Radboud Universiteit

Exploring corporate social irresponsibility: The influence of institutions on tax optimization

A quantitative study on firms' irresponsible behavior in the area of taxes

Lotte van Huijkelom
S1122843

Supervisor: dr. J.R.O. Bartosch (Julia)
2nd examiner: dr. S. Schembera (Stefan)

Abstract

This study investigates the institutional antecedents of corporate social irresponsibility (CSiR) in the area of taxes. While corporate social responsibility (CSR) has been widely explored, both through agency and institutional lenses, the CSiR literature remains underdeveloped and focuses on agency-based explanations. A panel data analysis was conducted using data from firms that ever had at least one irresponsible incident and were headquartered in the European Union (EU) during the period 2015-2020 to examine whether corporate tax rates influence firms' engagement in tax optimization, and whether this relationship is moderated by CSR activities.

The findings show no evidence that higher corporate tax rates are associated with more tax optimization. In fact, the findings provide some evidence, although not robust across all models, for a negative relationship between corporate tax rates and tax optimization. Moreover, limited and non-robust support is found for CSR as a positive moderating factor. These findings imply that potential reputational costs may outweigh financial benefits, and that firms may use CSR activities to mitigate the reputational risks associated with tax optimization, supporting the risk-management perspective. This study contributes to the CSiR literature by investigating the institutional antecedents of CSiR in a previously unexplored area and by exploring tax optimization as a CSiR issue.

Keywords: Corporate social irresponsibility (CSiR), Corporate social responsibility (CSR), Tax optimization, Corporate tax rates, Institutional theory

Table of Contents

1. Introduction

Corporate social irresponsibility (CSiR), such as human rights violations and environmental harm, has become an increasingly relevant topic in academic and practitioner discussions over the past decade (Iborra & Riera, 2023). Notable cases of CSiR include the Volkswagen emissions scandal and the Rana Plaza disaster (Bartosch & Raab, 2022). However, despite this growing attention, research on CSiR remains limited and underexplored compared to the literature on corporate social responsibility (CSR) (Iborra & Riera, 2023). In particular, whereas there has been balanced research of agency and institutional explanations in the CSR literature, the CSiR literature has focused primarily on agency-driven explanations (Walker et al., 2019). Given this imbalance, numerous authors have examined the role of institutional factors in shaping CSR and provided important insights (e.g., Campbell, 2007; Jackson & Bartosch, 2016; Walker et al., 2019), while research regarding the influence of institutions on CSiR is limited (e.g, Iborra & Riera, 2023; Walker et al., 2019). Since institutional factors have provided valuable insights into CSR, this imbalance highlights a critical gap and the need for further investigation into the institutional antecedents of CSiR.

CSiR and CSR occur in several areas. One area that has received growing attention over the past decade is taxes. Governments are increasingly expressing concern about how and where tax revenues are generated and debating how to change regulations to ensure that firms pay their 'fair share'. Moreover, media and customers are paying more and more attention to firms' tax behavior. The case of Starbucks exemplifies this focus and the tensions surrounding corporate tax behavior. In 2013, Starbucks was widely criticized for its legal tax avoidance practices, which occurred particularly between 2010 and 2012. Due to these practices, Starbucks did not pay income tax on £1.1 billion of sales in the U.K. Even though these practices were legal, Starbucks received widespread media criticism and was threatened by a customer boycott. In response, Starbucks acknowledged its conduct and voluntarily paid tax on its sales in the U.K. (Baudot et al., 2019). Cases like Starbucks demonstrate that society often perceives tax avoidance behavior as irresponsible, even when they are legal.

Tax avoidance is the reduction of taxes and can be represented as a continuum of tax planning strategies, with at one end legal strategies, such as tax optimization, and at the other end illegal strategies, such as tax evasion (Hanlon & Heitzman, 2010). Since tax optimization, defined in this study as minimizing the amount of taxes paid through legal means, is legal,

there is an ongoing discussion in the academic literature whether tax optimization is considered as CSiR (Baudot et al., 2019; Dowling, 2014; Preuss, 2012; Wang et al., 2020). However, several researchers have underscored the significant negative consequences of tax optimization on society as taxes have a critical role in supporting society (Christensen & Murphy, 2004; Devinney, 2009; Dowling, 2014; Lanis & Richardson, 2012, 2015).

This study aligns with Clark et al. (2022) and Lin-Hi and Müller (2013) in defining CSiR as any business action that causes or has the potential to cause disadvantages and/or harm to others. Applying this definition, tax optimization is clearly a CSiR issue due to its significant negative societal consequences. However, research to date has focused on whether contributing the equitable proportion of taxes is a CSR issue (e.g., Baudot et al., 2019; Christensen & Murphy, 2004; Lanis & Richardson, 2012, 2015).

To address the gaps in current research, this study investigates the relationship between institutional factors and CSiR in the context of tax and thereby explore tax optimization in the context of CSiR and CSiR in greater depth. The research question guiding this study is as follows: *How does the corporate tax rate in a country influence firms' engagement in tax optimization, and to what extent is this relationship moderated by the level of CSR activities in a firm?* To investigate this research question, a panel data analysis was employed using data from firms that ever had at least one irresponsible incident and were headquartered in the European Union (EU) during the period 2015-2020.

By examining this research question, this study contributes to related literature in several ways. First, it advances the understanding of CSiR and contributes to the sparse CSiR literature by investigating the influence of institutions, a relatively underexplored antecedent (Iborra & Riera, 2023; Walker et al., 2019), and by treating CSiR as an autonomous construct in studying this. Most studies on the relationship between institutions and CSiR have examined it in the context of CSR, treating CSiR as its opposite (Amaeshi et al., 2016; Campbell, 2007; Windsor, 2013). However, several scholars argue that CSiR should be studied as an autonomous construct (e.g., Clark et al., 2022; Keig et al., 2015; Walker et al., 2019). Second, by focusing on the influence of tax regulations on tax optimization, this study investigates the relationship between institutions and CSiR in a previously unexplored area and responds to Kim and Lee 's (2021) call for research on tax optimization in different institutional contexts. Third, this study fills a gap in the literature by researching tax

optimization in the context of CSiR. Research to date has focused on whether contributing the equitable proportion of taxes is a CSR issue (e.g., Baudot et al., 2019; Christensen & Murphy, 2004; Lanis & Richardson, 2012, 2015). But, given the significant negative consequences tax optimization has on society (Christensen & Murphy, 2004; Devinney, 2009; Dowling, 2014; Lanis & Richardson, 2012, 2015), it is clearly a CSiR issue and should be studied in the context of CSiR. Finally, this study uses RepRisk ratings to measure tax optimization, providing a more objective and specific methodology than previous studies. Prior research has focused on examining tax avoidance instead of tax optimization and has used measures derived from firms' financial statements to measure it. However, there are numerous issues in calculating estimates of taxable income based on financial statements (Hanlon & Heitzman, 2010; Lanis & Richardson, 2015). Moreover, these measures cover all forms of tax planning strategies, i.e. both legal and illegal strategies, and it is not possible to make a distinction with these measures. By using RepRisk ratings, this study uses more objective measurements and specifically studies tax optimization instead of the broader tax avoidance.

The remainder of this study is organized as follows. Chapter 2 reviews the relevant literature and develops the hypotheses. Then, Chapter 3 describes the methodology, including data collection, data analysis, and research ethics. Next, Chapter 4 presents and analyses the results. Finally, Chapter 5 provides the discussion consisting of the conclusion, implications, limitations, and directions for further research.

2. Theoretical Background

2.1 CSiR, its relationship with CSR, and tax optimization

Over the years, more definitions of CSiR have evolved (e.g., Campbell, 2007; Jones et al., 2009; Lin-Hi & Müller, 2013; Riera & Iborra, 2017; Tench et al., 2012). An important aspect of the concept of CSiR is the various ways in which CSiR is viewed by different scholars (Clark et al., 2022; Iborra & Riera, 2023; Lin-Hi & Müller, 2013). Some scholars argue that CSiR and CSR are opposing forces in a systemic whole and can be viewed as a continuum (Campbell, 2007; Tench et al., 2012). In contrast, other scholars stress that CSiR should be defined as an autonomous construct. Jones et al. (2009) were among the first to highlight the importance of distinguishing between the concept of CSiR and the concept of CSR. They argue that separating CSiR from CSR is important to better understand the concepts, their meaning, nature and purpose (Jones et al., 2009). Subsequent scholars have echoed this view, arguing that CSiR is an autonomous concept separate from CSR and underscoring the importance of examining it independently (Clark et al., 2022; Keig et al., 2015; Lange & Washburn, 2012; Walker et al., 2019). Since this study aims to explore CSiR in greater depth, CSiR is defined as an autonomous construct. The concept of CSiR has been addressed in two literature reviews, both of which identify harm as the key feature (Clark et al., 2022; Lin-Hi & Müller, 2013). Lin-Hi and Müller (2013) argue that CSiR encompasses causing harm to other actors, including harm caused while firms operate within legal boundaries. Similarly, Clark et al. (2022) emphasize that firms engage in CSiR even when the harm caused is unintentional and subsequently rectified. In alignment with Clark et al. (2022) and Lin-Hi and Müller (2013), this study defines CSiR as any business action that causes or has the potential to cause disadvantages and/or harm to other actors.

Although CSR and CSiR are distinct constructs, several authors argue that there is a relationship between these constructs (Z. Chen et al., 2020; DesJardine & Durand, 2020; Janney & Gove, 2011; Nardella et al., 2020; Zhang et al., 2023). Research on this relationship, however, presents varied findings (Zhang et al., 2023). Some studies suggest that firms with prior CSR generally experience buffering effects during instances of irresponsible behavior, as stakeholders view their motives as more genuine and are less likely to perceive corporate hypocrisy. However, this buffering effect weakens when CSR and CSiR occur within the same domain (Z. Chen et al., 2020; Janney & Gove, 2011). In contrast, other studies suggest that a firm's prior CSR may exacerbate adverse reactions toward CSiR by

creating the impression of hypocrisy and mistrust (DesJardine & Durand, 2020; Nardella et al., 2020). Moreover, Zhang et al. (2023) underscore the importance of two factors in shaping perceptions and reactions to CSiR, whether prior CSR and CSiR occur in the same domain and whether the wrongdoing is perceived as intentional or unintentional.

CSiR can occur in many different areas. This study focuses on researching CSiR in the area of taxes. Within this area, the terms tax evasion and tax optimization can be distinguished. In the academic literature, tax evasion is widely considered as a CSiR issue since it is an illegal activity (Dowling, 2014; Huseynov & Klamm, 2012; Jones et al., 2009; Lin-Hi & Müller, 2013; Riera & Iborra, 2017; Tench et al., 2012). However, in contrast to tax evasion, tax optimization is legal, causing discussion in the academic literature whether it is considered as a CSiR issue (Baudot et al., 2019; Dowling, 2014; Preuss, 2012; Wang et al., 2020). Prior research has focused on examining the umbrella term tax avoidance and defined it broadly as the reduction of taxes (Abdelfattah & Aboud, 2020; Atwood et al., 2012; Wang et al., 2020). According to Hanlon and Heitzman (2010), tax avoidance can be represented as a continuum of tax planning strategies, with legal strategies at one end, and illegal strategies at the other end. In line with Hanlon and Heitzman (2010) and Dowling (2014), tax optimization is defined in this study as minimizing the amount of taxes paid through legal means.

Christensen and Murphy (2004) underscore the critical role of taxes in supporting society and highlight the social costs of tax optimization. They argue that tax contributions are the most fundamental way in which firms engage with society, as tax revenues sustain the social contract, making tax payments the most significant and tangible aspect of firms' corporate citizenship. As a result, tax optimization shifts the tax burden to other taxpayers, such as individuals and consumers (Christensen & Murphy, 2004). Similarly, Lanis and Richardson (2012, 2015) assert that contributing taxes has a significant role in society because taxes play a vital role in funding essential public resources. Therefore, tax optimization negatively impacts society by reducing the resources available for essential public resources (Lanis & Richardson, 2012, 2015). Other scholars have also highlighted the significant societal costs of tax optimization (Devinney, 2009; Dowling, 2014; Huseynov & Klamm, 2012; Sikka, 2010). Given its significant negative consequences on society and the previously discussed definition of CSiR, tax optimization is clearly a CSiR issue. Nevertheless, prior research has focused on whether contributing the equitable proportion of taxes is a CSR issue (Baudot et al., 2019; Christensen & Murphy, 2004; Devinney, 2009; Huseynov & Klamm, 2012; Lanis &

Richardson, 2012, 2015; Sikka, 2010). This study addresses this gap in the literature by researching tax optimization as a CSiR issue.

2.2 CSiR and the institutional context

Firms exist within larger social frameworks, which consist of a variety of institutions that have a substantial impact on firms' decision-making, as institutional theory has long proven (Campbell, 2007; Ioannou & Serafeim, 2012; Jackson & Apostolakou, 2010; North, 1990). However, while the impact of institutions on CSR has already been studied by a number of authors (Aguilera et al., 2007; Campbell, 2007; Ioannou & Serafeim, 2012; Jackson & Apostolakou, 2010; Jackson & Bartosch, 2016; Matten & Moon, 2008; Walker et al., 2019), research regarding the impact of institutions on CSiR is limited (Iborra & Riera, 2023; Keig et al., 2015; Lange & Washburn, 2012; Walker et al., 2019; Wu, 2014).

Most studies investigating the impact of institutions on CSiR have focused on how various external forces constrain CSR and thereby increase the likelihood of CSiR (Amaeshi et al., 2016; Campbell, 2007; Windsor, 2013). Yet, since CSiR is an autonomous construct separate from CSR, it should be examined independently (Walker et al., 2019). Wu (2014) was the first to explore the external antecedents of CSiR, with government corruption as one of the key antecedents. Wu (2014) found a positive correlation between the degree of corruption in local government and firms' CSiR, concluding that government corruption encourages firms to engage in CSiR. Similarly, Keig et al. (2015) investigated the influence of government corruption on the corporate behavior of multinational enterprises (MNE) and found that both formal and informal corruption environments are associated with an increased likelihood of CSiR. Both studies thus found a positive relationship between government corruption and CSiR. Walker et al. (2019) also examined institutional influences on CSiR, focusing on institutional pressures through the varieties of capitalism (VoC) framework. They found that the institutional environment has a significant impact on CSiR, with firms' behavior reflecting this environment. Recently, Gerged et al. (2024) highlighted the role of institutional quality in affecting corporate conduct and underscored the importance of the institution.

In conclusion, while the effect of institutions on CSR has been widely studied, little research has been done on how various institutions affect CSiR, despite the fact that institutions seem to have a significant influence on it. Moreover, the studies that have been done mostly examined CSiR in the context of CSR, treating CSiR as its opposite. This study contributes to

the CSiR literature by examining what drives the occurence CSiR, treating it as an autonomous construct. By focusing on the influence of tax regulations on tax optimization, this study investigates the influence of institutions on CSiR in a previously unexplored area and responds to Kim and Lee 's (2021) call for research on tax optimization in different institutional contexts.

2.3 CSiR and the instutitional context: The area of taxes

Institutions are the formal and informal rules of the environment in which firms operate (North, 1990). Jackson and Bartosch (2016) divided the institution into six components: corporate governance, interfirm relations, education, employment relations, civil society, and state activity, with the tax system as one of the indicators of state activity. State activity is defined as the extent and type of the state's institutionalized participation in the economy (Jackson & Bartosch, 2016). According to Desai et al. (2007) the tax system consists of two components: the corporate tax rate and the level of tax enforcement. The level of tax enforcement refers to the enforcement of tax rules by governments and includes the likelihood of detection and imposition of penalties (Atwood et al., 2012). Although the tax system is crucial to corporate citizenship (Desai et al., 2007; Park et al., 2023), the relationship between corporate tax rates and tax optimization has not been studied to date.

Nevertheless, previous studies have examined the relationship between tax optimization and institutional components other than corporate tax rate. For example, some researchers investigated the impact of external markets on tax optimization (Edwards et al., 2016; Kubick et al., 2015; Kubick & Lockhart, 2016). Edwards et al. (2016) found a positive correlation between financial constraints and tax optimization, arguing that financially constrained firms seek more internal resources, citing tax savings as a key source. Similarly, Kubick and Lockhart (2016) observed that external labor market incentives positively influence tax optimization. In addition, research has been done on the role of external governance in tax optimization (Dyreng et al., 2016; Hope et al., 2013; Kanagaretnam et al., 2018; McGuire et al., 2012). For instance, public pressure has been found to negatively correlate with tax optimization (Dyreng et al., 2016; Hope et al., 2013). Moreover, media independence also negatively affects tax optimization, especially in countries with weak legal systems and less transparency in the information environment (Kanagaretnam et al., 2018). Furthermore, researchers investigated the impact of social relations on tax optimization (Brown & Drake, 2014; Hope et al., 2013; Kim & Lee, 2021). According to Brown and Drake (2014), board

links create opportunities for sharing knowledge about tax optimization, resulting in a positive relationship between having board links with low-tax firms and engaging in tax optimization. Additionally, Kim and Lee (2021) demonstrated a positive correlation between CEO's political relations and tax optimization. Lastly, Gao et al. (2019) researched the impact of local social contexts on tax optimization and found that firms in high-social-capital countries are less likely to engage in tax optimization, as strong social norms and expectations discourage unethical behavior. Conversely, in countries with low social capital, the pressure to conform to the norms and expectations is weaker, leading to more firms engaging in tax optimization. Yet, when firms face profit pressures, financial constraints, or equity risk incentives, the impact of social capital weakens, highlighting the complex interplay between social contexts, firm characteristics, and tax behavior (Gao et al., 2019).

Aforementioned studies have all investigated components of the institution other than state activity. However, some studies have examined the impact of state activity, particularly tax enforcement, on tax avoidance (Atwood et al., 2012; Desai et al., 2007; Hoopes et al., 2012). These studies found a negative correlation between tax enforcement and tax avoidance. Specifically, they argue that stronger tax enforcement increases the likelihood of detection and penalties, thereby reducing the incentive to engage in tax avoidance (Atwood et al., 2012; Desai et al., 2007; Hoopes et al., 2012). Similarly, other authors suggest that firms will balance the advantages of tax optimization against the potential disadvantages, such as reputational damage (Gao et al., 2019; Hanlon & Heitzman, 2010). Based on this reasoning, a positive correlation between corporate tax rates and tax optimization is expected, since the benefits of tax optimization increase with higher corporate tax rates. Moreover, a common tax optimization strategy involves transferring profits from countries with higher corporate tax rates to countries with lower corporate tax rates (Baudot et al., 2019; Dowling, 2014). Accordingly, this strenghtens the expectation of a positive correlation between corpoate tax rates and tax optimization. Thus, the first hypothesis is:

H1: The number of firms engaging in tax optimization is greater in countries with a higher corporate tax rate than in countries with a lower corporate tax rate.

As discussed earlier, the CSiR literature has shown a significant relationship between CSR and CSiR (Zhang et al., 2023). This relationship has also been examined in the area of taxes, revealing a significant correlation between CSR and tax optimization. However, the results on

how CSR affects tax optimization are varied (Hoi et al., 2013; Jemiolo & Farnsel, 2023; Marques et al., 2024; Rakia et al., 2024; Watson, 2015).

On the one hand, multiple researchers have identified a negative relationship between CSR and tax optimization, suggesting that firms with more CSR activities are less likely to engage in tax optimization (Du & Li, 2023; Hoi et al., 2013; Huang et al., 2017; Huseynov & Klamm, 2012; Lanis & Richardson, 2012, 2015; Lee, 2020; Watson, 2015). For example, Lanis and Richardson (2015) found that firms that score higher on CSR performance are less likely to engage in tax optimization. Similarly, Lee (2020) observed that firms that have their headquarters located in tax havens engage less in CSR than firms that have their headquarters located in the U.S. In addition, some studies researched the link between irresponsible CSR and tax optimization, finding that firms with higher levels of irresponsible CSR activities engage more in tax optimization (Hoi et al., 2013; Watson, 2015). The negative relationship between CSR activities and tax optimization can be explained from a corporate culture perspective, which emphasizes the role of shared beliefs within firms in influencing corporate behavior. This view suggests that firms will consistently behave ethically between CSR activities and tax practices (Du & Li, 2023; Hoi et al., 2013).

On the other hand, several studies have investigated a positive relationship between CSR activities and tax optimization, arguing that firms can engage in socially responsible behavior while simultaneously engaging in tax optimization (Abdelfattah & Aboud, 2020; Col & Patel, 2019; Davis et al., 2016; Landry et al., 2013; Mao, 2018). For example, Davis et al. (2016) researched how CSR activities relate to firms' cash effective tax rates, a common measure of firms' tax payments relative to their income, and found that firms with greater CSR involvement generally have lower cash effective tax rates, suggesting greater engagement in tax optimization. Similarly, Mao (2018) found that firms engaging in CSR activities tend to have lower cash effective tax rates than firms that do not engage in CSR activities, indicating a substitutive relation between CSR activities and tax payments. Additionally, Col and Patel (2019) found that firms' CSR activities increased substantially after establishing offshore subsidiaries in tax havens, a strategy commonly associated with tax optimization. These findings align with a risk-management perspective, which proposes that firms use CSR activities to mitigate the reputational risks associated with tax optimization (Hoi et al., 2013; Jemiolo & Farnsel, 2023; Mao, 2018).

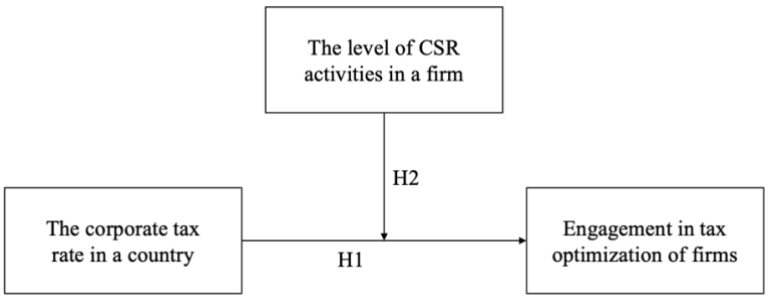
Abovementioned studies either focused on a specific country, such as the U.S., China, Canada, or Egypt, or on the BRICS countries in examining the relationship between CSR and tax optimization. As opposed to these country-specific studies, this study takes a cross-country approach and assumes that institutional differences have an impact. Therefore, Zeng (2019) is followed here. Zeng (2019) examined the relationship between CSR and tax optimization in an international setting and underscore the importance of institutional differences. According to Zeng (2019), both CSR and tax optimization, as well as their relationship, are influenced by the institutional context of a country. Zeng (2019) found strong evidence that CSR and tax optimization are positively correlated, suggesting that firms with higher levels of CSR activities tend to engage more in tax optimization. Thus, based on the results of the comprehensive understanding of Zeng (2019), the second hypothesis is:

H2: The positive effect of corporate tax rates on tax optimization is stronger for firms with higher levels of CSR activities than for firms with lower levels of CSR activities.

These hypotheses result in the conceptual framework illustrated in Figure 1.

Figure 1

Conceptual Framework



3. Methodology

3.1 Research Design

This study investigates the influence of institutions on CSiR, focusing on tax regulation and tax optimization. To examine the effect of institutions on CSiR, a quantitative approach using panel data analysis was conducted. A quantitative approach was employed as it is a particularly suitable approach for establishing relationships between variables and testing hypotheses. In addition, since the research objective of this study was to explore CSiR in greater depth by studying it in an underexplored area, rather than developing a new theory or understanding of CSiR, a quantitative approach was more suitable than a qualitative approach (Hair et al., 2019). Moreover, CSiR is a practice that firms often attempt to hide due to its potential negative consequences, such as reputational damage (Hoi et al., 2013; Jemiolo & Farnsel, 2023; Mao, 2018). Using a quantitative approach instead of a qualitative approach allows for research grounded in objective data rather than subjective observations where information can be withheld (Hair et al., 2019).

Since tax regulations vary both between countries and within a country over time, panel data analysis was used to obtain a comprehensive review of how institutions affect CSiR. Panel data analysis combines cross-sectional and longitudinal data in one model, and therefore allows for testing both changes over time within the same unit and variations across different units (Hair et al., 2019; Wooldridge, 2010). Firms were taken as the unit of analysis for this research since the purpose of this study was to examine CSiR, which is a firm issue. The hypotheses outlined in the theoretical background were tested with the panel data analysis. The following subparagraphs discuss the variables.

3.1.1 Dependent variable

The dependent variable in this research was tax optimization, as a form of CSiR. Prior research has focused on examining tax avoidance instead of tax optimization. Most of this research uses the effective tax rate (ETR) to measure tax avoidance, which is obtained by dividing a firm's tax expenditures by a firm's pre-tax income (Abdelfattah & Aboud, 2020; Du & Li, 2023). Besides, book-tax difference (BTD) and residual book-tax difference (RES BTD) are commonly used to measure tax avoidance. BTD is the difference between pre-tax income and taxable income. However, BTD is affected not only by tax planning activities, but also by earnings management activities. RES BTD is the residual from the regression of the

BTD and purifies, at least partly, the BTD induced by earnings management activities (S. Chen et al., 2010; Zeng, 2019).

Abovementioned measures are derived from firms' financial statements, and because financial statements lack information on taxable income and/or the actual cash taxes paid or payable on current year income, there are numerous issues in calculating estimates of taxable income based on financial statements (Hanlon & Heitzman, 2010; Lanis & Richardson, 2015). In addition, these measures cover all forms of tax planning strategies, i.e. both legal strategies such as tax optimization and illegal strategies such as tax evasion, and it is not possible with these measures to make a distinction.

To overcome some issues of the aforementioned measures, some studies have used a more direct measure based on firm tax disputes. According to these studies, it is a strong sign of tax avoidance when a firm has a dispute with a regulator over tax issues (Graham & Tucker, 2006; Lanis & Richardson, 2015). To objectively measure this, Lanis and Richardson (2015) used the Morgan Stanley Capital International (MSCI) database which establishes a variable for tax disputes. Similarly, this study used RepRisk to measure tax optimization. RepRisk measures tax optimization as the number of incidents related to tax optimization where incidents involve allegations and accusations.

3.1.2 Independent variable

The independent variable in this research was the corporate tax rate, as component of the institution. The corporate tax rate was measured at the country level. Multiple measures were employed to assess the corporate tax rate, allowing the effects on tax optimization to be examined through different approximations. This approach enables comparison of results between measurement methods and provides a better understanding of the impact of the variable.

The first measure used is the combined corporate income tax rate, which is the tax rate at which a firm's profits are taxed at the national level. Precisely, the combined corporate income tax rate reflects the basic combined central and sub-central (statutory) corporate income tax rate, consisting of the central government rate (less deductions for sub-national taxes) plus the sub-central rate. Within this measure, the standard tax rate, which does not target particular industries or income types, was used. Moreover, if a country has a

progressive corporate tax system, the top marginal rate was used. Since some countries have only central government taxes and others have both central and sub-central taxes, the combined corporate tax rate was used to ensure that total tax rates were compared on an equal footing (OECD, 2023). The combined corporate tax rate has a direct impact on firms' net income and is therefore the most straightforward tax rate when comparing tax burdens among countries.

The second measure used is the total tax and contribution rate, a measure that evaluates the total amount of taxes and mandatory contributions firms bear after deducting allowable deductions and exemptions, expressed as a percent of their commercial profits. More precisely, the total tax and contribution rate incorporates all taxes and contributions mandated by the government that have an impact on firms' income statement. So, besides the corporate income tax, it also includes contributions to private pension funds or workers insurance funds mandated by the government. However, the total tax and contribution rate excludes taxes withheld, such as personal income tax, and taxes collected and remitted to tax authorities, such as goods and service taxes, sales taxes or value added taxes, because these do not impact firms' accounting profits. As a result, the total tax and contribution rate presents a comprehensive measurement of the total cost of taxes a firm bears, and differs from the corporate income tax rate by taking into account allowable deductions, exemptions, and other contributions beyond statutory taxes (World Bank Group, n.d.).

3.1.3 Moderating variable

In this research the effect of a moderating variable was also tested. The moderating variable tested was the level of CSR activities in a firm. Prior research has measured CSR activities based on the MSCI database or the London Stock Exchange Group (LSEG) Workspace, which both provide ratings covering multidimensional CSR activities (Davis et al., 2016; Du & Li, 2023; Huang et al., 2017; Lanis & Richardson, 2015; Salhi et al., 2020; Zeng, 2019). Though, while the LSEG Workspace provides an aggregate measure for all dimensions, the MSCI database does not provide such a measure. Therefore, the LSEG Workspace is preferred by a lot of researchers (Rakia et al., 2024) and was used in this study to measure the level of CSR activities.

The LSEG Workspace provides ESG scores that are objective measures of a firm's relative ESG performance across ten themes (e.g., CSR strategy, product responsibility, resource use),

divided into three pillars: the environmental pillar (34.5%), the social pillar (42.0%), and the corporate governance pillar (23.5%). The environental pillar determines how well a firm employs best management practices to prevent environmental risks and take advantage of environmental opportunities in order to create long-term value for shareholders. The firm's reputation and the health of its operating license are reflected in the social pillar. Lastly, the corporate governance pillar evaluates a firm's policies and procedures which guarantee that executives and board members behave in the best interests of their shareholders. The ESG score runs from 0 to 100, with a higher number indicating better ESG performance, thus a higher level of CSR activities (Du & Li, 2023). Using the ESG score from the LSEG Workspace to measure the level of CSR activities is in line with other studies (Du & Li, 2023; Zeng, 2019).

3.1.4 Control variables

Four firm-level control variables and two country-level control variables were included in this research, because it was identified that these variables could partially explain the dependent variable. The inclusion of these control variables ensured that the results of the dependent variable were not affected by these variables.

The first control variable was ownership structure. Prior research has shown that ownership structure has a significant impact on tax optimization (Alkurdi & Mardini, 2020; Badertscher et al., 2013; S. Chen et al., 2010; Desai & Dharmapala, 2009; Khan et al., 2017; Khurana & Moser, 2013; McGuire et al., 2014), where various ownership structures have different effects on tax optimization. For instance, there is a positive relation between foreign ownership and tax optimization (Alkurdi & Mardini, 2020; Egger et al., 2010; Huizinga & Nicodème, 2006), while findings regarding the relationship between institutional ownership and tax optimization are inconsistent (Alkurdi & Mardini, 2020; Desai & Dharmapala, 2009; Khan et al., 2017; Khurana & Moser, 2013). Following Alkurdi and Mardini (2020), foreign ownership was measured as the percentage of stocks owned by foreign investors, whereas institutional ownership was measured as the percentage of stocks held by institutional investors. To define institutional investors, the LSEG Workspace classification was used.

Since prior research has shown that firm size and tax optimization are positively correlated (Dyreng et al., 2008; Lisowsky, 2010; Rego, 2003; Wilson, 2009), the second control variable was firm size. While larger firms are more monitored and are therefore more likely to suffer

reputational damage, they also have more resources, more opportunities and greater financial incentives to engage in tax optimization (Dyreng et al., 2008; Lisowsky, 2010; Rego, 2003; Wilson, 2009). In research on tax optimization, total assets is the established measure of firm size (Alkurdi & Mardini, 2020; Badertscher et al., 2013; Gerged et al., 2024; Khurana & Moser, 2013; Lisowsky, 2010; Rakia et al., 2024; Wilson, 2009), therefore firm size was measured by total assets.

In addition, prior research has shown that the industry in which firms operate impacts engagement in tax optimization (Dyreng et al., 2008; Jacob et al., 2021; McGuire et al., 2014). For instance, the level of competition and government regulation may vary across industries and have a significant effect on tax optimization (Jacob et al., 2021). Moreover, a firm's tax behavior may influence the tax behavior of industry peers (Armstrong et al., 2019; Bird et al., 2018). In line with prior research in management, industry was classified based on the Standard Industrial Classification (SIC) (Lee, 2020; Walker et al., 2019).

Moreover, year was included as control variable to account for aggregate changes over time such as economic shocks and policy changes (Wooldridge, 2010). Furthermore, as countries were compared, gross domestic product (GDP) at the country level was included as a control variable to control for cross-country economic differences (Gerged et al., 2024). GDP is the standard measure of the value added created through the production of goods and services in a country during a certain period (OECD, n.d.-a). For GDP, an indicator based on nominal GDP was used, measured in U.S. dollars and U.S. dollars per capita.

3.2 Data collection

Data on tax optimization, combined corporate income tax rate, total tax and contribution rate, CSR activities, firm-level control variables, and country-level control variables was collected for firms that ever had at least one irresponsible incident and were headquartered in the EU for the period 2015-2020. However, data on the total tax and contribution rate was not available for 2020. Precisely, the data was collected for firms headquartered in the following countries: Austria, Belgium, Czechia, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, Netherlands, Poland, Portugal, Slovenia, Spain, Sweden, and the United Kingdom. Despite that Bulgaria, Cyprus, Croatia, Estonia, Latvia, Lithuania, Malta, Romania, and Slovakia were also part of the EU during this period, these countries were not included since there was no data avaible for these countries. Although the United Kingdom

left the EU in early 2020, it was included since it was part of the EU for most of the study period. The data was collected for the years 2015-2020 because at least five time periods are required to estimate time-variant effects (Hair et al., 2019) and this was the most recent data available.

Data on tax optimization was collected from RepRisk, a data-driven platform that utilizes a combination of artificial and human intelligence to identify environmental, social, and governance (ESG) risks related to business behavior. Its methodology focuses on detecting risks that may negatively impact financial performance, people, or the planet. RepRisk provides universal coverage, encompassing firms of all sizes, sector and geographic locations, whether listed or unlisted. Its research is structured around 28 ESG issues, with tax optimization being one of them, which are defined in alignment with international standards, including the World Bank Environmental, Health, and Safety Guidelines, the OECD Guidelines for Multinational Enterprises, and the ILO Conventions. RepRisk systematically identifies and assesses material ESG risks through an outside-in approach, analyzing information from public sources and stakeholders while excluding firm self-disclosures to ensure reliability (RepRisk, n.d.).

Data on CSR activities and the firm-level control variables was collected from the LSEG Workspace. The LSEG Workspace systematically scores firm's ESG performance based on audited data. Its data is collected from sources such as non-governmental organisations' websites, CSR and annual reports, exchange filing, and various news sources and only objective and publicly available data is used. To enable quantitative analysis of this qualitative data, the analysts convert the ESG data into consistent units after it has been gathered. To ensure high data quality, accuracy, and timeliness, a rigorous multi-step verification and control process is applied to each data point. This process involves automated quality checks, historical comparisons, and data entry validations. Based on the data points, the LSEG Workspace provides a comprehensive platform for assessing corporate performance across ten themes (CSR strategy, product responsibility, resource use, etc…) divided into three pillars: the environmental pillar, the social pillar and the governance pillar. The LSEG Workspace evaluates firms annually (Du & Li, 2023; Ioannou & Serafeim, 2012).

Data on combined corporate income tax rate and GDP was collected from the Organisation for Economic Co-operation and Development (OECD). OECD is a widely known forum and

knowledge center for public policy data, analysis and best practices (OECD, n.d.-b). Moreover, data on total tax and contribution rate was collected from the World Bank Group.

3.3 Data analysis

The influence of the corporate tax rate on tax optimization was examined by analyzing secondary data in a panel data analysis. The analysis was conducted using Stata 18.5, a powerful statistical software package. Prior to the analysis, the SIC codes, used to classify industry, were grouped based on the first two digits to eliminate multicollinearity. Additionally, total assets and GDP were transformed to adjust for scale differences relative to the other variables. Given their positive skewness and the presence of extreme outliers, these variables were transformed using both log transformation and winsorization. Total assets was winsorized at the 1st and 99th percentiles, while GDP was winsorized at the 2nd and 98th percentiles. Since two measures were employed to assess the corporate tax rate, separate regressions were estimated for each measure.

The Hausman test was conducted to determine whether a fixed or random effects model was appropriate. This test evaluates differences between the fixed and random effects models by comparing their outcomes. The p-value of this test was above 0.05 for both regressions, indicating no significant difference between the two models. Consequently, the random effects model was preferred due to its greater efficiency (Hair et al., 2019). Because the random effects model was preferred over the fixed effects model, the Lagrange Multiplier (LM) test was subsequently applied to determine whether the random effects model or the pooled OLS model was more appropriate. This test examines whether there is significant variance between units. The p-value of this test was below 0.05 for both regressions, leading to the rejection of the null hypothesis and confirming the need for random effects (Wooldridge, 2010).

Before conducting the analysis, the basic assumptions multicollinearity, normality, linearity and homoscedasticity were assessed to ensure the validity and reliability of the results. The Variance Inflation Factor (VIF) was used to test for multicollinearity. Since all VIF values were below 10, no multicollinearity was detected. Histograms were used to assess both univariate and multivariate normality. Most independent variables and the residuals were approximately normally distributed. However, the dependent variable was highly positively skewed and was therefore log-transformed. Due to the presence of zero values, a log(x+1)

transformation was applied. Scatterplots were used to asses both univariate and multivariate linearity. Since GDP showed a non-linear relationship, a quadratic term of GDP was included in the model. The Breusch-Pagan test was applied to test for homoscedasticity. Given the low p-value in both regressions ($p = 0.0000$), the null hypothesis of homoscedasticity was rejected, indicating the presence of heteroscedasticity. Moreover, since panel data was analyzed, the Wooldridge test was conducted to test for autocorrelation. The p-value for both regressions exceeded 0.05, suggesting no significant autocorrelation. However, since panel data is typically autocorrelated at the country level, clustered standard errors at the country level were applied. Furthermore, to correct for both non-normality and heteroscedasticity, robust standard errors were used (Hair et al., 2019; Wooldridge, 2010).

3.4 Research ethics

In conducting this study, several considerations were taken into account to enhance the ethical standards of quantitative research. Enhancing the ethical standards is essential for ensuring the responsible conduct of research, protecting participants and maintaining the integrity of the research process (Zyphur & Pierides, 2017). According to Zyphur and Pierides (2017) relational validity is crucial in conducting quantitative research. Relational validity refers to the ethical connection between the objectives of a study and the methods employed in conducting the study in a way that is contextually relevant.

In this study, the objective, the methods used, and the context of the research were clearly formulated to maintain transparency. The methodological approach was carefully selected to ensure that it was appropriate for addressing the research question and aligned with the study's conext. To enable scrutiny and replication of the study, all steps taken during the analysis were clearly described. Moreover, all literature used for building the argumentation and relevance was accurately referenced in accordance with the American Psychological Association (APA) guidelines to ensure transparency regarding intellectual property. Zotero, a reference management tool, was used to accurately organize and format the references.

Since this study relied exclusively on secondary data, there were no participants who needed to be informed about their freedom to opt out of the study at any time, the manner in which confidentiality and anonymity were assured, and the results and possible implications. Nevertheless, ethical considerations for the secondary data were carefully addressed.

The secondary data used was obtained honestly from openly available databases and from databases licensed to Radboud University. Moreover, the data was used only for the purpose of this study. In addition, only the data that was needed for this study was downloaded from the databases. Because information concerning CSiR could potentially harm firms if disclosed, all information that might identify firms was anonymized. Lastly, to prevent misleading conclusions and overgeneralizations, the results were cautiously interpreted, the context was considered, and the limitations were acknowledged.

4. Results

In running the regressions using cluster-robust standard errors at the country level, the models did not perform well. Moreover, in running the regressions using the log-transformed dependent variable, the outcome of the LM test differed between the combined corporate income tax rate, and the total tax and contribution rate regression. Therefore, it was decided to use the models of the regressions with the non-transformed dependent variable and normal standard errors, and report the other models in a robustness checks section.

In Table 1, the basic descriptive statistics of the variables used in the analysis are shown. The dataset contained 2619 observations and 781 distinct firms.

Table 1

Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Tax optimization	2,619	0.2474227	0.8770197	0	13
Combined corporate income tax rate	2,619	2.502.578	6.272.825	9	4.443.333
Total tax and contribution rate	2,139	4.384.885	1.206.385	20.40	64.90
CSR	2,365	6.290.975	1.760.191	1.61	94.98
Institutional ownership (%)	2,619	393.468	2.599.071	0	1.238.408
Foreign ownership (%)	2,619	3.242.983	2.327.411	0	1.381.121
Firm size (log total assets, winsorized)	2,502	1.613.040	1.800.031	1.230.131	2.082.019
GDP (log, winsorized, mean-centered)	2,619	0.0000000	0.1975885	-0.4814954	0.6568341
GDP² (log, winsorized, mean-centered)	2,619	0.0390263	0.0790559	0.0000805	0.4314311
Industry	2,534				
Year	2,619				

Note: The dataset includes observations from 63 different industries and covers 6 years.

4.1 Testing H1: The main effect of the corporate tax rate

Table 2 presents the baseline model, which only includes the control variables. The R^2 (0.1685) indicates that the control variables alone explain 16.85% of the variation in tax optimization. Among the control variables, firm size and GPD (including the squared term) are significant. Specifically, larger firms are significantly more likely to engage in tax optimization ($\beta = 0.1539$, $p < 0.01$), while GDP exhibits an inverse U-shaped relationship, indicating that GDP is positively associated with tax optimization up to a certain point, and negatively associated with tax optimization thereafter. Moreover, 14 industries are significantly associated with less engagement in tax optimization than the metal mining industry.

Table 2

Estimates of Random Effects for Control Variables

	CCITAX and TTAXCR
Institutional ownership (%)	0.0002725
	(0.0008177)
Foreign ownership (%)	-0.0006433
	(0.0008892)
Firm size (log total assets, winsorized)	0.1538915 ***
	(0.0118387)
GDP (log, winsorized, mean-centered)	0.2503726 **
	(0.1053286)
GDP^2 (log, winsorized, mean-centered)	-0.5758244 **
	(0.2302648)
Constant	-1.965032 ***
	(0.2210112)
Industry dummies	Yes
Year dummies	Yes
Observations	2502
R^2	0.1685

Note: Dependent variable is Tax optimization. Standard errors are in parentheses.
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

In Table 3, the independent variable is introduced using two different measures: the combined corporate income tax rate and the total tax and contribution rate. The results of the combined corporate income tax rate regression are showed in Column (1), hereafter called the CCITAX model. The results of the total tax and contribution rate are showed in Column (2), hereafter called the TTAXCR model.

The inclusion of the independent variable slightly improves the model's explanatory power in the CCITAX model ($R^2 = 0.1686$), and marginally improves the R^2 (0.1766) in the TTAXCR model. Moreover, in the TTAXCR model, GDP is not significant anymore ($p = 0.100$). However, the significant negative coefficient of the squared term ($\beta = -0.6460$, $p < 0.05$) indicates that GDP still exhibits an inverse U-shaped relationship with tax optimization. In addition, all but one of the industries that were significant in the baseline model are also significant in the CCITAX model, while considerably fewer industries are significant in the TTAXCR model.

Table 3 (Column 1) shows that the coefficient of the combined corporate income tax rate is negative but statistically insignificant ($\beta = -0.0011$, $p = 0.741$), suggesting no significant influence of corporate tax rates on tax optimization. However, Table 3 (Column 2) reveals a negative and statistically significant effect for the total tax and contribution rate ($\beta = -0.0049$, $p < 0.05$), implying that firms in countries with higher corporate tax rates are less likely to engage in tax optimization, which is contrary to H1.

Table 3

Estimates of Random Effects for Control Variables and Independent Variable

	CCITAX (1)	TTAXCR (2)
Combined corporate income tax rate	-0.0011048	
	(0.0033359)	
Total tax and contribution rate		-0.0048902 **
		(0.0021338)
Institutional ownership (%)	0.0001428	-0.0006713
	(0.0009068)	(0.0010763)
Foreign ownership (%)	-0.0006214	-0.0010979
	(0.000892)	(0.0010401)
Firm size (log total assets, winsorized)	0.1544186 ***	0.1800569 ***
	(0.0119675)	(0.0140522)
GDP (log, winsorized, mean-centered)	0.2489764 **	0.2054445
	(0.1054684)	(0.1248834)
GDP^2 (log, winsorized, mean-centered)	-0.5917093 **	-0.6460498 **
	(0.2352356)	(0.2747785)
Constant	-1.94315 ***	-2.117529 ***
	(0.2302411)	(0.2680507)
Industry dummies	Yes	Yes
Year dummies	Yes	Yes
Observations	2502	2049
R^2	0.1686	0.1766

Note: Dependent variable is Tax optimization. Standard errors are in parentheses.
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

In conclusion, the results do not support H1, which stated that in countries with higher corporate tax rates, more firms engage in tax optimization. In fact, the results for the total tax and contribution rate suggest the opposite effect, while the results for the combined corporate income tax rate indicate no significant effect.

4.2 Testing H2: The moderating effect of CSR

In Table 4, the moderating variable CSR is introduced. The inclusion of the moderating variable improves the model fit of both the CCITAX model ($R^2 = 0.1770$), and the TTAXCR

model ($R^2 = 0.1882$). The coefficient for CSR is positive and statistically significant in both models ($\beta = 0.0025$, $p < 0.1$; $\beta = 0.0029$, $p < 0.1$), showing that CSR directly influences engagement in tax optimization. Moreover, the negative and significant effect of the total tax and contribution rate persists and becomes even more significant ($\beta = -0.0065$, $p < 0.01$), further supporting that higher corporate tax rates are associated with lower levels of tax optimization engagement. For the combined corporate income tax rate, the coefficient remains negative but insignificant ($\beta = -0.0032$, $p = 0.386$). In addition, the significant control variables of Table 3 continue to be significant and maintain their direction. Moreover, again all but one of the industries that were significant in the baseline model are also significant in the CCITAX model, and considerably fewer industries are significant in the TTAXCR model.

Table 4

Estimates of Random Effects for Control Variables, Independent Variable and Moderating Variable

	CCITAX (1)	**TTAXCR (2)**
Combined corporate income tax rate	-0.0031781	
	(0.0036675)	
Total tax and contribution rate		-0.0064714 ***
		(0.0023567)
CSR	0.0024805 *	0.0029398 *
	(0.0013398)	(0.0015595)
Institutional ownership (%)	0.0001354	-0.0006122
	(0.0009993)	(0.0011932)
Foreign ownership (%)	-0.000855	-0.0014169
	(0.0009778)	(0.0011464)
Firm size (log total assets, winsorized)	0.149166 ***	0.1802617 ***
	(0.0165514)	(0.0197733)
GDP (log, winsorized, mean-centered)	0.2721249 **	0.2100758
	(0.1154335)	(0.1376581)
GDP^2 (log, winsorized, mean-centered)	-0.6773226 ***	-0.7146948 **
	(0.2580109)	(0.3030389)
Constant	-1.937024 ***	-2.206005 ***
	(0.2665188)	(0.3142482)
Industry dummies	Yes	Yes
Year dummies	Yes	Yes
Observations	2289	1851
R^2	0.1770	0.1882

Note: Dependent variable is Tax optimization. Standard errors are in parentheses.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 5 introduces the interaction term between the corporate tax rate and CSR, presenting the full moderation model. The inclusion of the interaction term modestly improves the R^2 of both models ($R^2 = 0.1787$; $R^2 = 0.1883$). Moreover, the coefficients of the significant control variables retain their significance and direction. For industry, again all but one of the industries that were significant in the baseline model are also significant in the CCITAX model, and considerably fewer industries are significant in the TTAXCR model.

Table 5 (Column 1) shows that the coefficient of the interaction term is positive and statistically significant ($\beta = 0.00034$, $p < 0.05$), indicating that the negative effect of corporate tax rates on tax optimization is weakened for firms with higher levels of CSR activities, which supports H2. Yet, Table 5 (Column 2) demonstrates a positive but statistically insignificant effect ($\beta = 0.00004$, $p = 0.705$), suggesting no moderation effect. In addition, Table 5 reveals that the inclusion of the interaction term changes the statistical significance of the corporate tax rate variables. Precisely, the combined corporate income tax rate becomes significant ($\beta = -0.0243$, $p < 0.05$), while the total tax and contribution rate becomes insignificant ($\beta = -0.0090$, $p = 0.201$). Additionally, CSR loses its significance in both models, and changes the direction of its coefficient in the CCITAX model ($\beta = -0.0059$, $p = 0.186$; $\beta = 0.0011$, $p = 0.821$).

In conclusion, the results show some support for H2, given that the positive interaction effect is only significant if the corporate tax rate is measured using the combined corporate income tax rate. Moreover, the results strengthen the findings that corporate tax rates negatively affect tax optimization.

Table 5

Estimates of Random Effects for Control Variables, Independent Variable, Moderating Variable and Interaction term

	CCITAX (1)	TTAXCR (2)
Combined corporate income tax rate	-0.0242646 **	
	(0.0113301)	
Total tax and contribution rate		-0.0089745
		(0.0070257)
CSR	-0.0059024	0.0011348
	(0.0044642)	(0.0050108)
Interaction term	0.0003379 **	0.0000407
	(0.0001717)	(0.0001076)
Institutional ownership (%)	-0.0000451	-0.0006574
	(0.0010033)	(0.0011998)
Foreign ownership (%)	-0.000852	-0.0014195
	(0.0009776)	(0.0011470)
Firm size (log total assets, winsorized)	0.1492802 ***	0.1809470***
	(0.0165499)	(0.0198744)
GDP (log, winsorized, mean-centered)	0.2867937 **	0.2101361
	(0.1156620)	(0.1377326)
GDP^2 (log, winsorized, mean-centered)	-0.6844953 ***	-0.7082407**
	(0.2579488)	(0.3036524)
Constant	-1.422316 ***	-2.1085010***
	(0.3729331)	(0.4054358)
Industry dummies	Yes	Yes
Year dummies	Yes	Yes
Observations	2289	1851
R^2	0.1787	0.1883

Note: Dependent variable is Tax optimization. Standard errors are in parentheses.
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

4.3 Robustness checks

To assess the robustness of the main findings, the models of Table 3 and Table 5 were re-estimated using two different specifications. First, regressions using the log-transformed dependent variable instead of the non-transformed dependent variable were employed. To ensure cosistency and comparability, the random effects model was used for both tax rate measures. Second, cluster-robust standard errors at the country level were used. The results of these alternative specifications are presented in Table 6 and Table 7.

Table 6, which tests H1, shows that the findings mostly remain stable. The coefficient of the combined corporate income tax rate continues to be negative and statistically insignificant for both specifications ($\beta = -0.0001$, $p = 0.923$; $\beta = -0.0011$, $p = 0.817$). However, whereas the

coefficient of the total tax and contribution rate remains negative and statistically significant in the regression with the log-transformed dependent variable (β = -0.0018, p < 0.05), it becomes statisticaly insignificant in the regression using cluster-robust standard errors (β = -0.0049, p = 0.111).

Table 6

Estimates of Random Effects for Control Variables and Independent Variable – Robustness Checks

	Regressions with log-transformed depenent variable		Regressions with cluster-robust standard errors	
	CCITAX (1)	**TTAXCR (2)**	**CCITAX (3)**	**TTAXCR (4)**
Combined corporate income tax rate	-0.000125		-0.0011048	
	(0.0012978)		(0.0047737)	
Total tax and contribution rate		-0.0018026**		-0.0048902
		(0.0008101)		(0.0030646)
Institutional ownership (%)	0.00000881	-0.0003354	0.0001428	-0.0006713
	(0.0003563)	(0.0004135)	(0.0010406)	(0.0010154)
Foreign ownership (%)	-0.00000924	-0.0002223	-0.0006214	-0.0010979
	(0.0003489)	(0.0003982)	(0.0008709)	(0.0011033)
Firm size (log total assets, winsorized)	0.0747212***	0.0860627***	0.1544186***	0.1800569***
	(0.0046130)	(0.0053072)	(0.0139667)	(0.0147855)
GDP (log, winsorized, mean-centered)	0.1077077***	0.0899556*	0.2489764	0.2054445
	(0.0408512)	(0.0472905)	(0.1543499)	(0.1595192)
GDP² (log, winsorized, mean-centered)	-0.2523576***	-0.2571514**	-0.5917093**	-0.6460498**
	(0.0929261)	(0.1064826)	(0.2450198)	(0.2659606)
Constant	-0.9304850***	-1.0120130***	-1.943150000***	-2.1175290***
	(0.0884423)	(0.1009505)	(0.3458176)	(0.3752391)
Industry dummies	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes
Observations	2502	2049	2502	2049
R^2	0.1947	0.2035	0.1686	0.1766

Note: Dependent variable in Column (1) and (2) is Tax optimization, and in Column (3) and (4) the log(x+1) transformation of Tax optimization. Standard errors (Column 1 and 2) and cluster-robust standard errors at the country level (Column 3 and 4) are in parrentheses. *** p < 0.01, ** p < 0.05, * p < 0.1.

Table 7, testing H2, shows that the results are again largely consistent. The interaction term becomes insignificant in the CCITAX model for both specifications (β = 0.0001, p = 0.123; β = 0.0003, p = 0.202), indicating that the moderating effect is not robust. However, the interaction term stays insignificant in the TTAXCR model for both specifications (β = 0.000007, p = 0.867; β = 0.00004, p = 0.771). These results further weaken the already weak support for H2. The results of the corporate tax rate variables remain stable, the combined coprorate income tax rate continues to be negative and statistically significant for both

specifications (β = -0.0077, p < 0.1; β = -0.0243, p < 0.1), and the total tax and contribution rate stays negative and statistically insignificant for both specifications (β = -0.0029, p = 0.279; β = -0.0090, p = 0.246), suggesting that these results are robust.

Interestingly, these specification models show a higher number of significant industries than the main models.

Table 7

Estimates of Random Effects for Control Variables, Independent Variable, Moderating Variable and Interaction term – Robustness Checks

	Regressions with log-transformed dependent variable		Regressions with cluster-robust standard errors	
	CCITAX (1)	**TTAXCR (2)**	**CCITAX (3)**	**TTAXCR (4)**
Combined corporate income tax rate	-0.0077289*		-0.0242646*	
	(0.0044569)		(0.0140936)	
Total tax and contribution rate		-0.0029193		-0.0089745
		(0.0026939)		(0.0077355)
CSR	-0.0015427	0.0010652	-0.0059024	0.0011348
	(0.0017446)	(0.0019065)	(0.0072015)	(0.0070301)
Interaction term	0.0001035	0.0000069	0.0003379	0.0000407
	(0.0000671)	(0.0000409)	(0.0002646)	(0.0001396)
Institutional ownership (%)	-0.0000408	-0.0002941	-0.0000451	-0.0006574
	(0.0003885)	(0.0004516)	(0.0011728)	(0.0012159)
Foreign ownership (%)	-0.0001253	-0.0003966	-0.0008520	-0.0014195
	(0.0003773)	(0.0004311)	(0.0009663)	(0.0013019)
Firm size (log total assets, winsorized)	0.0738853***	0.0866453***	0.1492802***	0.1809470***
	(0.0063661)	(0.0074208)	(0.0205287)	(0.0295330)
GDP (log, winsorized, mean-centered)	0.1180595***	0.0852200*	0.2867937*	0.2101361
	(0.0442875)	(0.0512687)	(0.1695412)	(0.1682335)
GDP² (log, winsorized, mean-centered)	-0.2975614***	-0.2819471**	-0.6844953**	-0.7082407**
	(0.1008525)	(0.1157289)	(0.2734407)	(0.2957221)
Constant	-0.7811748***	-1.043011***	-1.4223160***	-2.1085010***
	(0.1446415)	(0.1528584)	(0.3330472)	(0.4177563)
Industry dummies	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes
Observations	2289	1851	2289	1851
R^2	0.2066	0.2191	0.1787	0.1883

Note: Dependent variable in Column (1) and (2) is Tax optimization, and in Column (3) and (4) the log(x+1) transformation of Tax optimization. Standard errors (Column 1 and 2) and cluster-robust standard errors at the country level (Column 3 and 4) are in parrentheses. *** p < 0.01, ** p < 0.05, * p < 0.1.

5. Discussion

5.1 Conclusion

This study examined the relationship between institutional factors and CSiR in the area of taxes. Precisely, this research investigated how the corporate tax rate in a country influences firms' engagement in tax optimization, and to what extent this relationship is moderated by the level of CSR activities in a firm.

First, regarding H1, which proposed that the number of firms engaging in tax optimization is greater in countries with a higher corporate tax rate than in countries with a lower corporate tax rate, the findings offer no support. In fact, when the corporate tax rate is measured using the total tax and contribution rate, the results showed a significant negative relationship between corporate tax rates and tax optimization, suggesting that firms operating in countries with a higher corporate tax rate tend to engage less in tax optimization. However, when using cluster-robust standard errors, this relationship became insignificant. In addition, when using the combined corporate income tax rate as measure for the corporate tax rate, the results showed consistently a negative but insignificant relationship between corporate tax rates and tax optimization, indicating that the corporate tax rate does not influence the level of engagement in tax optimization. Interestingly, when including the interaction term, the main effect of the combined corporate income tax rate became negatively significant in all models, and the main effect of the total tax and contribution rate became negatively insignificant in all models. All in all, no conclusive evidence was found that corporate tax rates influence tax optimization, although the findings provide support against a positive effect.

Second, regarding H2, which posited that the level of CSR activities would positively moderate the relationship between corporate tax rates and tax optimization, the findings offer little support. Precisely, the results only showed a significant positive moderating effect when using both the combined corporate income tax rate and the non-transformed dependent variable, suggesting that the negative effect of corporate tax rates on tax optimization is weakened for firms with higher levels of CSR activities. However, this moderating effect was not robust since it became insignificant when using the log-transformed dependent variable, and when using cluster-robust standard errors. Furthermore, when using the total tax and contribution rate measure, the results consistently showed a positive but insignificant moderating effect, indicating that the relationship between corporate tax rates and tax

optimization is not moderated by the level of CSR activities. In conclusion, little evidence was found for a positive moderating effect of CSR, but there is no clear support for CSR as a moderating factor in the relationship between corporate tax rates and tax optimization.

The contrary findings for H1 and the limited supporting findings for H2 imply that tax optimization is perceived as CSiR. Firms balance the advantages of tax optimization against the potential disadvantages (Gao et al., 2019; Hanlon & Heitzman, 2010). The negative relationship between corporate tax rates and tax optimization suggests that even in countries with relatively high corporate tax rates, the financial benefits do not outweigh the reputational costs. In addition, the positive moderating effect of CSR supports the risk-management perspective and confirms that firms use CSR activities to mitigate the reputational risks associated with tax optimization (Hoi et al., 2013; Jemiolo & Farnsel, 2023; Mao, 2018). Also, the findings related to H1 provide further evidence that institutions impact CSiR (Keig et al., 2015; Walker et al., 2019; Wu, 2014). Moreover, the results related to H2 support Zeng's (2019) finding that institutions influence the relationship between CSR and tax optimization. However, since the findings were not robust across the models, this should all be taken with caution.

In answer to the research question, no conclusive evidence was found that the corporate tax rate in a country infuences firms' engagement in tax optimization. However, some evidence was found for a negative effect of corporate tax rates on tax optimization. In addition, little evidence was found for a small positive moderating effect of CSR, but most results indicated that the relationship between corporate tax rates and tax optimization is not moderated by the level of CSR activities. These findings contribute to the CSiR literature (Iborra & riera), by providing some evidence that institutions influence tax optimization. Moreover, by providing some evidence that tax optimization is perceived as CSiR and thus should be studied in the context of CSiR, the findings also contribute to the CSiR literature.

5.2 Implications

The findings of this study offer several important implications for managers and policymakers. The negative relationship between corporate tax rates and tax optimization suggests that tax optimization carries reputational risks. For managers, this underscores the importance of evaluating not only the financial benefits of tax optimization, but also the potential reputational costs. Moreover, the findings regarding CSR suggest that firms may use

CSR activities to mitigate the reputational risks associated with tax optimization. However, managers should be aware that stakeholders may increasingly scrutinize the consistency between a firm's tax practices and its CSR disclosures, and that misalignment can lead to accusations of hypocrisy and mistrust (DesJardine & Durand, 2020; Nardella et al., 2020).

For policymakers, the negative relationship between corporate tax rates and tax optimization indicates that tax regulations may have an influence on tax optimization. In addition, since firms seem to be sensitive to reputational risks, increasing disclosure requirements may be a means to reduce tax optimization.

5.3 Limitations

While this study provides valuable insights into the influence of tax regulation, as a part of the institution, on tax optimization, a form of CSiR, there are some limitations that must be acknowledged. First, the sample in this study consiststed only of firms that ever had at least one irresponsible incident and were headquartered in the EU, which limits the generalizability of the findings, as the results may not be applicable for firms that never had an irresponsible incident and/or for firms headquartered in countries outside the EU. Moreover, the data on tax optimization was primarily available for large firms, making the results less applicable to smaller firms that may face different constraints or opportunities, thus making the results less generalizable as well.

Tax optimization data was collected form RepRisk. The RepRisk database rates irresponsible behavior based on external sources and provides data only for firms that behave in a socially irresponsible manner. However, firms may have been overlooked by RepRisk, or irresponsible incidents may not have been detected by RepRisk. Moreover, RepRisk ratings are not about lawsuits, but about accusations and allegations, and Reprisk does not evaluate their truthfulness (Kölbel et al., 2017).

One measure used in this study to assess the corporate tax rate was the corporate income tax rate obtained from the OECD. However, this measure has certain limitations. It does not account for special arrangements or rates that may apply to specific industries or types of income, nor does it consider the scope of the corporate tax base to which the rate is applied. Additionally, for countries with progressive corporate tax systems, the OECD reports the top marginal rate, which may not be representive of the actual rates faced by firms. Consequently,

the corporate income tax rate reported by the OECD may not provide a fully comprehensive view of the tax rates encountered by firms in a given country (OECD, 2023), potentially leading to distorted conclusions. In addition to the OECD data, this study utilized the total tax and contribution rates reported by the World Bank Group. While this measure is a more comprehensive measurement of the total cost of taxes a firm bears, World Bank Group's data primarily includes medium-sized firms, whereas RepRisk's data mainly covers large firms. This discrepancy in firm size coverage may lead to biased conclusions, as medium-sized firms may face different total tax and contribution rates compared to large firms. To mitigate these limitations, both the corporate income tax rate from the OECD and the total tax and contribution rate from the World Bank Group were included in the anlaysis. By combining these two measures, this study aimed to provide a more nuanced and comprehensive view of the corporate tax environment, and to strengthen the robustness of the analysis.

5.4 Directions for further research

Considering the limitations and inconclusive findings, there are several directions for further research. First, to address sample limitations, future research could include firms that never had an irresponsible incident and expand the geographical scope beyond the EU. Moreover, future studies could examine a broader set of tax regulation components. Tax regulations encompass more than just the corporate tax rate. They also include components such as enforcement strength, audit intensity, the presence of tax incentives, and transparency requirements. Including additional components could offer a more comprehensive understanding of how tax regulations influence tax optimization.

Although the literature reveals a significant correlation between CSR and tax optimization (e.g., Du & Li, 2023; Lee, 2020; Mao, 2018), this study found limited and non-robust evidence for CSR as a moderating factor. Therefore, future studies could further explore the influence of CSR on the relationship between institutions and tax optimization by examining, for instance, under what conditions or in which contexts CSR moderates this relationship. In addition, since potential reputational costs seem to have a crucial role in the decision to engage in tax optimization (Kanagaretnam et al., 2018), further research could investigate the impact of informal institutional forces, such as stakeholder scrutiny and public pressure, on tax optimization. Examining these informal influences could deepen our understanding of how institutions impact tax optimization.

References

Abdelfattah, T., & Aboud, A. (2020). Tax avoidance, corporate governance, and corporate social responsibility: The case of the Egyptian capital market. *Journal of International Accounting, Auditing and Taxation*, *38*, 100304. https://doi.org/10.1016/j.intaccaudtax.2020.100304

Aguilera, R. V., Rupp, D. E., Williams, C. A., & Ganapathi, J. (2007). Putting the S back in corporate social responsibility: A multilevel theory of social change in organizations. *Academy of Management Review*, *32*(3), 836–863. https://doi.org/10.5465/amr.2007.25275678

Alkurdi, A., & Mardini, G. H. (2020). The impact of ownership structure and the board of directors' composition on tax avoidance strategies: Empirical evidence from Jordan. *Journal of Financial Reporting and Accounting*, *18*(4), 795–812. https://doi.org/10.1108/JFRA-01-2020-0001

Amaeshi, K., Adegbite, E., & Rajwani, T. (2016). Corporate social responsibility in challenging and non-enabling institutional contexts: Do institutional voids matter? *Journal of Business Ethics*, *134*(1), 135–153. https://doi.org/10.1007/s10551-014-2420-4

Armstrong, C. S., Glaeser, S., & Kepler, J. D. (2019). Strategic reactions in corporate tax planning. *Journal of Accounting and Economics*, *68*(1), 101232. https://doi.org/10.1016/j.jacceco.2019.03.003

Atwood, T. J., Drake, M. S., Myers, J. N., & Myers, L. A. (2012). Home country tax system characteristics and corporate tax avoidance: International evidence. *The Accounting Review*, *87*(6), 1831–1860. https://doi.org/10.2308/accr-50222

Badertscher, B. A., Katz, S. P., & Rego, S. O. (2013). The separation of ownership and control and corporate tax avoidance. *Journal of Accounting and Economics*, *56*(2–3), 228–250. https://doi.org/10.1016/j.jacceco.2013.08.005

Bartosch, J., & Raab, J. (2022). Corporate responsibility. In F. Angeli, A. Metz, & J. Raab (Eds.), *Organizing for sustainable development* (1st ed., pp. 15–30). Routledge. https://doi.org/10.4324/9780429243165-2

Baudot, L., Johnson, J. A., Roberts, A., & Roberts, R. W. (2019). Is corporate tax aggressiveness a reputation threat? Corporate accountability, corporate social responsibility, and corporate tax behavior. *Journal of Business Ethics*, *163*(2), 197–215. https://doi.org/10.1007/s10551-019-04227-3

Bird, A., Edwards, A., & Ruchti, T. G. (2018). Taxes and peer effects. *The Accounting Review*, *93*(5), 97–117. https://doi.org/10.2308/accr-52004

Brown, J. L., & Drake, K. D. (2014). Network ties among low-tax firms. *The Accounting Review*, *89*(2), 483–510. https://doi.org/10.2308/accr-50648

Campbell, J. L. (2007). Why would corporations behave in socially responsible ways? An institutional theory of corporate social responsibility. *Academy of Management Review*, *32*(3), 946–967. https://doi.org/10.5465/amr.2007.25275684

Chen, S., Chen, X., Cheng, Q., & Shevlin, T. (2010). Are family firms more tax aggressive than non-family firms? *Journal of Financial Economics*, *95*(1), 41–61. https://doi.org/10.1016/j.jfineco.2009.02.003

Chen, Z., Hang, H., Pavelin, S., & Porter, L. (2020). Corporate social (ir)responsibility and corporate hypocrisy: Warmth, motive and the protective value of corporate social responsibility. *Business Ethics Quarterly*, *30*(4), 486–524. https://doi.org/10.1017/beq.2019.50

Christensen, J., & Murphy, R. (2004). The social irresponsibility of corporate tax avoidance: Taking CSR to the bottom line. *Development*, *47*(3), 37–44. https://doi.org/10.1057/palgrave.development.1100066

Clark, C. E., Riera, M., & Iborra, M. (2022). Toward a theoretical framework of corporate social irresponsibility: Clarifying the gray zones between responsibility and irresponsibility. *Business & Society*, *61*(6), 1473–1511. https://doi.org/10.1177/00076503211015911

Col, B., & Patel, S. (2019). Going to haven? Corporate social responsibility and tax avoidance. *Journal of Business Ethics*, *154*(4), 1033–1050. https://doi.org/10.1007/s10551-016-3393-2

Davis, A. K., Guenther, D. A., Krull, L. K., & Williams, B. M. (2016). Do socially responsible firms pay more taxes? *The Accounting Review*, *91*(1), 47–68. https://doi.org/10.2308/accr-51224

Desai, M. A., & Dharmapala, D. (2009). Corporate tax avoidance and firm value. *The Review of Economics and Statistics*, *91*(3), 537–546. https://doi.org/10.1162/rest.91.3.537

Desai, M. A., Dyck, A., & Zingales, L. (2007). Theft and taxes. *Journal of Financial Economics*, *84*(3), 591–623. https://doi.org/10.1016/j.jfineco.2006.05.005

DesJardine, M. R., & Durand, R. (2020). Disentangling the effects of hedge fund activism on firm financial and social performance. *Strategic Management Journal*, *41*(6), 1054–1082. https://doi.org/10.1002/smj.3126

Devinney, T. M. (2009). Is the socially responsible corporation a myth? The good, the bad, and the ugly of corporate social responsibility. *Academy of Management Perspectives*, *23*(2), 44–56. https://doi.org/10.5465/amp.2009.39985540

Dowling, G. R. (2014). The curious case of corporate tax avoidance: Is it socially irresponsible? *Journal of Business Ethics*, *124*(1), 173–184. https://doi.org/10.1007/s10551-013-1862-4

Du, M., & Li, Y. (2023). Tax avoidance, CSR performance and financial impacts: Evidence from BRICS economies. *International Journal of Emerging Markets*, *19*(10), 3303–3328. https://doi.org/10.1108/IJOEM-05-2022-0747

Dyreng, S. D., Hanlon, M., & Maydew, E. L. (2008). Long-run corporate tax avoidance. *The Accounting Review*, *83*(1), 61–82. https://doi.org/10.2308/accr.2008.83.1.61

Dyreng, S. D., Hoopes, J. L., & Wilde, J. H. (2016). Public pressure and corporate tax behavior. *Journal of Accounting Research*, *54*(1), 147–186. https://doi.org/10.1111/1475-679X.12101

Edwards, A., Schwab, C., & Shevlin, T. (2016). Financial constraints and cash tax savings. *The Accounting Review*, *91*(3), 859–881. https://doi.org/10.2308/accr-51282

Egger, P., Eggert, W., & Winner, H. (2010). Saving taxes through foreign plant ownership. *Journal of International Economics*, *81*(1), 99–108. https://doi.org/10.1016/j.jinteco.2009.12.004

Gao, Z., Lu, L. Y., & Yu, Y. (2019). Local social environment, firm tax policy, and firm characteristics. *Journal of Business Ethics*, *158*(2), 487–506. https://doi.org/10.1007/s10551-017-3765-2

Gerged, A. M., Kehbuma, K. M., & Beddewela, E. S. (2024). Corporate social responsibility disclosure and corporate social irresponsibility in emerging economies: Does institutional quality matter? *Business Ethics, the Environment & Responsibility*, beer.12683. https://doi.org/10.1111/beer.12683

Graham, J. R., & Tucker, A. L. (2006). Tax shelters and corporate debt policy. *Journal of Financial Economics*, *81*(3), 563–594. https://doi.org/10.1016/j.jfineco.2005.09.002

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). *Multivariate data analysis*. Cengage.

Hanlon, M., & Heitzman, S. (2010). A review of tax research. *Journal of Accounting and Economics*, *50*(2–3), 127–178. https://doi.org/10.1016/j.jacceco.2010.09.002

Hoi, C. K., Wu, Q., & Zhang, H. (2013). Is corporate social responsibility (CSR) associated with tax avoidance? Evidence from irresponsible CSR activities. *The Accounting Review*, *88*(6), 2025–2059. https://doi.org/10.2308/accr-50544

Hoopes, J. L., Mescall, D., & Pittman, J. A. (2012). Do IRS audits deter corporate tax avoidance? *The Accounting Review*, *87*(5), 1603–1639. https://doi.org/10.2308/accr-50187

Hope, O.-K., Ma, M. (Shuai), & Thomas, W. B. (2013). Tax avoidance and geographic earnings disclosure. *Journal of Accounting and Economics*, *56*(2–3), 170–189. https://doi.org/10.1016/j.jacceco.2013.06.001

Huang, H. H., Sun, L., & Yu, T. R. (2017). Are socially responsible firms less likely to expatriate? An examination of corporate inversions. *The Journal of the American Taxation Association*, *39*(2), 43–62. https://doi.org/10.2308/atax-51790

Huizinga, H., & Nicodème, G. (2006). Foreign ownership and corporate income taxation: An empirical evaluation. *European Economic Review*, *50*(5), 1223–1244. https://doi.org/10.1016/j.euroecorev.2005.02.004

Huseynov, F., & Klamm, B. K. (2012). Tax avoidance, tax management and corporate social responsibility. *Journal of Corporate Finance*, *18*(4), 804–827. https://doi.org/10.1016/j.jcorpfin.2012.06.005

Iborra, M., & Riera, M. (2023). Corporate social irresponsibility: What we know and what we need to know. *Corporate Social Responsibility and Environmental Management*, *30*(3), 1421–1439. https://doi.org/10.1002/csr.2428

Ioannou, I., & Serafeim, G. (2012). What drives corporate social performance? The role of nation-level institutions. *Journal of International Business Studies*, *43*(9), 834–864. https://doi.org/10.1057/jibs.2012.26

Jackson, G., & Apostolakou, A. (2010). Corporate social responsibility in Western Europe: An institutional mirror or substitute? *Journal of Business Ethics*, *94*(3), 371–394. https://doi.org/10.1007/s10551-009-0269-8

Jackson, G., & Bartosch, J. (2016). *Corporate responsibility in different varieties of capitalism: Exploring the role of national institutions*. https://repository.ubn.ru.nl/handle/2066/287882

Jacob, M., Rohlfing-Bastian, A., & Sandner, K. (2021). Why do not all firms engage in tax avoidance? *Review of Managerial Science*, *15*(2), 459–495. https://doi.org/10.1007/s11846-019-00346-3

Janney, J. J., & Gove, S. (2011). Reputation and corporate social responsibility aberrations, trends, and hypocrisy: Reactions to firm choices in the stock option backdating scandal. *Journal of Management Studies*, *48*(7), 1562–1585. https://doi.org/10.1111/j.1467-6486.2010.00984.x

Jemiolo, S., & Farnsel, C. (2023). Complements, substitutes or neither? A review of the relation between corporate social responsibility and corporate tax avoidance. *Journal of Accounting Literature*, *45*(3), 474–496. https://doi.org/10.1108/JAL-12-2021-0018

Jones, B., Bowd, R., & Tench, R. (2009). Corporate irresponsibility and corporate social responsibility: Competing realities. *Social Responsibility Journal*, *5*(3), 300–310. https://doi.org/10.1108/17471110910977249

Kanagaretnam, K., Lee, J., Lim, C. Y., & Lobo, G. J. (2018). Cross-country evidence on the role of independent media in constraining corporate tax aggressiveness. *Journal of Business Ethics*, *150*(3), 879–902. https://doi.org/10.1007/s10551-016-3168-9

Keig, D. L., Brouthers, L. E., & Marshall, V. B. (2015). Formal and informal corruption environments and multinational enterprise social irresponsibility. *Journal of Management Studies*, *52*(1), 89–116. https://doi.org/10.1111/joms.12102

Khan, M., Srinivasan, S., & Tan, L. (2017). Institutional ownership and corporate tax avoidance: New evidence. *The Accounting Review*, *92*(2), 101–122. https://doi.org/10.2308/accr-51529

Khurana, I. K., & Moser, W. J. (2013). Institutional shareholders' investment horizons and tax avoidance. *Journal of the American Taxation Association*, *35*(1), 111–134. https://doi.org/10.2308/atax-50315

Kim, J.-H., & Lee, J.-H. (2021). How CEO political connections induce corporate social irresponsibility: An empirical study of tax avoidance in South Korea. *Sustainability*, *13*(14), 7739. https://doi.org/10.3390/su13147739

Kölbel, J. F., Busch, T., & Jancso, L. M. (2017). How media coverage of corporate social irresponsibility increases financial risk. *Strategic Management Journal*, *38*(11), 2266–2284. https://doi.org/10.1002/smj.2647

Kubick, T. R., & Lockhart, G. B. (2016). Do external labor market incentives motivate CEOs to adopt more aggressive corporate tax reporting preferences? *Journal of Corporate Finance*, *36*, 255–277. https://doi.org/10.1016/j.jcorpfin.2015.12.003

Kubick, T. R., Lynch, D. P., Mayberry, M. A., & Omer, T. C. (2015). Product market power and tax avoidance: Market leaders, mimicking strategies, and stock returns. *The Accounting Review*, *90*(2), 675–702. https://doi.org/10.2308/accr-50883

Landry, S., Deslandes, M., & Fortin, A. (2013). Tax aggressiveness, corporate social responsibility, and ownership structure. *Journal of Accounting, Ethics & Public Policy*, *14*(3), 611–645. https://doi.org/10.2139/ssrn.2304653

Lange, D., & Washburn, N. T. (2012). Understanding attributions of corporate social irresponsibility. *Academy of Management Review*, *37*(2), 300–326. https://doi.org/10.5465/amr.2010.0522

Lanis, R., & Richardson, G. (2012). Corporate social responsibility and tax aggressiveness: A test of legitimacy theory. *Accounting, Auditing & Accountability Journal*, *26*(1), 75–100. https://doi.org/10.1108/09513571311285621

Lanis, R., & Richardson, G. (2015). Is corporate social responsibility performance associated with tax avoidance? *Journal of Business Ethics*, *127*(2), 439–457. https://doi.org/10.1007/s10551-014-2052-8

Lee, D. (2020). Corporate social responsibility of U.S.-listed firms headquartered in tax havens. *Strategic Management Journal*, *41*(9), 1547–1571. https://doi.org/10.1002/smj.3195

Lin-Hi, N., & Müller, K. (2013). The CSR bottom line: Preventing corporate social irresponsibility. *Journal of Business Research*, *66*(10), 1928–1936. https://doi.org/10.1016/j.jbusres.2013.02.015

Lisowsky, P. (2010). Seeking shelter: Empirically modeling tax shelters using financial statement information. *The Accounting Review*, *85*(5), 1693–1720. https://doi.org/10.2308/accr.2010.85.5.1693

Mao, C.-W. (2018). Effect of corporate social responsibility on corporate tax avoidance: Evidence from a matching approach. *Quality & Quantity*, *53*(1), 49–67. https://doi.org/10.1007/s11135-018-0722-9

Marques, M., Montenegro, T. M., & Brás, F. A. (2024). Tax avoidance and corporate social responsibility: A meta-analysis. *The Journal of the American Taxation Association*, *46*(1), 137–156. https://doi.org/10.2308/JATA-2022-026

Matten, D., & Moon, J. (2008). "Implicit" and "explicit" CSR: A conceptual framework for a comparative understanding of corporate social responsibility. *Academy of Management Review*, *33*(2), 404–424. https://doi.org/10.5465/amr.2008.31193458

McGuire, S. T., Omer, T. C., & Wang, D. (2012). Tax avoidance: Does tax-specific industry expertise make a difference? *The Accounting Review*, *87*(3), 975–1003. https://doi.org/10.2308/accr-10215

McGuire, S. T., Wang, D., & Wilson, R. J. (2014). Dual class ownership and tax avoidance. *The Accounting Review*, *89*(4), 1487–1516. https://doi.org/10.2308/accr-50718

Nardella, G., Brammer, S., & Surdu, I. (2020). Shame on who? The effects of corporate irresponsibility and social performance on organizational reputation. *British Journal of Management*, *31*(1), 5–23. https://doi.org/10.1111/1467-8551.12365

North, D. C. (1990). *Institutions, institutional change and economic performance*. Cambridge University Press.

OECD. (n.d.-a). *Nominal gross domestic product (GDP)*. Retrieved November 20, 2024, from https://www.oecd.org/en/data/indicators/nominal-gross-domestic-product-gdp.html

OECD. (n.d.-b). *The OECD: Better policies for better lives*. Retrieved November 21, 2024, from https://www.oecd.org/en/about.html

OECD. (2023). *Corporate tax statistics 2023*. Organisation for Economic Co-operation and Development. https://doi.org/10.1787/f1f07219-en

Park, H., Lee, J., & Shin, J. (2023). How does taxation affect corporate social responsibility? Evidence from a Korean tax reform. *Journal of Business Ethics*. https://doi.org/10.1007/s10551-023-05536-4

Preuss, L. (2012). Responsibility in paradise? The adoption of CSR tools by companies domiciled in tax havens. *Journal of Business Ethics*, *110*(1), 1–14. https://doi.org/10.1007/s10551-012-1456-6

Rakia, R., Kachouri, M., & Jarboui, A. (2024). The moderating effect of women directors on the relationship between corporate social responsibility and corporate tax avoidance? Evidence from Malaysia. *Journal of Accounting in Emerging Economies*, *14*(1), 1–24. https://doi.org/10.1108/JAEE-01-2021-0029

Rego, S. O. (2003). Tax-avoidance activities of U.S. multinational corporations. *Contemporary Accounting Research*, *20*(4), 805–833. https://doi.org/10.1506/VANN-B7UB-GMFA-9E6W

RepRisk. (n.d.). *RepRisk methodology overview*. Retrieved November 21, 2024, from https://www.reprisk.com/research-insights/resources/methodology

Riera, M., & Iborra, M. (2017). Corporate social irresponsibility: Review and conceptual boundaries. *European Journal of Management and Business Economics*, *26*(2), 146–162. https://doi.org/10.1108/EJMBE-07-2017-009

Salhi, B., Riguen, R., Kachouri, M., & Jarboui, A. (2020). The mediating role of corporate social responsibility on the relationship between governance and tax avoidance: UK

common law versus French civil law. *Social Responsibility Journal*, *16*(8), 1149–1168. https://doi.org/10.1108/SRJ-04-2019-0125

Sikka, P. (2010). Smoke and mirrors: Corporate social responsibility and tax avoidance. *Accounting Forum*, *34*(3–4), 153–168.

Tench, R., Sun, W., & Jones, B. (2012). The challenging concept of corporate social irresponsibility: An introduction. In R. Tench, W. Sun, & B. Jones (Eds.), *Critical Studies on Corporate Responsibility, Governance and Sustainability* (Vol. 4, pp. 3–20). Emerald Group Publishing Limited. https://doi.org/10.1108/S2043-9059(2012)0000004009

Walker, K., Zhang, Z., & Ni, N. (2019). The mirror effect: Corporate social responsibility, corporate social irresponsibility and firm performance in coordinated market economies and liberal market economies. *British Journal of Management*, *30*(1), 151–168. https://doi.org/10.1111/1467-8551.12271

Wang, F., Xu, S., Sun, J., & Cullinan, C. P. (2020). Corporate tax avoidance: A literature review and research agenda. *Journal of Economic Surveys*, *34*(4), 793–811. https://doi.org/10.1111/joes.12347

Watson, L. (2015). Corporate social responsibility, tax avoidance, and earnings performance. *The Journal of the American Taxation Association*, *37*(2), 1–21. https://doi.org/10.2308/atax-51022

Wilson, R. J. (2009). An examination of corporate tax shelter participants. *The Accounting Review*, *84*(3), 969–999. https://doi.org/10.2308/accr.2009.84.3.969

Windsor, D. (2013). Corporate social responsibility and irresponsibility: A positive theory approach. *Journal of Business Research*, *66*(10), 1937–1944. https://doi.org/10.1016/j.jbusres.2013.02.016

Wooldridge, J. M. (2010). *Econometric analysis of cross section and panel data*. MIT press.

World Bank Group. (n.d.). *Metadata glossary*. Retrieved December 19, 2024, from https://databank.worldbank.org/metadataglossary/world-development-indicators/series/IC.TAX.TOTL.CP.ZS

Wu, J. (2014). The antecedents of corporate social and environmental irresponsibility. *Corporate Social Responsibility and Environmental Management*, *21*(5), 286–300. https://doi.org/10.1002/csr.1335

Zeng, T. (2019). Relationship between corporate social responsibility and tax avoidance: International evidence. *Social Responsibility Journal*, *15*(2), 244–257. https://doi.org/10.1108/SRJ-03-2018-0056

Zhang, Z., Gong, M., Zhang, S., & Jia, M. (2023). Buffering or aggravating effect? Examining the effects of prior corporate social responsibility on corporate social irresponsibility. *Journal of Business Ethics*, *183*(1), 147–163. https://doi.org/10.1007/s10551-022-05036-x

Zyphur, M. J., & Pierides, D. C. (2017). Is quantitative research ethical? Tools for ethically practicing, evaluating, and using quantitative research. *Journal of Business Ethics*, *143*, 1–16. https://doi.org/10.1007/s10551-017-3549-8