# The influence of corporate social responsibility on the level of corporate tax avoidance

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**Abstract**

This thesis empirically studies the relation between corporate social responsibility (CSR) and corporate tax avoidance. Based on a sample of 3304 observations between 2002 and 2014, I find that the CSR score of companies is negatively related to their effective tax rate. This indicates that on average, responsible companies are more involved in tax avoidance activities compared to less responsible companies. This result is robust against different sets of control variables. The results of this thesis are contrary towards previous research, where most studies find a negative relation between CSR and tax avoidance. In addition, I examine how four dimensions of CSR are related to corporate tax avoidance and I find that economic performance and environmental performance are positive significant related towards tax avoidance. This indicates that shareholder and client loyalty, as well as resource and emission reduction, relate to a higher extent of corporate tax avoidance.

Key words: corporate social responsibility, corporate tax avoidance, effective tax rate, economic performance, environmental performance.

## 1. Introduction

In recent years, two particular trends emerged in the area of business. First, the world has become increasingly globalized. Companies have outsourced elements of their production to low-wage countries and are serving customers all over the world. Due to this outsourcing of activities, companies are exposed to different tax rules, which enhance the opportunities for companies to evade corporate taxes by transferring their income to countries with lower corporate tax rates (Rego, 2003). Secondly, there is a growing attention from scholars and society towards corporate social responsibility (CSR) (Hoi, Wu and Zhang, 2013).

While an extensive amount of literature already existed on the separate areas of tax avoidance and CSR, little attention was paid to the linkage between those areas (Carroll and Joulfaian, 2005; Hanlon and Heitzman, 2010; Sikka, 2010; Preuss, 2010; Lanis and Richardson, 2012). Recent literature has started to fill this research gap that prevailed on the relation between CSR and corporate tax avoidance, and find that these topics are significantly related (Watson, 2011; Lanis and Richardson, 2012; Huseynov and Klamm, 2012; Hoi et al., 2013). Although literature has extended on this topic lately, the relation between CSR and tax avoidance is still not conclusive. An open question is whether specific CSR activities are more closely related to the tax policy of a company (Lanis and Richardson, 2012). This thesis addresses this question by investigating the relation between four CSR dimensions (economic, environmental, social, and corporate governance) and tax avoidance, as well as the relation between an integrated CSR score and tax avoidance. In this thesis the following synonyms are used interchangeably as a description of the concept of tax avoidance: tax evasion, tax aggressiveness, tax sheltering, and lowering the tax burden.

Theory regarding the area of CSR and tax avoidance implies that a complex relation exists between these two concepts. Carroll (1979) argues that CSR covers the entire range of duties a company has to society, which comprise economic, legal, ethical and discretionary responsibilities. Paying taxes meets this requirement in a conflicting way (Huseynov and Klamm, 2012). On the one hand, reducing the tax payments reduces costs and improves the profitability. As such, tax avoidance can be seen as an economic responsibility, which is "the first and foremost social responsibility of business" (Caroll, 1979, p. 500). On the other hand, tax avoidance can also be seen as neglecting the discretionary responsibility (Huseynov and Klamm, 2012). As a consequence, the ethical aspect of tax avoidance is subject to debate. Preuss (2010) mentions that tax payments are a crucial contribution towards society. He argues that CSR endangers to become nothing more than window-dressing when companies

neglect a basis aspect of economic contribution towards society, indicating that CSR and tax avoidance are inseparably linked. However, Huseynov and Klamm (2012) argue that in some instances it might be socially acceptable to reduce tax payments. Since lowering the tax payments increases the profitability, this puts companies in a better position to participate in costly CSR activities (Huseynov and Klamm, 2012). Research shows also a major difference among companies with regard to tax avoidance practices. McIntyre, Gardner, Wilkins and Phillips (2011) study the federal taxes paid by the 280 largest companies in the United States. They find major differences in the extent of tax avoidance between companies, indicating that different views exist among companies regarding corporate tax avoidance.

This thesis addresses the following research question: *Do companies that engage more in CSR activities avoid taxes to a lower extent compared to companies that are less engaged into CSR?* The purpose of this thesis is to answer this question by examining the relation between the CSR score of a company, provided by the ASSET4 database, and the effective tax rate (ETR). ETR is used as a proxy for corporate tax avoidance and is measured as the total tax expense over the pre-tax accounting income. To control for side effects, several control variables are included. In addition, I investigate how four dimensions of CSR are related to corporate tax avoidance. These four dimensions measure a company's economic, environmental, social, and corporate governance performance with regard to CSR. The analyses are based on a sample of 447 US companies between 2002 and 2014, leading to a total of 3304 firm-year observations.

The regression results show a significant negative relation between CSR and ETR, and are robust to different sets of control variables. This finding indicates that companies with a higher score on CSR performance are more inclined to avoid corporate taxes. This result contradicts the existing literature, which mostly documents a positive relation. In the additional analyses I find that CSR with regard to the economic dimension and the environmental dimension are both significantly positive related towards tax avoidance. This means that companies that are more loyal towards their shareholders and clients, or reduce resources and emissions, are more likely to avoid taxes. The social dimension of CSR shows a significant result in some cases; however this result is not conclusive. The results on the corporate governance dimension do not show a significant relation at all.

This thesis makes several contributions to the literature. First, to measure CSR I use the integrated CSR score from the ASSET4 database, which is based on more than 750 individual data points. The extensive amount of activities that is included in this score makes it a highly reliable measure. Previous research on the relation between CSR and tax avoidance relies on

less extensive measures of CSR. Moreover, the CSR score used in this thesis includes responsible as well as irresponsible activities of companies, whereas most previous studies focus merely on irresponsible activities. Second, I investigate the relation between four dimensions of CSR and tax avoidance. To my best knowledge, an analysis on the relation between different CSR areas and tax avoidance is not performed earlier using such an extensive sample. In addition, I find that the environmental performance of a company is significantly related towards tax avoidance, which could not be evinced by previous studies.

The remainder of the thesis is organized as follows: In the next section I give an overview of the literature regarding CSR and tax avoidance, which results in the development of five hypotheses. In section 3 I describe the research method and sample selection. Section 4 presents the descriptive statistics and the empirical results of my analyses, and section 5 provides a summary and conclusion.

## 2. Literature

### *2.1. Tax avoidance*

Theory describes corporate tax avoidance as "the downward management of taxable income through tax planning activities", which contains activities that are totally legal, activities that are doubtful and activities that are illegal (Lanis and Richardson, 2012, p. 86). Allingham and Sandmo (1972) claim that tax compliance on the individual level depends on tax rates, probability of detection and punishment, sanctions, risk-aversion, and civic duty. Most of these factors apply to companies as well (Hanlon and Heitzman, 2010). A motivation for noncompliance, or tax avoidance, is profits maximization (Chen, Chen, Cheng and Shevlin, 2010). From the company perspective, taxes are one of the major expenses of a company, so reducing these costs can have a large impact on the profit of the company (Landry, Deslandes and Fortin, 2013). To determine the optimum level of tax avoidance for a company, a tradeoff between marginal benefits and marginal costs should be made. The costs of tax avoidance include expenses for implementation and potential penalties (Chen et al., 2010). Friedman (1970) argues that the only responsibility for a company is to maximize shareholder value, which implies that companies have to engage in tax avoidance activities as long as this is profitable.

Companies can engage in several activities to reduce their tax burdens. However, this does not imply that all these activities are therefore improper (Dyreng, Hanlon and Maydew,

2008). Hanlon and Heitzman (2010) describe a continuum of tax planning strategies with on the one end perfectly legal activities, such as municipal bond investments, and on the other end activities that can be described with terms as evasion and aggressiveness, such as unethical transfer pricing. Transfer pricing is the pricing of transactions of tangible and intangible assets that are traded between countries but within the company, and is therefore mostly used by multinational companies (Mehafdi, 2000). Transfer pricing can become unethical when the pricing is unrelated to market values and merely used to transfer money from a high-tax jurisdiction to a low-tax jurisdiction. So tax planning activities can be anywhere along the continuum depending on the aggressiveness of the activity in reducing taxes (Hanlon and Heitzman, 2010). Since different views exist on the legitimacy of tax avoidance, the continuum is also useful as a starting point for a discussion on the ethical aspect of tax avoidance activities.

Whether corporate tax avoidance is ethically justified and to what extent, is highly doubtful and contradicting views exist in literature. Huseynov and Klamm (2012) mention that tax avoidance can be seen as a duty of a company towards its shareholders to reduce costs and increase shareholder wealth. Weisbach (2002) broadly discusses the topic of tax avoidance and raises the question why companies are not more involved into tax sheltering. Since the costs and risks of tax shelters are low, it is not clear why companies pay tax at all (Weisbach, 2002). On the other hand, Sikka (2010) argues that tax avoidance is an unethical activity, since it has major consequences for governments in developed countries as well as in developing countries in their ability to provide social goods. Fewer taxes paid by companies results in less money available to provide infrastructure, healthcare and education. As a consequence, society has to bear the costs of the tax avoidance of companies.

The study of McIntyre et al. (2011) shows that practices with regard to corporate tax avoidance vary as well. McIntyre et al. (2011) study the federal income taxes paid by the 280 largest and most profitable companies in the United States between 2008 and 2010. Their findings show that on average, these companies shelter half of their profits from taxes. Besides, they find that a quarter of the companies they study paid less than 10% taxes on their US profits. Compared to another quarter of companies that paid close to the full 35% tax rate, these results indicate that tax policies differ majorly between companies. Sikka (2010) considers corporate tax avoidance as a component of CSR, and therefore argues that engaging in CSR activities and tax avoidance activities simultaneously is implicitly contradicting each other.

*2.2. Corporate social responsibility*

The existing literature lacks a universal definition of the concept of corporate social responsibility. There is no well-developed consensus about the concept, and organizations and governments use definitions of CSR that best fit their own interest (van Marrewijk, 2003). Van Marrewijk (2003) argues that this wide array of definitions and the broad scope of CSR can be confusing for companies when they start to take up their responsibilities towards society. A broad definition is given by McWilliams and Siegel (2001), who define CSR as "actions that appear to further some social good, beyond the interests of the firm and that which is required by law" (McWilliams and Siegel, 2001, p. 117). Kaptein and Wempe (2002), take a more narrow approach towards CSR when they mention that companies need to balance and satisfy the 'Triple Bottom Line', which exist of Profit, People and Planet. Van Marrewijk (2003) proposes a definition of CSR based on this Triple Bottom Line, which states that companies have a responsibility towards three aspects of sustainability, which are the economic aspect, the environmental aspect and the social aspect. This is in line with the definition of CSR as formulated by Hoi et al. (2013). They consider CSR as "the shared belief within the organization about the right course of actions that takes into account the economic, social, environmental, and other externalized impacts of the company's activities" (Hoi et al., 2013, p. 2028). In this thesis I focus on the economic, social and environmental performance as three dimensions on which CSR can be applied. Besides, I take the corporate governance performance as a fourth dimension of CSR. The relation between CSR and corporate governance is investigated by Jamali, Safieddine and Rabbath (2008). They find that these concepts are closely related, and mention that corporate governance should be a necessary pillar for sustainable CSR. A thoroughly explanation of these four dimensions of CSR will be given in Section 2.3.

Moser and Martin (2012) mention that the traditional shareholder perspective suggests that managers do not intentionally engage in any CSR activity that will harm the company's shareholders. However, in exceptional cases it might be possible that managers engage in CSR activities at the cost of shareholders, especially when these activities are demanded by a broader group of stakeholders. McWilliams and Siegel (2001) go even further and mention that engagement in CSR is indicative of an agency problem between managers and shareholders, where managers use CSR for their own purpose at the expense of the shareholders. The agency theory states that potential conflicts of interest arise because of the separation of ownership and control between shareholders and managers. To prevent those

conflicts, governance mechanisms are set to monitor the management's behavior (Mallin, Michelon and Raggi, 2013).

On the other hand, Handy (2002) argues that the purpose of a company is to serve the community, rather than making profit. Laguir, Stagliano and Elbaz, (2015) mention that based on the stakeholder theory and the legitimacy theory, there is an implicit social contract between society and companies. The stakeholder theory states that besides shareholders, companies should attempt to satisfy all of their stakeholders (Freeman and Reed, 1983). Legitimacy theory assumes that companies should perform activities that are appropriate in the socially constructed system of norms, values, beliefs and definitions (Suchman, 1995) to build a relationship with their social and political environment (Laguir et al., 2015). Therefore companies that become larger in size and influence are no longer expected by society to contribute to the economy merely, but also to manage the interests of multiple stakeholders (Jamali, 2006). As a consequence, companies should invest in CSR activities even when this is at the costs of shareholders. However, the economic responsibility remains the most important responsibility for a company, and persists as a condition for costly CSR investments (Caroll, 1979)

Hoi et al. (2013) mention two theories that explain the motives for companies to engage in CSR activities. First of all, CSR can be viewed as a dimension of corporate culture. Corporate culture is viewed as a "pattern of shared values and beliefs that help individuals understand organizational functioning and thus provide them with the norms for behavior in the organization" (Deshpande and Webster, 1989, p. 4). These values and beliefs can be partially related to the company's behavior with regard to social responsibility. Since corporate culture can be an important driver of corporate policy, CSR might influence a company's tax policies (Hoi et al., 2013). Hoi et al. (2013) argue that when CSR is a component of the corporate culture, a company's tax policy should be aligned and therefore tax avoidance is positively related to irresponsible CSR activities. Second, companies can use CSR as an element of their risk management to avoid reputational damage. Godfrey, Merrill and Hansen (2009) argue that positive CSR activities are a driver of a company's reputation, and can act like an insurance for companies when they suffer a negative event. In case of a negative corporate event, stakeholders might moderate their judgement because of the company's goodwill. Hanlon and Slemrod (2009) mention that corporate tax avoidance is such an event that might result in negative sanctions or judgements about the company. They study the stock price reaction on news about corporate tax aggressiveness and find that involvement in tax avoidance results in a lower stock price. The effect is larger for industries

that are closer related to end consumers, like the retail industry. This suggests that corporate tax avoidance is negatively judged by consumers as well as potential investors. Companies can engage in CSR activities to reduce these potential consequences of corporate tax avoidance. When CSR is used by companies as a risk management tool, tax avoidance will be negatively related to irresponsible CSR activities (Hoi et al., 2013).

### *2.3. Hypothesis development*

Several scholars have conducted empirical research on the relation between CSR and corporate tax avoidance. Lanis and Richardson (2012) investigate 408 Australian companies for the 2008/2009 financial year and find that a higher level of CSR disclosure of companies relates to a lower degree of tax aggressiveness. To measure tax aggressiveness the authors use the effective tax rate. They use CSR disclosure as a proxy for CSR activity. Hoi et al. (2013) investigate the relation between aggressive tax avoidance and irresponsible CSR activities. They measure irresponsible CSR activities by using negative social ratings, and they use multiple measures for corporate tax avoidance. Based on 11006 observations of 2620 unique companies between 2003 and 2009, they find that companies with excessive irresponsible CSR activities are more aggressive in avoiding taxes. The authors argue that corporate culture is the underlying variable that affects both CSR activities and tax aggressiveness. The paper of Watson (2011) shows the same results, indicating that socially irresponsible companies are more tax aggressive and have greater unrecognized tax benefits compared to other companies. Corporate governance and human rights are the most important factors that cause this relation (Watson, 2011). However, the studies of Hoi et al. (2013) and Watson (2011) focus only on irresponsible CSR activities. In this thesis I extend the existing literature by investigating responsible and irresponsible companies together.

At the opposite side, some scholars conclude that companies that engage in CSR are not paying a substantial higher amount of taxes. Landry et al. (2013) show, based on a sample of Canadian companies, that the tax behavior of a company is not necessarily aligned with its CSR. Therefore, they argue that a misalignment exists between a company's talks and actions. Carroll and Joulfaian (2005) argue that a higher degree of tax avoidance is related to more charity giving. Preuss (2010) investigates the codes of conduct of companies which locate their headquarters in tax havens, and compares them with a sample of ordinary US companies. He finds that companies with their headquarter in a tax haven do not design less codes of conduct, indicating that these companies are not less responsible compared to the

companies in the control group. However, the commitments these companies make towards their key stakeholders fall in almost all cases short of those made by the control group, which indicates that these companies are less responsible (Preuss, 2010). These results are confirmed by Sikka (2010), who argues that part of the companies are involved in CSR activities and tax avoidance activities simultaneously.

However, most studies that find a negative relation between CSR and tax avoidance rely on more extensive measures and use larger samples compared to the studies that find a positive relation. Since my research design is more comparable to those of Watson (2011), Lanis and Richardson (2012) and Hoi et al. (2013) I expect a negative relation between CSR and tax avoidance. Moreover, theory argues that due to a corporate culture, more responsible companies will implicitly be less inclined to avoidance corporate taxes. Therefore, this thesis empirically tests the following hypothesis:

*H1: The level of corporate social responsibility is negatively related to the extent of corporate tax avoidance.*

Additionally, I test how four dimensions of CSR relate to tax avoidance. Studying different dimensions of CSR is important, since CSR is a complex concept which covers many different areas. Therefore aggregating CSR into one single measure causes a loss of interesting and explanatory information (Laguir et al., 2015). Based on Hoi et al. (2013) and Jamali et al. (2008), the four dimensions investigated in this thesis are the economic, environmental, social and corporate governance performance.

The CSR score of a company with regard to economic performance is measured by client loyalty, economic performance, and shareholders loyalty (Ribando and Bonne, 2010). Based on the literature, I expect CSR on the economic dimension to be positively associated with corporate tax avoidance. Friedman (1970) argues that it is the company's only responsibility to maximizes profit while acting conform the basic rules of society. Only individuals can have social responsibilities based on their values. For managers this implies that when they act as an agent of the company, their personal responsibilities become irrelevant as they have to comply with the interests of the company (Friedman, 1970). In this regard, managers should meet the optimal level of tax avoidance, based on marginal benefits and marginal costs, for the purpose of the shareholders (Chen et al., 2010). Therefore, it is expected that a company that makes many commitments towards their shareholders will also be more inclined to avoid taxes for the benefit of their shareholders. This is confirmed by the research of Laguir et al.

(2015) who find that, based on a sample of French listed companies, a higher level of CSR on the economic dimension relates to a higher level of tax aggressiveness. Hanlon and Heitzman (2010) claim that in a normal case, and when the appropriate managerial incentives are used, no agency problems arise with regard to tax avoidance since managers and shareholders are both interested in a lower tax burden. However, Desai, Dyck and Zingales (2007) describe a situation where managers create a complex company structure that reduces the corporate tax burden and simultaneously enables them to subtract corporate resources for their private use. In that case an agency problem arises between the managers and the outside shareholders, whereby the interests of the shareholders are now opposing the interests of the managers and aligned with the interests of the tax authorities. In this situation a lower tax rate could be associated with a lower CSR score on the economic dimension.

The CSR score on the environmental dimension depends on a company's resource reduction, emission reduction and product innovation (Ribando and Bonne, 2010). However, little is known about whether a relation exists between environmental performance and tax avoidance. Lanis and Richardson (2012) and Laguir et al. (2015) examine this relation but they do not find any significant result. Therefore I do not expect a significant relation on this dimension.

The social performance of a company is based on employment quality, health & safety, training & development, diversity, human rights, community, and product responsibility (Ribando and Bonne, 2010). With regard to the social performance of companies, Lanis and Richardson (2012) find that more disclosure on social investments is significantly related to lower tax aggressiveness. This is confirmed by Laguir et al. (2015) and Watson (2011), who show that the higher (lower) the level of CSR on the social dimension, the lower (higher) the level of tax aggressiveness. Huseynov and Klamm (2012) show that CSR concerns with regard to community and diversity affect the tax avoidance activities of companies. More specific, they find evidence that companies with diversity concerns have lower tax rates. Contradicting to this result, they find that the effective tax rate is higher for companies with community concerns, indicating that a lower CSR score is related to a lower extent of tax avoidance. In line with the latter, Carroll and Joulfaian (2005) find that charity giving and tax avoidance are positively related. However, based on most of the empirical findings, I expect a slightly negative relation between social performance and tax avoidance.

Corporate governance is determined by the company's board structure, compensation policy, board functions, shareholder rights, and vision & strategy (Ribando and Bonne, 2010). Desai and Dharmapala (2006) find that higher managerial incentive compensation, which is

seen as an element of strong corporate governance, significantly reduces the level of tax sheltering. Watson (2011) supports those results when he argues that irresponsible actions in the area of corporate governance are associated with more tax aggressiveness. The research of Minnick and Noga (2010) points out that staggered board membership, which is viewed as an element of strong corporate governance, is associated with higher tax rates, indicating a lower level of tax avoidance. However, in addition Minnick and Noga (2010) find that performance-based executive payments are related to lower tax rates, indicating a higher level of tax avoidance. This is directly opposing towards the results of Desai and Dharmapala (2006). The results of Huseynov and Klamm (2012) support this, as they show that corporate governance strengths are negatively related to the effective tax rate, meaning that strong corporate governance would be related to a higher degree of tax avoidance. Armstrong, Blouin, Jagolinzer and Larcker (2015) investigate the relation between various corporate governance mechanisms and corporate tax avoidance as well, but find only a significant relation for extreme values of tax avoidance. However, the relation between corporate governance and tax avoidance is positive for low levels of tax avoidance, but negative for high levels of tax avoidance. Based on these studies, corporate governance seems related to corporate tax avoidance but since these studies show contradicting results I cannot predict this relation to be positive or negative.

Based on the literature on the four dimensions of CSR I derive the following hypotheses for the relation between corporate tax avoidance and the CSR dimensions:

*H2: The level of CSR on the economic dimension is positively related to the extent of corporate tax avoidance.*

*H3: The level of CSR on the environmental dimension is not related to the extent of corporate tax avoidance.*

*H4: The level of CSR on the social dimension is negatively related to the extent of corporate tax avoidance.*

*H5: The level of CSR on the corporate governance dimension is related to the extent of corporate tax avoidance.*

## 3. Methodology

### *3.1. Measurement of corporate tax avoidance*

The dependent variable in this analysis is the extent of corporate tax avoidance. Problematic for research on this area is the lack of an appropriate measure of tax avoidance (Hanlon and Heitzman, 2010). Hanlon and Heitzman (2010) describe several measures of corporate tax avoidance, though all of them have their drawbacks. First, taxable income and tax expenses are reported in the company's financial statements and the company's tax returns, but the latter is confidential and only available for tax authorities. However, the financial statements lack sufficient disclosure on taxable income (Hanlon and Heitzman, 2010). Therefore the accuracy of the tax avoidance measures based on financial statements is questionable (Plesko, 2003). However, no other data source is available. Second, it is almost impossible to measure precisely the extent of tax avoidance of a company. No appropriate measure exists to compute the tax burden when a company would not engage in any tax avoidance activity, and therefore the exact amount of tax avoidance is unknown. This is caused by the fact that multinational companies are located in numerous countries. Therefore they are subject to various tax rates and tax rules, which makes it highly complicated to calculate a company's tax burden (Gupta and Newberry (1997). Thereby, activities that are not primarily undertaken to avoid corporate taxes, might still lower a company's tax rate as a side effect, such as debt financing. Although the main purpose of issuing debt is to finance a company's assets, it also reduces the company's tax burden. To what extent such activities should be considered as tax evasion can be subject of debate. Because of these issues, no objective measurement for tax avoidance exists and a proxy for corporate tax avoidance should be used.

In this thesis I use the effective tax rate (ETR) as a proxy of corporate tax avoidance. The effective tax rate is calculated as the worldwide total tax expense divided by the worldwide pretax accounting income (Hanlon and Heitzman, 2010). Therefore ETR measures the ability of a company to reduce its tax payments relative to its pre-tax income (Lanis and Richardson, 2012). Rego (2003) argues that ETRs can be considered as a reasonable measure of effective tax planning since it takes differences between taxable income and financial accounting income into account. More specific, book-tax difference is reflected in the ETR because the numerator is based on the taxable income, and the denominator is based on financial accounting income (Rego, 2003). These book-tax differences exist because taxable income is

based on income reported to the tax authorities, whereas financial accounting income is reported towards the capital markets (Desai and Dharmapala (2009). Generally, companies that engage in tax planning try to lower the taxable income while maintaining their financial income (Laguir et al., 2015). Thereby, multinational companies frequently use foreign operations to shift their taxable income from a high-tax jurisdiction towards a low-tax jurisdiction to reduce their worldwide tax burden. The worldwide ETR captures this way of tax avoidance as well (Rego, 2003).

### *3.2. Measurement of corporate social responsibility*

The independent variable in this thesis is the CSR score of a company as provided by Thomson Reuters in the ASSET4 database. This CSR score is based on more than 750 individual data points and is the weighted average of the scores on four dimensions. Companies receive a score on their economic performance, environmental performance, social performance and corporate governance performance between 0 and 100 with a higher score indicating a better performance. The combined score of the four dimensions, the integrated rating, is denoted in this thesis as CSR.

In the additional analysis the four dimensions of CSR are incorporated as independent variables to declare which area of CSR has a significant influence on the extent of corporate tax avoidance. The economic score (CSREC), environmental score (CSREN), social score (CSRSO), and corporate governance score (CSRCG) are separately analyzed in four individual models as well as together in one model.

Subjects measured in the economic score are client loyalty, economic performance, and shareholders loyalty. The environmental performance is measured by a company's resource reduction, emission reduction, and product innovation. Social performance is rated on the basis of employment quality, health & safety, training & development, diversity, human rights, community, and product responsibility issues. The corporate governance score consists of measures for board structure, compensation policy, board functions, shareholder rights, and vision & strategy (Ribando and Bonne, 2010).

### *3.3. Control variables*

Besides the level of CSR, literature mentions several other factors that influence the extent of corporate tax avoidance, which should therefore be included in the analysis as

control variables. Based on the paper of Desai and Dharmapala (2009) I incorporate total accruals as a control variable. In their analysis, Desai and Dharmapala (2009) use the book-tax gap as a proxy for tax avoidance, and argue that this gap does not necessarily measure the magnitude of tax avoidance. In particular they mention the use of earnings management, which is the overreporting of financial income, as an additional explanation for the book-tax gap. Earnings management arises when managers decide to use accounting procedures and accruals to influence the total income of the company in order to maximize the value of their bonus award (Healy, 1985). Hanlon (2005) even interprets the book-tax gap entirely as being caused by earnings management, ignoring tax avoidance as a component of the book-tax gap. Although this thesis measures tax avoidance by the ETR instead of the book-tax gap, controlling for earnings management remains important. Rego (2003) argues that a variation in the book-tax gap induces a variation in the ETR since both are measures for the difference between taxable income and financial accounting income. Therefore total accruals is an appropriate proxy to control for earnings management in this thesis as well. To measure total accruals (TA) I use the following equation:

$$TA_{i,t} = \frac{\left(CAT_{i,t} - CAT_{i,t-1}\right) - \left(CLT_{i,t} - CLT_{i,t-1}\right) - \left(CSI_{i,t} - CSI_{i,t-1}\right) + \left(DCL_{i,t} - DCL_{i,t-1}\right) - DPA_{i,t}}{AT_{i,t-1}} \quad (1)$$

In the abovementioned equation CAT is the total current assets of a company, CLT is the total current liabilities, CSI stands for the cash and short-term investments, DCL is the debt in current liabilities and DPA stands for the depreciation and amortization. To control for size differences, the numerator is scaled by total assets (AT).

Besides, literature describes several company specifics that affect the effective tax rate. Gupta and Newberry (1997) study determinants of the effective tax rate and find that a company's capital structure and return on assets are systematically related to its ETR. For capital structure this can be explained by the tax deductibility of debt, which causes that a company with more debt should have a lower ETR. However, debt financing is seen as a tax avoidance activity that is less aggressive. Since Hanlon and Heitzman (2010) point out that most interest for researchers is in intentional activities that are more aggressive in avoiding taxes I include financial leverage (LEV) as a control variable. Financial leverage is measured as the long-term debt divided by total assets (Gupta and Newberry, 1997; Lanis and Richardson, 2012). I also include Return on assets (ROA) as a control variable, measured as

the pretax income divided by total assets (Gupta and Newberry, 1997). Furthermore, Gupta and Newberry (1997) find that in some cases size affects the ETR of a company. Therefore I take size (SIZE) as a control variable in my analysis, measured by the log of total assets. Finally, I include research and development expenditures (R&D) as a control variable, based on the study of Stickney and McGee (1983). The research and development expenditures are scaled by total assets (Hoi, et al., 2013).

### *3.4. Sample selection*

To test the relation between CSR and corporate tax avoidance, data of US companies between 2002 and 2014 are used. The total CSR score and the scores on the four different CSR areas are obtained from the ASSET4 database, which started to provide CSR scores as of 2002. The financial data are obtained from the Compustat database. US companies are used since they allow the largest sample with companies from one single country, which improves the comparability with regard to taxation rules and CSR regulation. Differences exist between countries in legislation regarding taxes and CSR, and this might disturb the results of the study.

The sample is restricted by the ASSET4 database, which collects data on CSR policy and performance of 988 US companies. Not all companies have data available for all 13 years; however companies with fewer observations are incorporated in the analysis as well since cross-sectional differences are at least as important as the evolvement over time. Out of the 988 companies available on ASSET4, 961 have financial data available on Compustat, leading to a total of 14377 observations. The sample size is further reduced because of the following exclusions, based on Lanis and Richardson (2012): Companies that are categorized as financial service are excluded because they are subject to other tax regulations than non-financial companies, which might influence their ETR (211 companies, 4591 observations). Thereby, observations for which no financial or CSR information is available are excluded (2778 observations). Observations with a negative pretax income, a negative tax expense, or a negative total income are removed, since these create negative ETRs and therefore disturb the analysis (1104 observations). Observations with an ETR exceeding one are excluded, because they might disturb the analysis as well (72 observations). Lastly firm years for which long-term debt or a component of accruals is missing are excluded (332 observations), as well as firm years with missing R&D expenditures (2196 observations), since these are required for the control variables. After these exclusions the final sample exists of 447 companies, which

leads to an unbalanced panel of 3304 observations. When disregarding the R&D expenditures, as is done for a robustness check, the sample exists of 730 unique companies and 5500 firm-year observations.

*3.5. Regression model*

To test whether the CSR score of a company influences the extent of tax avoidance I use an OLS regression with time fixed effects and cross-sectional fixed effects as well as a pooled OLS regression with White period. The OLS regression with fixed effects controls for unobserved effects and tests only the within-group variation. However, since CSR is not expected to show large deviations over the years within a company I use also a pooled OLS regression which ignores unobserved effects. For the pooled OLS I use the White period method since it provides me with standard errors that are robust to arbitrary serial correlation, which is essential when less variation exist in CSR over time. Using both tests gives a more thorough overview of the relation between CSR and ETR. I use the following base regression model to examine the relation between CSR and tax avoidance:

$$ETR_{i,t} = \alpha_1 + \beta_2 CSR_{i,t} + \beta_3 TA_{i,t} + \beta_4 SIZE_{i,t} + \beta_5 ROA_{i,t} + \beta_6 LEV_{i,t} + \beta_7 R\&D_{i,t} + \varepsilon_{i,t} \quad (2)$$

In this equation CSR stands for the integrated CSR score, TA is total accruals, SIZE is measured by the log of total assets, ROA stands for return on assets, LEV is the financial leverage, and R&D are the R&D expenditures scaled by total assets.

In the additional analysis I test the relation between the scores on the four dimensions of CSR and the effective tax rate. Therefore I incorporate the economic (CSREC), environmental (CSREN), social (CSRSO), and corporate governance (CSRCG) performance as independent variables in separate models as well as all together in one model. This provides me with five different models, which I test once with an OLS regression with time fixed and cross-sectional fixed effects, and once with a pooled OLS regression with White period. This provides me with a total of ten different models. For the additional analysis with the four dimensions all together in one model I use the following regression model:

$$ETR_{i,t} = \alpha_1 + \beta_2 CSREC_{i,t} + \beta_3 CSREN_{i,t} + \beta_4 CSRSO_{i,t} + \beta_5 CSRCG_{i,t} + \beta_6 TA_{i,t} + \beta_7 SIZE_{i,t} + \beta_8 ROA_{i,t} + \beta_9 LEV_{i,t} + \beta_{10} R\&D_{i,t} + \varepsilon_{i,t} \quad (3)$$

In the four separate models, only one of the four dimensions (CSREC, CSREN, CSRSO and CSRCG) is incorporated in the equation.

## 4. Results

### *4.1. Descriptive statistics*

Table 1 presents the descriptive statistics of the variables included in this thesis. For all variables a total of 5500 observation is available, except for R&D, which has 3304 firm-year observations available. Ratings on the five CSR variables are between 1.24 and 99.01. The median of these CSR variables varies substantial; CSR has a median of 58.48, the economic score (CSREC) has a median of 62.29, the environmental score (CSREN) has a median of 38.17, the social score (CSRSO) has a median of 47.83, and the corporate governance score (CSRCG) has a median of 78. The effective tax rate (ETR) varies from 0 until 99.4 with a mean of 30.37 and a median of 31.98.

**Table 1**
**Descriptive statistics**

| Variable | N | Mean | Std. dev. | Minimum | median | Maximum |
|---|---|---|---|---|---|---|
| CSR | 5500 | 58.638 | 28.127 | 2.96 | 58.48 | 98.56 |
| CSREC | 5500 | 59.360 | 26.719 | 1.24 | 62.29 | 99.01 |
| CSREN | 5500 | 46.656 | 31.797 | 8.46 | 38.17 | 97.29 |
| CSRSO | 5500 | 50.247 | 28.593 | 4.23 | 47.825 | 98.88 |
| CSRCG | 5500 | 74.349 | 16.847 | 1.43 | 77.995 | 97.89 |
| ETR | 5500 | 0.304 | 0.108 | 0 | 0.320 | 0.994 |
| TA | 5500 | -0.039 | 0.054 | -0.950 | -0.036 | 0.706 |
| SIZE | 5500 | 8.857 | 1.244 | 5.014 | 8.723 | 12.764 |
| ROA | 5500 | 0.118 | 0.086 | 0.001 | 0.100 | 1.273 |
| LEV | 5500 | 0.210 | 0.178 | 0 | 0.191 | 2.616 |
| R&D | 3304 | 0.037 | 0.045 | 0 | 0.019 | 0.351 |

The sample exists of US companies between 2002 and 2014. Data on CSR scores are obtained from the ASSET4 database, financial data are obtained from the Compustat database.

Variable description: CSR = score for total CSR performance; CSREC = score for CSR with regard to economic performance; CSREN = score for CSR with regard to environmental performance; CSRSO = score for CSR with regard to social performance; CSRCG = score for CSR with regard to corporate governance performance; ETR = total tax expense divided by pretax income; TA = total accruals (see equation 1 on page 14); SIZE = log of total assets; ROA = pretax income divided by total assets; LEV = long-term debt divided by total assets; R&D = R&D expenditure divided by total assets.

Appendix A shows the correlations between all the variables, including the control variables. The integrated CSR score and the scores on the four sub dimensions are highly correlated with one another, varying from 0.434 (The corporate governance score and the economic score) until 0.900 (the integrated CSR score and the social score). All CSR scores show a negative correlation with the effective tax rate, which indicates that a higher score on a particular CSR area correlates to a higher amount of tax avoidance. Regarding the control variables, R&D expenditures shows the highest correlation with the effective tax rate, which is -0.272.

### *4.2. Regression results*

Table 2 reports the results of the OLS regression with time fixed and cross-sectional fixed effects in the first column, and the pooled OLS regression with White period in the second column. Both tests show that the integrated CSR score of a company has a negative relation with ETR, which is significant at the 1% level. The coefficient for the pooled OLS regression (-0.051) is slightly higher than for the OLS regression with fixed effects (-0.036). The results show that a higher CSR rating is related to a higher extent of corporate tax avoidance. This indicates that a misalignment exists between corporate talk and corporate actions (Sikka, 2010; Landry et al., 2013). An explanation for this result could be that companies use CSR activities as a risk management tool (Hoi et al., 2013).

Based on these results I have to reject the first hypothesis, which states that the level of corporate social responsibility is negatively related to the extent of tax avoidance. My results show the opposite of the empirical studies from Lanis and Richardson (2012), Hoi et al. (2013) and Watson (2011), who all find that better CSR performance is related to a lower extent of tax avoidance. These differences can be due to the measurements of CSR that are used. Hoi et al. (2013) and Watson (2011) both focus on the influence of irresponsible CSR activities on tax avoidance, whereas I use the whole range of CSR scores, including extremely well performing companies and extremely irresponsible companies. Lanis and Richardson (2012) measure the level of CSR disclosure by companies in their annual reports and CSR reports as a proxy of CSR, which might provide different results as well.

In the model with fixed effects, financial leverage (LEV) is the only control variable that is significantly related with ETR. This relation is negative and significant at the 1% level, which indicates that companies that take on more debt have a lower effective tax rate than

companies with less debt. This is in line with the expectations since debt is tax deductible. Total accruals (TA), total assets (SIZE), return on assets (ROA) and R&D expenditure (R&D) are all insignificant. The pooled OLS regression shows a negative relation with regard to financial leverage (LEV) which is significant at the 10% level. In this model ETR is also significantly related to total accruals (negative at the 10% level), return on assets (positive at the 1% level), and R&D expenditure (negative at the 1% level). In the pooled OLS model only total assets (SIZE) is insignificant.

**Table 2**
**Influence of the integrated corporate social responsibility performance on the effective tax rate using fixed effects and pooled OLS regression**

| | ETR (1) | ETR (2) |
|---|---|---|
| CSR * 100 | -0.036*** | -0.051*** |
| | (0.012) | (0.012) |
| TA | -0.026 | -0.083* |
| | (0.036) | (0.049) |
| SIZE | -0.008 | -0.002 |
| | (0.006) | (0.003) |
| ROA | -0.058 | 0.137*** |
| | (0.038) | (0.042) |
| LEV | -0.049*** | -0.029* |
| | (0.018) | (0.017) |
| R&D | 0.044 | -0.697*** |
| | (0.131) | (0.080) |
| intercept | 0.395*** | 0.345*** |
| | (0.055) | (0.025) |
| Fixed effects | YES | NO |
| Adjusted $R^2$ | 0.436 | 0.105 |
| Number of observations | 3304 | 3304 |

*, **, *** indicate significance at the 10%, 5% and 1% levels, respectively.
Standard errors are presented in parentheses.
The sample exists of US companies between 2002 and 2014. Data on CSR scores are obtained from the ASSET4 database, financial data are obtained from the Compustat database.
In model 1 an OLS regression with time fixed and cross-sectional fixed effects is used, in model 2 a pooled OLS regression with White period is used.
The value of CSR is multiplied by 100 just for presentation issues.
Variable description: ETR = total tax expense divided by pretax income; CSR = score for total CSR performance; TA = total accruals (see equation on page 14); SIZE = log of total assets; ROA = pretax income divided by total assets; LEV = long-term debt divided by total assets; R&D = R&D expenditure divided by total assets.

*4.3. Additional analysis*

In the additional analysis I test which of the four CSR dimensions (economic, environmental, social and corporate governance) is significantly related with ETR. Table 3 presents the results of these regression analyses. The first column shows the results for the four sub scores incorporated into one model by using fixed effects, and the columns 2 till 5 show the results when incorporating them separate into four individual models, also using fixed effects. Column 6 shows the outcomes for the OLS regression with the four dimensions in one model using a pooled OLS with White period. The columns 7 to 10 show the results when the four dimensions are separated into four individual models by using pooled OLS with White period as well.

The table shows that the economic dimension of CSR (CSREC) is negatively related to ETR. The models with fixed effects (1 and 2) both show a significant relation between CSREC an ETR, and this result is similar for both models with pooled OLS (6 and 7). The relation in all models is negative and significant at the 1% level. Since all models are highly significant, this strongly indicates that a higher score on the economic CSR dimension is related to a higher extent of corporate tax avoidance, which supports the second hypothesis. Therefore, a company that scores high on client loyalty and shareholder loyalty is more inclined to avoid taxes than a company with a lower score. The same applies for a particular company over time, where an increase in their economic score on CSR will be related to a decrease in their effective tax rate. The pooled OLS regressions show a slightly larger coefficient than the regressions with fixed effects (-0.053 and -0.054 against -0.048 and -0.043 respectively). These results are in line with the theory of Moser and Martin (2012), who argue that managers will not engage in CSR activities at the cost of shareholders. Intentionally paying a higher share of taxes can be seen as such a CSR activity that harms shareholders and based on the results, companies are not inclined to do so when they are more loyal towards their shareholders. My results are in line with the results of Laguir et al. (2015) who find that, based on a sample of French companies, a higher level of CSR on the economic dimension relates to a higher level of tax avoidance.

For the environmental dimension of CSR (CSREN) a significant relation with ETR is found in both pooled OLS models (6 and 8). This relation is negative and significant at the 1% level. Both models with fixed and cross-sectional fixed effects (1 and 3) show no significant relation with ETR, indicating that no significant relation exists when unobserved effects are taken into account. The results of the pooled OLS models show that companies

**Table 3**

**Influence of the economic, environmental, social and corporate governance performance on the effective tax rate using fixed effects and pooled OLS regression**

| | ETR (1) | ETR (2) | ETR (3) | ETR (4) | ETR (5) | ETR (6) | ETR (7) | ETR (8) | ETR (9) | ETR (10) |
|---|---|---|---|---|---|---|---|---|---|---|
| CSREC *100 | -0.048*** | -0.043*** | - | - | - | -0.053*** | -0.054*** | - | - | - |
| | (0.009) | (0.009) | | | | (0.011) | (0.011) | | | |
| CSREN *100 | -0.014 | - | -0.013 | - | - | -0.051*** | - | -0.043*** | - | - |
| | (0.012) | | (0.010) | | | (0.014) | | (0.010) | | |
| CSRSO *100 | 0.020 | - | - | -0.004 | - | 0.035** | - | - | -0.026** | - |
| | (0.013) | | | (0.011) | | (0.016) | | | (0.012) | |
| CSRCG *100 | 0.018 | - | - | - | 0.007 | 0.019 | - | - | - | -0.026 |
| | (0.016) | | | | (0.015) | (0.021) | | | | (0.020) |
| TA | -0.028 | -0.026 | -0.028 | -0.028 | -0.029 | -0.090* | -0.090* | -0.087* | -0.092* | -0.093* |
| | (0.036) | (0.036) | (0.037) | (0.037) | (0.037) | (0.049) | (0.048) | (0.050) | (0.050) | (0.050) |
| SIZE | -0.008 | -0.007 | -0.009 | -0.009 | -0.009 | -0.001 | -0.003 | -0.002 | -0.004 | -0.007** |
| | (0.006) | (0.006) | (0.006) | (0.006) | (0.006) | (0.003) | (0.003) | (0.003) | (0.003) | (0.003) |
| ROA | -0.033 | -0.033 | -0.070* | -0.070* | -0.071* | 0.138*** | 0.148*** | 0.128*** | 0.134*** | 0.126*** |
| | (0.038) | (0.038) | (0.038) | (0.038) | (0.038) | (0.042) | (0.042) | (0.042) | (0.042) | (0.042) |
| LEV | -0.054*** | -0.054*** | -0.047** | -0.047*** | -0.047*** | -0.034** | -0.035** | -0.025 | -0.024 | -0.027 |
| | (0.018) | (0.018) | (0.018) | (0.018) | (0.018) | (0.017) | (0.017) | (0.017) | (0.017) | (0.017) |
| R&D | 0.043 | 0.034 | 0.048 | 0.041 | 0.041 | -0.693*** | -0.718*** | -0.681*** | -0.707*** | -0.719*** |
| | (0.131) | (0.130) | (0.131) | (0.131) | (0.131) | (0.080) | (0.080) | (0.080) | (0.080) | (0.080) |
| Intercept | 0.381*** | 0.393*** | 0.390*** | 0.388*** | 0.382*** | 0.338*** | 0.363*** | 0.336*** | 0.352*** | 0.379*** |
| | (0.056) | (0.055) | (0.055) | (0.055) | (0.056) | (0.029) | (0.025) | (0.026) | (0.026) | (0.026) |
| Fixed effects | YES | YES | YES | YES | YES | NO | NO | NO | NO | NO |
| Adjusted $R^2$ | 0.440 | 0.439 | 0.435 | 0.434 | 0.434 | 0.115 | 0.108 | 0.105 | 0.099 | 0.095 |
| Number of observations | 3304 | 3304 | 3304 | 3304 | 3304 | 3304 | 3304 | 3304 | 3304 | 3304 |

*, **, *** indicate significance at the 10%, 5% and 1% levels, respectively.

Standard errors are presented in parentheses.

The sample exists of US companies between 2002 and 2014. Data on CSR scores are obtained from the ASSET4 database, financial data are obtained from the Compustat database.

In model 1 to 5 OLS regressions with time fixed and cross-sectional fixed effects are used, in model 6 to 10 pooled OLS regressions with White period are used. In model 1 and 6 the four CSR dimensions are incorporated together in one model, in model 2 to 5 and 7 to 10 these dimensions are incorporated in separate models.

The values of CSREC, CSREN, CSRSO and CSRCG are multiplied by 100 just for presentation issues.

Variable description: ETR = total tax expense divided by pretax income; CSR = score for total CSR performance; CSREC = score for CSR with regard to economic performance; CSREN = score for CSR with regard to environmental performance; CSRSO = score for CSR with regard to social performance; CSRCG = score for CSR with regard to corporate governance performance; TA = total accruals (see equation 1 on page 14); SIZE = log of total assets; ROA = pretax income divided by total assets; LEV = long-term debt divided by total assets; R&D = R&D expenditure divided by total assets.

that are more involved into resource reduction, emission reduction, and product innovation are also more involved into tax avoidance. Based on these results I should reject my third hypothesis, since I expected the environmental performance to be unrelated to tax avoidance. Previous research on the environmental performance of companies did not show a significant relation with tax avoidance (Lanis and Richardson, 2012; Laguir et al., 2015), making this a unique insight.

For the relation between social performance (CSRSO) and ETR I find contradicting results. The pooled OLS regression shows a positive relation when the dimensions are incorporated into one model (6), although a negative relation exists when the social score is incorporated separately into an individual model (9). Both models show a relation that is significant at the 5% level, indicating that CSR regarding social performance is related to corporate tax avoidance. Both models with fixed effects (1 and 4) do not show any significant relation between social performance and ETR. Therefore I do not find any support for the fourth hypothesis, which states that social performance is negatively related to tax avoidance.

The CSR score with regard to corporate governance (CSRCG) does not show a significant relation with ETR in any of the regression models (1, 5, 6 and 10), indicating that board structure, compensation policy, board functions, shareholder rights, and vision & strategy are not significantly influencing the degree of tax avoidance. This result is opposing the theory of Watson (2011), who argues that corporate governance is one of the most important drivers of the relation between CSR and tax avoidance. Therefore these results do not provide any support for the fifth hypothesis.

The control variables in the additional analysis show the same pattern as the control variables in the base regression model. For all models with fixed effects (1 to 5), financial leverage (LEV) is negative and significant at the 1% level, which might be due to the tax deductibility of debt. Besides, only return on assets (ROA) shows a significant relation in some of the fixed effects models (2, 3 and 4). This relation is negative and significant at the 10% level, indicating that when a company becomes more profitable it will decrease its tax burden. For the models with a pooled OLS regression I find opposite results regarding return on assets (ROA). In all five models (6 to 10) the relation is positive and significant at the 1% level, indicating that companies which are more profitable are paying a higher tax rate compared to companies that are less profitable. In all the pooled OLS models I find also a significant relation for total accruals (TA) (negative at the 10% level), and R&D expenditures (R&D) (negative and significant at the 1% level). Total assets (SIZE) is insignificant in all

models except for model 10 (negative and significant at the 5% level). Financial leverage (LEV) is only significant in model 6 and 7 (negative and significant at the 5% level).

*4.4. Robustness check*

As a robustness check I test whether the results of the base regression will be similar when excluding some control variables from the model. I take the pooled OLS regression with White period as a starting point, and I test whether the relation between the integrated CSR score and ETR holds when different sets of control variables are used. Table 4 shows the

**Table 4**
**Robustness check testing the influence of the integrated corporate social responsibility performance on the effective tax rate using different sets of control variables**

| | ETR (1) | ETR (2) | ETR (3) | ETR (4) | ETR (5) |
|---|---|---|---|---|---|
| CSR * 100 | -0.051*** | -0.066*** | -0.054*** | -0.055*** | -0.056*** |
| | (0.012) | (0.011) | (0.011) | (0.011) | (0.009) |
| TA | -0.083* | -0.090** | -0.082* | - | - |
| | (0.049) | (0.038) | (0.049) | | |
| SIZE | -0.002 | 0.005* | - | - | - |
| | (0.003) | (0.003) | | | |
| ROA | 0.137*** | 0.090*** | 0.141*** | 0.146*** | - |
| | (0.042) | (0.033) | (0.041) | (0.041) | |
| LEV | -0.029* | 0.009 | -0.030* | - | - |
| | (0.017) | (0.016) | (0.017) | | |
| R&D | -0.697*** | - | -0.692*** | -0.660*** | - |
| | (0.080) | | (0.080) | (0.082) | |
| intercept | 0.345*** | 0.279*** | 0.334*** | 0.330*** | 0.337*** |
| | (0.025) | (0.026) | (0.011) | (0.010) | (0.006) |
| Fixed effects | NO | NO | NO | NO | NO |
| Adjusted $R^2$ | 0.105 | 0.029 | 0.105 | 0.102 | 0.021 |
| Number of observations | 3304 | 5500 | 3304 | 3304 | 5500 |

*, **, *** indicate significance at the 10%, 5% and 1% levels, respectively.
Standard errors are presented in parentheses.
The sample exists of US companies between 2002 and 2014. Data on CSR scores are obtained from the ASSET4 database, financial data are obtained from the Compustat database.
Model 1 show the same pooled OLS results as in table 2, in model 2 R&D is excluded, in model 3 all insignificant control variables are excluded, in model 4 control variables which are not significant at the 1% level are excluded, and in model 5 all control variables are excluded.
The value of CSR is multiplied by 100 just for presentation issues.
Variable description: ETR = total tax expense divided by pretax income; CSR = score for total CSR performance; TA = total accruals (see equation 1 on page 14); SIZE = log of total assets; ROA = pretax income divided by total assets; LEV = long-term debt divided by total assets; R&D = R&D expenditure divided by total assets.

results of the robustness check using the pooled OLS regression with White period. The results in the first column are similar to the results in the second column of table 2 on page 19. The second column shows the results of the model when R&D expenditures are disregarded, making a substantial larger sample available. When disregarding R&D expenditures, the sample increases to 730 companies and 5500 company-year observations. The third column shows the results of the model where control variables that are insignificant (SIZE) are omitted. The fourth column presents the results of the model in which only control variables that are significant at the 1% level (ROA and R&D expenditure) are retained. The fifth column presents the results of the model in which all control variables are disregarded.

Although the regression without R&D expenditures has a considerably larger sample size, it does not substantially influence the effect of CSR on ETR compared to the base model. The coefficient of CSR becomes larger (from -0.051 towards -0.066), but the sign and significance remain unchanged. Compared to the base regression, in this regression model total accruals (TA) becomes more significant (5% level), total assets (SIZE) becomes positive and significant (10% level), and financial leverage (LEV) becomes insignificant.

The model with only significant variables and the model with only highly significant variables show both no considerable differences compared to the base model. However, this is in line with the expectation since only the least influential variables are omitted in these models.

The regression model without control variables does not substantially change the effect of CSR on ETR either. This model shows only a slight increase in the coefficient (from -0.051 towards -0.056) and a slight decrease in the standard error (from 0.012 towards 0.009) compared to the base model.

The results of the robustness check show that changing the control variables hardly influence the coefficient of the integrated CSR score. All models show a negative relation between CSR and ETR, and in all models this relation is significant at the 1% level. This result indicates that CSR is positively related to tax avoidance, and that this result is highly robust.

## 5. Conclusion

Different views exist among scholars whether corporate tax avoidance is ethically justified or not. Friedman (1970) argues that companies should use the opportunities that are offered in legislation to avoid taxes for the purpose of the shareholders. On the other hand,

Sikka (2010) claims that companies that engage in CSR activities cannot lower their tax burden since this is implicitly contradicting each other. This thesis empirically studies the relation between a company's CSR score and the level of corporate tax avoidance, measured by the effective tax rate. Based on a sample of 3304 observations, derived from 447 unique companies between 2002 and 2014, I find that companies that are more responsible are paying a significant lower amount of taxes, indicating a higher degree of tax avoidance. This result is robust against different sets of control variables. In addition, I show that the relation between CSR and tax avoidance is mainly driven by the economic performance and the environmental performance. Both dimensions of CSR show a significant negative relation towards tax avoidance. Social performance is significantly related to tax avoidance as well, although these result are inconclusive. For corporate governance performance the results are insignificant.

The results of this thesis imply that one should be cautious when observing a company's CSR activities. Companies that seem social responsible might pay significant lower taxes compared to less responsible companies, and in that way hinder government to provide infrastructure, healthcare and education (Sikka, 2010). On the other hand, one can argue that these companies contribute less to society in terms of paying taxes, but compensate for this by being more social responsible (Huseynov and Klamm, 2012). The results can be useful for policymakers and tax authorities for identifying the underlying factors that cause tax avoidance (Lanis and Richardson, 2012).

This thesis adds new insights to the existing literature. To my best knowledge, this is the first study that finds a significant relation between CSR regarding environmental performance and tax avoidance, which is positive. Second, this thesis shows that CSR is positively related to tax avoidance which seems directly opposing towards the papers of Lanis and Richardson (2012), Hoi et al. (2013), and Watson (2011), who argue that CSR is negatively related to tax avoidance. Regarding the study of Lanis and Richardson (2012), this might be due to the measurement of CSR, since they use CSR disclosure as a proxy for CSR activity. With regard to the papers of Hoi et al. (2013) and Watson (2011) this difference could be caused by a different focus of the studies. Hoi et al. (2013) and Watson (2011) analyze merely irresponsible activities and find that these companies are more tax aggressive, whereas I focus on the integrated CSR score. This integrated CSR score takes all companies into account, from highly responsible companies towards highly irresponsible activities. As a possible explanation for these contradicting results it might be that on average a positive relation exists between CSR and tax avoidance, however when companies become really irresponsible their tax avoidance while increase again. I leave this hypothesis open for future research.

This thesis has several limitations. First, I use the effective tax rate as a proxy for corporate tax avoidance, since actual data on tax avoidance is not available. Although ETR is widely used in literature and considered as an appropriate measure of tax avoidance (Rego, 2003), one should keep this in mind when interpreting the results. Second, the additional analysis implies that the economic performance is an important driver of the relation between the integrated CSR score and tax avoidance. However, it is questionable to what extent activities that are covered by economic performance, such as shareholder loyalty, are in the interest of society or just for self-interest of the company. Future research might consider disregarding the economic performance from the integrated CSR score.

Besides, I suggest future research on this topic to focus on the difference between responsible and irresponsible activities regarding their relation with tax avoidance. Most existing literature examined irresponsible activities and their findings are opposing towards the results of this study, which could be due to the measures of CSR that are used. Future research could also further specify the dimensions of CSR to investigate which particular CSR activities are related with tax avoidance.

## Appendix A

**Correlation table**

| | CSR | CSREC | CSREN | CSRSO | CSRCG | ETR | TA | SIZE | ROA | LEV | R&D |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CSR | 1 | | | | | | | | | | |
| CSREC | 0.763 | 1 | | | | | | | | | |
| CSREN | 0.877 | 0.499 | 1 | | | | | | | | |
| CSRSO | 0.900 | 0.591 | 0.782 | 1 | | | | | | | |
| CSRCG | 0.688 | 0.434 | 0.530 | 0.549 | 1 | | | | | | |
| ETR | -0.146 | -0.131 | -0.162 | -0.105 | -0.067 | 1 | | | | | |
| TA | 0.051 | 0.031 | 0.032 | 0.044 | 0.061 | -0.024 | 1 | | | | |
| SIZE | 0.522 | 0.356 | 0.523 | 0.523 | 0.297 | -0.065 | -0.005 | 1 | | | |
| ROA | -0.003 | 0.078 | -0.052 | 0.014 | 0.001 | 0.077 | 0.044 | -0.160 | 1 | | |
| LEV | -0.029 | -0.098 | 0.011 | 0.024 | -0.061 | 0.012 | 0.042 | 0.096 | -0.139 | 1 | |
| R&D | 0.024 | -0.002 | 0.064 | 0.027 | 0.020 | -0.272 | -0.075 | -0.132 | 0.075 | -0.238 | 1 |

The sample exists of US companies between 2002 and 2014. Data on CSR scores are obtained from the ASSET4 database, financial data are obtained from the Compustat database.

Variable description: CSR = score for total CSR performance; CSREC = score for CSR with regard to economic performance; CSREN = score for CSR with regard to environmental performance; CSRSO = score for CSR with regard to social performance; CSRCG = score for CSR with regard to corporate governance performance; ETR = total tax expense divided by pretax income; TA = total accruals (see equation on page 14); SIZE = log of total assets; ROA = pretax income divided by total assets; LEV = long-term debt divided by total assets; R&D = R&D expenditure divided by total assets.

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