their reputation (Lanis & Richardson, 2012). When companies take tax avoidance actions, public attention will lead to these unethical actions that damage the reputation that the company has built with the community and the surrounding environment.

Based on corporate culture theory, corporate decisions must reflect the value of right behavior resulting in a negative relationship between CSR and tax aggressiveness (Kreps, 1996; Hermain 2001 in Col & Patel, 2016). Companies should not be involved in activities that can have negative consequences on society. The company carries out CSR for the welfare of various

stakeholders including the government. Tax aggressiveness is seen as being inconsistent with CSR. Therefore, socially responsible companies have a low level of tax aggressiveness.

H1. CSR has a negative effect on tax aggressiveness.

Zeng (2016) concludes that there is a negative relationship between tax aggressiveness and CSR. This means that paying more tax contributes to a higher overall CSR ranking. Zeng (2016) confirms the corporate culture theory. Corporate culture theory suggests that if the government is also considered as part of stakeholders, then tax aggressiveness should be inconsistent with CSR. Therefore, if corporate culture drives corporate decisions, then firms with high-level tax aggressiveness will have low-level CSR.

The corporate culture theory posits a negative relation between CSR and tax aggressiveness. The theory argues that if a firm strongly believes in “right” corporate behavior, then all the decisions of the firm, including decisions on CSR and tax aggressiveness activities, should reflect that shared belief. In other words, according to corporate culture theory, a firm should not simultaneously engage in activities that might have opposite effects on society. Firms undertake CSR for the benefit of a variety of stakeholders, including the firm’s shareholders, employees, customers, vendors, regulators, creditors, and communities in which it operates (Col & Patel, 2016). All company decisions must reflect the value of good behavior resulting in a negative relationship between CSR and tax aggressiveness (Hermain 2001 in Col & Patel, 2016). Companies should not be involved in activities that may have negative consequences for society.

On the other hand, Lanis and Richardson (2013) and Davis et al. (2016) found that tax aggressiveness has a significant positive effect on CSR. This result confirms legitimacy theory. Legitimacy theory suggests that a tax-aggressive corporation will disclose additional information related to its CSR to alleviate such public concern, to show that it is fulfilling its obligations to the community, or to alter social expectations about its activities (Deegan, 2002). Tax-aggressive corporations have greater CSR disclosures to alleviate potential public concerns arising from the negative impact of their tax aggressiveness on the community and to show that they are meeting community expectations in other ways. This result was confirmed by Whait et al. (2018) and Abdelfattah and Aboud (2020) who also found a significant positive impact of tax aggressiveness on CSR. Col and Patel (2016) found that firms with tax aggressiveness have high-level CSR, which support risk management theory.

H2. Tax aggressiveness has a negative effect on CSR.

H3. There is a simultaneous relationship between CSR and tax aggressiveness.

CSR and tax payments are a burden for the company. Both supervisory mechanisms are needed, especially the board of commissioners in carrying out its supervisory role (Lanis & Richardson, 2016). Stakeholder theory emphasizes the importance of ethics (Phillips, 2003) so that CSR and tax payments can be viewed as ethical actions that benefit all stakeholders.

The risk management system is one way of assessing the reasonableness of the methodology and assumptions in preparing accounting and taxation information (Richardson et al., 2013). With the implementation of a comprehensive risk management system, reporting on CSR and meeting tax obligations will be of higher quality.

Companies with a more effective risk management system should be less likely to be involved in fraudulent financial reporting, for example, management is not opportunistic by choosing CSR

based solely on the income tax deduction aspect. In Indonesia, provisions related to CSR as an aspect of income tax deduction are specifically regulated in Government Regulation No. 93 of 2010 concerning contributions that can be deducted from gross income. The effect of CSR in reducing tax aggressiveness is strengthened by the implementation of effective risk management. The risk management system is predicted to moderate the relationship between CSR and tax aggressiveness (strengthening negative effects).

Companies with effective risk management systems believe that CSR and tax payments are ethical actions that benefit all stakeholders. With the implementation of a comprehensive risk management system, the CSR reporting and tax obligation fulfillment will be conducted in an ethical manner and high quality. Companies with effective risk management system believe that CSR is not used by the company only to cover up negative image after doing tax aggressive activity as stated by legitimacy theory. Risk management is predicted to strengthen the negative effect of tax aggressiveness on CSR.

H4. Risk management moderates the effect of CSR on tax aggressiveness.

H5. Risk management moderates the effect of tax aggressiveness on CSR.

2.6. Research framework

Figure 1 shows the research framework used in this study.

3. Research design

3.1. Sample and data description

The population used in this study is non-financial firms listed in Indonesia Stock Exchange (IDX) during the year 2013–2020, while the samples were chosen by using criteria (Table 1). The CSR data were collected by using document review techniques. Financial data were collected from Thomson Reuters Datastream, while risk management, CSR, and tax aggressiveness-related data were collected by content analysis from firms' annual report and sustainability report.

This research paper uses an empirical approach. The secondary data were first analyzed using Hausman's specification error test to decide whether there is a simultaneous relationship between Equations 1 and 2. If the result of Hausman's specification error test shows that there is a simultaneous relationship among CSR and Tax aggressiveness, the data are then analyzed using 2sls method. The ordinary least square is biased and inconsistent in estimating the simultaneous equation.

Figure 1. Research framework.

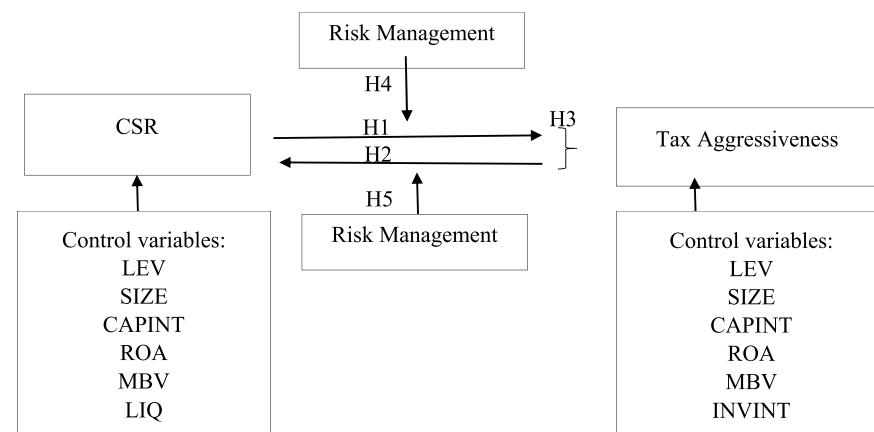


Table 1. Sampling criteria

Criteria	Number of samples
Nonfinancial firms 2013–2020	925
Unbalanced sample elimination	(325)
Firms with no financial statement	(56)
Reporting currency other than IDR	(88)
Annual report could not be read by NVivo software	(8)
Firms with negative Effective Tax Rate (ETR) because they had distorted meaning (Pratiwi & Djakman, 2017)	(120)
Total number of samples	328

3.2. Regression Models

Equations 1 and 2 show that the research model refers to Davis et al. (2016) with adjustment in control variable. Equation 1 is used to test the 1st and 4th hypotheses, while Equation 2 is used to test the 2nd and 5th hypotheses. The 3rd hypothesis is tested using Durbin Wu Hausman Specification Test to check whether there is a simultaneous relationship between CSR and tax aggressiveness.

$$TA_{i,t} = \alpha + \beta_1 CSR_{i,t} + \beta_2 RM_{i,t} + \beta_3 CSR * RM_{i,t} + \beta_4 LEV_{i,t} + \beta_5 SIZE_{i,t} + \beta_6 CAPINT_{i,t} + \beta_7 ROA_{i,t} + \beta_8 MBV_{i,t} + \beta_9 INVINT_{i,t} + \varepsilon_{i,t} \quad (1)$$

$$CSR_{i,t} = \alpha + \beta_1 TA_{i,t} + \beta_2 RM_{i,t} + \beta_3 TA * RM_{i,t} + \beta_4 LEV_{i,t} + \beta_5 SIZE_{i,t} + \beta_6 CAPINT_{i,t} + \beta_7 ROA_{i,t} + \beta_8 MBV_{i,t} + \beta_9 LIQ_{i,t} + \varepsilon_{i,t} \quad (2)$$

3.3. Durbin wu Hausman specification test

Durbin Wu Hausman's specification test is used to check whether there is a simultaneous relationship between tax aggressiveness and CSR (Ghozali, 2009).

3.4. Measurement of variables

Tax aggressiveness in this study is measured by the Book Tax Difference (BTD) in the form of Total BTD and Permanent BTD. BTD is considered to provide better information about a company's tax aggressiveness. BTD is measured by the difference in profit according to accounting standards and tax law. BTD is believed to provide better tax aggressiveness information than Effective Tax Rate (ETR). BTD was used by Chen et al. (2010) and Hanlon and Heitzman (2010).

This study uses the Total BTD referred by Comprix et al. (2011). BTD is calculated by subtracting income before tax based on accounting from the estimated taxable income on a fiscal basis. This method was chosen because it is simple but still gives consistent results (Chen et al., 2010) compared to other more advanced methods such as BTD measurement by Tang and Firth (2012).

The following is the formula of total BTD refers to Comprix et al. (2011):

$$BTD_{i,t} = BI_{i,t} - \frac{CTE_{i,t}}{STR_t} \quad (3)$$

$BTD_{i,t}$ = Total book tax difference, the difference between earnings before tax in the financial statements and taxable income.

$BI_{i,t}$ = Accounting income or pretax book income

$CTE_{i,t}$ = Current Tax Expenses

STR_t = Statutory Tax Rate (income tax rate)

Furthermore, this study also uses Permanent BTM using the following formula (Manzon & Plezko; 2002):

$$Permanent\ BTM_{i,t} = BI_{i,t} - \frac{CTE_{i,t}}{STR_t} - \frac{DTE_{i,t}}{STR_t} \quad (4)$$

$Permanent\ BTM_{i,t}$ = Permanent book tax difference

$BI_{i,t}$ = Accounting income or pretax book income

$CTE_{i,t}$ = Current Tax Expenses

STR_t = Statutory Tax Rate (income tax rate)

$DTE_{i,t}$ = Deferred Tax Expenses

CSR is measured using the percentage of CSR disclosure coverage captured by NVivo software. CSR disclosure coverage shows the percentage number of word (keyword) discussed about CSR compared with total number of words in companies' annual report and sustainability report. The keywords related to CSR are sourced from Global Reporting Initiatives Generation 4 (GRI G4) guidelines, referred to Pencle and Malaescu (2016) and Verbeeten et al. (2016), which are adjusted with Indonesia's condition. Percentage of keyword coverage is the percentage of keywords disclosed divided by the number of words in the annual report and/or sustainability report.

$$Percentage\ of\ keyword\ coverage = \frac{number\ or\ keywords}{number\ of\ words} \times 100\% \quad (5)$$

The moderating variable in this study is risk management. Referring to Richardson et al. (2013), this study uses a dummy variable 1 if the company states that an effective risk management system has been implemented in all material respects in its annual report.

The control variables used in examining the effect of CSR on tax aggressiveness are leverage (LEV), company size (SIZE), capital intensity (CAPINT), Return on Asset (ROA), Market to Book Value (MBV), and Inventory intensity (INVINT). Based on previous research, these variables influence tax aggressiveness so that they are used as control variables in the model.

Leverage (LEV) is predicted to have a positive effect on tax aggressiveness, because the higher the company's debt to total assets, the higher the interest rate, which can be a deduction for corporate taxable income so that the tax paid will be smaller (Gupta & Newberry, 1997). Large firm size (SIZE) has a greater incentive to practice tax aggressiveness because there are more political and economic powers than small companies. SIZE is predicted to have a positive effect on tax aggressiveness. Companies with high fixed assets (CAPINT) will also have high BTM. This is possible because of differences in depreciation expenses according to accounting and taxes (Chen et al., 2010). Companies with high profitability (ROA) tend to have more incentives to be tax aggressive to reduce their tax burden. Market to Book Value (MBV) is a proxy for the company's growth. Growing companies will not care about the problem of paying taxes so that they do not focus on tax efficiency efforts to reduce or delay tax payments (Phillips, 2003). Companies with high inventory turnover (INVINT) tend to be not aggressive.

The control variables used in examining the effect of tax aggressiveness on CSR are leverage (LEV), company size (SIZE), capital intensity (CAPINT), Return on Asset (ROA), Market to Book Value

Table 2. Variable definition and operationalization

Variable	Definition and operationalization
$TA_{i,t}$	Tax aggressiveness, proxies: (1) Total BTB (Comprix et al., 2011) (2) Permanent BTB (Manzon & Plesko; 2002)
$CSR_{i,t}$	Corporate Social Responsibility measured by using Nvivo query result.
$RM_{i,t}$	Risk management, dummy variable 1 if companies stated that risk management system has been effectively conducted in all material respect in their annual report, 0 otherwise (Richardson et al., 2013).
$LEV_{i,t}$	Leverage, total debt divided by total asset
$SIZE_{i,t}$	Company size, natural logarithm of total asset
$CAPINT_{i,t}$	Capital intensity: property plant and equipment divided by total asset
$ROA_{i,t}$	Return on asset: net income divided by total asset
$MBV_{i,t}$	Market to book value ratio
$INVINT_{i,t}$	Inventory intensity: inventory divided by total asset
$LIQ_{i,t}$	Cash divided by total asset

(MBV), and liquidity (LIQ). Based on previous research, these variables influence tax aggressiveness so that they are used as control variables in the model.

Companies that have high leverage (LEV) are expected to have better CSR to meet the expectations and supervision of stakeholders, especially creditors (Brammer & Millington, 2005). Companies with high company size (SIZE) have high political costs to be supervised so that large companies are expected to carry out more CSR (Lanis & Richardson, 2013). Companies with high capital intensity (CAPINT) have a higher public exposure, which encourages companies to carry out CSR (Lanis & Richardson, 2013). Companies with high profitability/Return on Assets (ROA) have more flexibility in managing their finances, so they have more resources to use in CSR (Gantowati & Agustine, 2017). Market to Book Value (MBV) is used to control for firms' growth. Growth corporations have greater information asymmetry between management and investors and agency cost, so they are expected to disclose more CSR information (Gaver & Gaver, 1993). The more liquid (LIQ) the company will have good CSR reporting because there are more funds available to carry out CSR reporting (Gandullia & Pisera, 2019). Table 2 shows the definition and operationalization of variables used in this study.

4. Empirical results and discussions

4.1. Descriptive statistics

Table 3 shows the descriptive statistical results of the data. The mean value of CSR is 0.0500 and the maximum value is 0.1957. The maximum value of 0.1957 means that a sample has a CSR disclosure score of 19.57% in its annual report and/or sustainability report. The mean value of BTB and PermBTB are -0.0109 and -0.0100. The negative value of BTB and PermBTB indicate that taxable income is greater than pre-tax book income (accounting income). This happens due to some reconciling items because of the difference between accounting standards and taxation rules.

Regarding firm characteristics, Table 3 reports that the mean value of leverage (LEV) is 0.1475 means that the proportion of debt to the total asset of firms is 14.75%. The mean value of return on assets (ROA) is 0.1044, suggesting that, on average, firms incurred a profit of about 10.44% of the total assets in the sample periods.

Table 3. Descriptive statistical analysis result

Variable	Mean	Std. Dev.	Min	Max
CSR	0.0500	0.0401	0.0000	0.1957
TA (BTD)	-0.0109	0.0438	-0.1939	0.3955
TA (PERMBTD)	-0.0100	0.0455	-0.1965	0.4051
LEV	0.1475	0.1544	0.0000	0.6122
SIZE	28.9774	1.7294	25.6195	33.4945
CAPINT	0.3453	0.1632	0.0177	0.8372
ROA	0.1044	0.0967	-0.2188	0.4320
MBV	3.5308	4.7411	0.0449	50.2237
INVINT	0.2194	0.1341	0.0141	0.6225
LIQ	0.1296	0.1194	0.0009	0.5058
Variable	% no. of sample with RM =1		% no. of sample with RM =0	
RM (dummy variable)	42.07%		57.93%	

Source: Stata Output, 2021.

Table 4 presents the Pearson correlation matrix. There is a high level of correlation among the interaction of CSR and risk management with CSR variable (0.75). This also happens in the correlation among the interaction of tax aggressiveness and risk management with tax aggressiveness variable (0.57 and 0.52). This multicollinearity problem is normal in the interaction term of the variable in testing the moderation effect. Other than these, there is no multicollinearity problem among independent variables.

The result of classic assumption test shows that the data is normal, free from multicollinearity, heteroscedasticity, and autocorrelation problem. Adjusted R square of equation 1 with BTD proxy is 0.1491 means that the variation of CSR can explain the variation of tax aggressiveness as much as 14.91%, while remains (85.09%) are caused by other variables. Adjusted R square of equation 2 with BTD proxy is 0.2193 means that the variation of tax aggressiveness can explain the variation of CSR as much as 21.93%, while remains (78.07%) are caused by other variables.

Adjusted R square of equation 1 with PERMBTD proxy is 0.1236 means that the variation of CSR can explain the variation of tax aggressiveness as much as 12.36%, while remains (87.64%) are caused by other variables. Adjusted R square of equation 2 with PermBTD proxy is 0.2097 means that the variation of tax aggressiveness can explain the variation of CSR as much as 20.97%, while remains (79.03%) are caused by other variables.

4.2. Panel regression result

4.2.1. Simultaneous relationship test

Based on the Durbin–Wu–Hausman (DWH) specification test, the results show that the predicted error is significant (significant at 0.002 ($p < 1\%$)). It means that there is a simultaneous relationship between CSR and tax aggressiveness. The models in equation 1 and 2 are then regressed using 2SLS with STATA software to examine the simultaneous relationship between tax aggressiveness and CSR. The results of panel data regression for equation 1 and 2 are shown in **Tables 5 and 6**. We reject the null hypothesis for the 3rd hypothesis because there is a simultaneous relationship between the CSR and tax aggressiveness according to the Durbin Wu Hausman (DWH) specification test.

4.2.2. 2SLS Regression

Table 5 shows the 2sls regression result of the equation using BTD as tax aggressiveness proxy.

Table 4. Pearson correlation

	CSR	TA (BTD)	TA (PERMBTD)	LEV	SIZE	CAPINT	ROA	MBV	INVINT	LIQ	RM	CSR*RM	BTD*RM	PERMBTD*RM
CSR	1.0000													
TA (BTD)	0.0266	1.0000												
TA (PERMBTD)	0.0384	0.8562	1.0000											
LEV	0.0530	-0.0535	-0.0644	1.0000										
SIZE	0.1891	0.0634	0.0722	0.0840	1.0000									
CAPINT	0.1400	0.0520	0.0001	0.1630	0.0506	1.0000								
ROA	0.1678	0.2409	0.1834	-0.3540	0.1809	0.0031	1.0000							
MBV	0.1682	0.3675	0.3382	-0.2055	0.1945	0.1018	0.6551	1.0000						
INVINT	-0.1057	-0.0746	-0.0499	0.1065	-0.1262	-0.3598	-0.0211	-0.0778	1.0000					
LIQ	-0.1026	0.0472	0.0605	-0.3480	-0.0482	-0.3183	0.1499	0.0095	-0.2400	1.0000				
RM	0.3406	-0.0326	-0.0034	0.0787	0.3580	0.1011	0.0281	0.0357	-0.1350	-0.0875	1.0000			
CSR*RM	0.7520	0.0425	0.0578	0.0993	0.3514	0.1192	0.0859	0.1471	-0.1168	-0.1302	0.7390	1.0000		
BTD*RM	0.0420	0.5730	0.5105	-0.0245	-0.0033	-0.0194	-0.0023	-0.0332	0.0097	0.0446	-0.2368	-0.0637	1.0000	
PERMBTD*RM	0.0486	0.5220	0.5716	-0.0590	-0.0048	-0.0585	0.0433	-0.0203	0.0214	0.0686	-0.1870	-0.0363	0.9058	1.0000

Source: Stata Output, 2021.

Table 5. Regression result of equation using BTD as tax aggressiveness proxy

Variables	Dependent: TA (BTD)			Variables	Predicted sign	Dependent: CSR	
	Predicted sign	Coefficient	Prob.			Coefficient	Prob.
CSR	-	-5.6095	0.0010***	TA	-	-0.3278	0.0005***
RM	-	-0.2201	0.0015***	RM	+	0.0327	0.0000***
CSR*RM	+	5.6490	0.0010***	TA * RM	+	0.7114	0.0000***
LEV	+	0.0360	0.2510	LEV	+	0.0199	0.0885*
SIZE	+	-0.0069	0.0920*	SIZE	+	0.0006	0.3240
CAPINT	+	0.0670	0.1085	CAPINT	+	0.0139	0.1440
ROA	+	0.3430	0.0120**	ROA	+	0.0617	0.0165**
MBV	-	0.0002	0.4660	MBV	+	0.0012	0.0320**
INVINT	-	-0.0744	0.1170	LIQ	+	-0.0214	0.1270
N	328						

***significance at 1%, **significance at 5%, *significance at 10%.

4.2.3. *The effect of CSR on tax aggressiveness*

Based on Table 5, we can conclude that CSR negatively affects tax aggressiveness. This result is consistent with corporate culture theory, which states that a company with a high level of CSR will have a low level of tax aggressiveness. Corporate culture theory suggests that if the government is also considered as part of stakeholders, then tax aggressiveness should be inconsistent with CSR. Therefore, if corporate culture drives corporate decisions, then socially responsible companies have a low level of tax aggressiveness.

Firms with high level of CSR disclosures are assumed to have higher CSR activities. Firms that have bigger awareness with their social and environment responsibility will have low-level tax aggressiveness. This happens because they believe that the tax aggressiveness is unethical and irresponsible activities that can harm society as one of their stakeholders. Companies that are aware of their community and environment (higher CSR activities or disclosure) should not be involved in activities that may have negative consequences for society (tax aggressiveness). Socially responsible companies have a low level of tax aggressiveness.

This result is in line with Garriga and Mele (2004), Lanis and Richardson (2015), Bozzolan et al. (2015), and Col and Patel (2016), and Hoi et al. (2013), Qodraturassyid (2017), Karthikeyan and Jain (2017), Shafer and Simmons (2008), and Zeng (2012).

4.2.4. *The effect of tax aggressiveness on CSR*

Table 5 shows that tax aggressiveness negatively affects CSR. The result of this study is consistent with Zeng (2016) which concludes that there is a negative relationship between tax aggressiveness and CSR. It means that paying more tax contributes to a higher overall CSR ranking. This study is in line with corporate culture theory. If corporate culture drives corporate decisions, then firms with high-level tax aggressiveness will have low-level CSR. Firms with a strong belief in “right” corporate behavior make all the decisions of the firm, including decisions on CSR and tax avoidance activities, based on the shared belief. Companies should not be involved in activities that may have negative consequences for society.

Companies that are doing aggressive tax planning (high level of tax aggressiveness) will have low-level CSR activities that showed in their CSR disclosure. Tax-aggressive companies will do any effort to minimize tax, whether it is legal or illegal. This action is inconsistent with CSR according to corporate culture theory, which suggests that all the decisions of the firms should reflect the shared belief (“right” corporate behavior).

Companies with low-level tax aggressiveness have higher awareness to the society because they believe that the tax paid to the government will benefit society. This condition makes companies more responsible to their environment and society. Companies with low level of tax aggressiveness should not be involved in activities that may have negative consequences for society.

This result implies that firms in Indonesia disclose CSR to give information to their stakeholders, not to cover up the unethical actions of firms such as tax aggressiveness. Firms in Indonesia do not use CSR as a tool to maintain its legitimacy to alleviate such public concern related to tax aggressiveness or to show that it is fulfilling its obligations to the community. This result does not support Lanis and Richardson (2013) and Davis et al. (2016) who concluded that CSR is positively related to tax aggressiveness.

4.2.5. *The moderation role of risk management in the effect of CSR on tax aggressiveness*

Risk management can moderate the effect of CSR on tax aggressiveness. Risk management is proven to strengthen the negative effect of CSR on tax aggressiveness. The risk management system in the company can ensure that the CSR conducted by the company is responsible activity, not a formality to cover up another negative image. It is also ensured that CSR

Table 6. Regression result of equation using permBTD as tax aggressiveness proxy

		Dependent: TA (PermBTD)				Dependent: CSR		
Variables	Predicted sign	Coefficient	Prob.	Variables	Predicted sign	Coefficient	Prob.	
CSR	-	-7.6492	0.0190**	TA	-	-0.2673	0.0060***	
RM	-	-0.2942	0.0195**	RM	+	0.0311	0.0000***	
CSR*RM	+	7.6865	0.0190**	TA * RM	+	0.6460	0.0000***	
LEV	+	0.0351	0.3170	LEV	+	0.0178	0.1155	
SIZE	+	-0.0089	0.1245	SIZE	+	0.0007	0.2865	
CAPINT	+	0.0793	0.1635	CAPINT	+	0.0157	0.1165	
ROA	+	0.4232	0.0535*	ROA	+	0.0555	0.0290**	
MBV	-	-0.0006	0.4350	MBV	+	0.0010	0.0645*	
INVINT	-	-0.0887	0.1590	LIQ	+	-0.0219	0.1235	
N	328							

***significance at 1%, **significance at 5%, *significance at 10%.

disclosure by the company is presented as actually happened. The implementation of a risk management system makes companies have higher-quality CSR reporting and tax obligation fulfillment. When the companies have reliable CSR activities and CSR disclosure, they will have lower level of tax aggressiveness. This result is in line with the research of Qodraturassyid (2017).

4.2.6. *The moderation role of risk management in the effect of tax aggressiveness on CSR*

Based on Table 5, risk management moderates the effect of tax aggressiveness on CSR. Risk management strengthens the negative effect of tax aggressiveness on CSR. The effect of tax aggressiveness on CSR is strengthened by the effective risk management. This result is consistent with the alternative hypothesis. Companies with effective risk management systems believe that CSR and tax payments are ethical actions that benefit all stakeholders. Companies with more effective risk management systems tend not to be involved in financial reporting fraud, for example, management is not being optimistic by choosing CSR based solely on income tax deduction aspects. With the implementation of a comprehensive risk management system, the CSR reporting and tax obligation fulfillment will be conducted in an ethical manner and high quality. CSR is not used by the company to cover up negative image after doing tax-aggressive activity as studied by Lanis and Richardson (2013) and Davis et al. (2016).

4.2.7. *Control variable*

Based on Table 5, the control variables of LEV, CAPINT, MBV, and INVINT have no effect on tax aggressiveness. SIZE has a negative significant effect on tax aggressiveness. This result is inconsistent with previous study which concludes that bigger firms have a greater incentive to practice tax aggressiveness because there are more political and economic powers than small companies. ROA positively affects tax aggressiveness. Highly profitable firms have higher incentives to do tax aggressiveness to minimize their tax burden.

Based on Table 5, SIZE, CAPINT, and LIQ have no effect on tax aggressiveness. However, leverage positively affects tax aggressiveness. High-levered companies have better CSR to meet the expectations of creditors. ROA and MBV are proved to positively affect CSR. Companies with high profitability (ROA) have more resources to use in CSR because of their flexibility in managing finances (Gantayowati & Agustine, 2017). Higher growth corporations (higher MBV) have greater information asymmetry, so they are expected to disclose more CSR information (Gaver & Gaver, 1993).

Table 6 shows the 2sls regression result of the equation using PermBTD as tax aggressiveness proxy. Table 6 shows the similar result with Table 5, where CSR negatively affects tax aggressiveness and tax aggressiveness negatively affects CSR. Risk management can moderate the effect of CSR on tax aggressiveness and moderate the effect of tax aggressiveness on

Table 7. Summary of hypothesis testing

Alternative hypothesis	Result
H1. CSR has a negative effect on tax aggressiveness.	Reject null hypothesis
H2. Tax aggressiveness has a negative effect on CSR.	Reject null hypothesis
H3. There is a simultaneous relationship between CSR and tax aggressiveness.	Reject null hypothesis
H4. Risk management moderates the effect of CSR on tax aggressiveness.	Reject null hypothesis
H5. Risk management moderates the effect of tax aggressiveness on CSR.	Reject null hypothesis

CSR. We can conclude that tax aggressiveness measurement using BTM and PermBTM gives similar regression result.

Table 7 shows the summary of hypothesis acceptance and rejection. We reject all the null hypotheses.

5. Conclusion

The result of this study shows that CSR negatively affects tax aggressiveness, while risk management strengthens the effect of CSR on tax aggressiveness. This study also concludes that tax aggressiveness negatively affects CSR, while risk management can strengthen this negative effect. Overall, there is a simultaneous relationship between tax aggressiveness and CSR. Tax-aggressive firms will have low-level CSR disclosure. Paying more tax contributes to a higher overall CSR disclosure. Companies with effective risk management systems believe that CSR and tax payments are ethical actions that benefit all stakeholders. With the implementation of a comprehensive risk management system, the CSR reporting and tax obligation fulfillment will be conducted in an ethical manner and high quality.

This paper has a limitation in terms of CSR measurement which solely uses CSR disclosure in annual reports and sustainability reports which are not audited as other financial information. This paper is conducted in Indonesia as one of emerging market in Southeast Asia. The result may not be comparable to other studies in countries with different institutional conditions using different measurement and data source. Risk management in this study is measured using dummy variables, and further studies can use content analysis so that it shows more comprehensive measurement.

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Author details

Ain Hajawiyah¹
 E-mail: ainhajawiyah@mail.unnes.ac.id
 ORCID ID: <http://orcid.org/0000-0002-3374-1871>
 Kiswanto Kiswanto¹
 E-mail: kiswanto@mail.unnes.ac.id
 Trisni Suryarini¹
 E-mail: trisnisuryarini@mail.unnes.ac.id
 Heri Yanto¹
 E-mail: heri.yanto@mail.unnes.ac.id
 Atta Putra Harjanto¹
 E-mail: attaputra99@mail.unnes.ac.id
¹ Universitas Negeri Semarang, Semarang, Indonesia.

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