

Master Thesis

Accounting, Auditing & Control

Corporate tax avoidance and its determinants: An empirical study focusing on corporate social responsibility and institutional ownership

Abstract: In this thesis I investigate the effect of institutional ownership on the relation between corporate tax avoidance and corporate social responsibility (= *hereafter* CSR) activity. Previous studies on the relation between corporate tax avoidance and CSR activity find mixed results. As far as I know, there is no earlier study which tries to explain the possible moderating effect of institutional ownership on the relation between corporate tax avoidance and CSR activity. I firstly estimate a baseline regression model with CSR activity as the primary independent variable of interest and provide weak evidence that firms with a higher level of responsible and irresponsible CSR activity engage in more corporate tax avoidance. Next, I predict that the relation between a firm's corporate tax avoidance practices and CSR activity is moderated by its institutional ownership characteristics. Overall I am however unable to provide any evidence that institutional ownership characteristics weakens or strengthens the relation between a firm's corporate tax avoidance practices and CSR activity.

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I. Introduction

1.1 Motivation and contribution

Both corporate tax avoidance as well as CSR are subjects which separately received a lot of attention within the academic literature. In more recent years empirical research has also started to study the association between these two subjects which resulted in a moderate stream of mixed results. In this thesis, the empirical literature on the association between corporate tax avoidance and CSR will be extended by integrating firm ownership structure. More precisely, this study investigates if and how institutional ownership weakens or strengthens the relation between corporate tax avoidance and CSR activity.

Ownership structure is an important determinant of corporate tax policy (*see for example Shackelford and Shevlin, 2001; Desai and Dharmapala, 2008*). This importance originates from the primary role of the separation of ownership and control in modern firms. The incentives, preferences and interests of a firm's management and owners and how these are aligned potentially have an influence on a firm's corporate tax policy (*Desai, Dyck and Zingales, 2007*). Despite the fact that a number of recent studies started to investigate this topic (*Chen, Chen, Cheng, and Shevlin, 2010; Cheng, Huang, Li, and Stanfield, 2012; Badertscher, Katz, and Rego, 2013; McGuire, Wang, and Wilson, 2014*), it still is a rather under-explored subject in relation to its importance. In a recent comprehensive review article regarding the (*empirical*) tax literature Hanlon and Heitzman (2010), not surprisingly, call for "*a more serious examination of the effects of ownership structure*" on corporate tax avoidance.

As such this study not only contributes to this area by extending the literature on corporate tax avoidance with more and relevant insights on ownership structure, but also provides a unique contribution to the literature by combining the effect of institutional ownership with CSR activity on corporate tax avoidance. Earlier studies focus on the impact of a firm's CSR activity or different types of ownership structures on corporate tax avoidance separately. Moreover, these studies often provide mixed results of empirical evidence (*see for example Hoi et al., 2013; Davis et al., 2016*). Never has there been any study which combined these two important determinants of corporate tax avoidance.

Currently, the debate on corporate tax avoidance is of great concern mainly due to the media attention regarding several multinational firms' and wealthy individuals' sophisticated tax planning schemes and the corresponding opposing recent developments regarding specific regulation.

On January 28th 2016 for example, the European Commission presented new measures against corporate tax avoidance which *"...opened up a new chapter in its campaign for fair, efficient and growth-friendly taxation in the EU with new proposals to tackle corporate tax avoidance. The Anti-Tax Avoidance Package calls on Member States to take a stronger and more coordinated stance against companies that seek to avoid paying their fair share of tax and to implement the international standards against base erosion and profit shifting. Collectively, these measures will hamper aggressive tax planning, boost transparency between Member States and ensure fairer competition for all businesses in the Single Market"*¹. This package of measures follows earlier recommendations by the Organization for Economic Cooperation and Development (= hereafter OECD) and G20.

Also the recent exposures with regard to the so called Panama Papers reflect the current interest in corporate tax avoidance and tax avoidance in general. As such, this thesis also tries to make a contribution to emphasize the social importance of this topic by providing insights into the motivations and characteristics of firms that exhibit corporate tax aggressiveness which might lead to newly developed policy implications.

1.2 Findings and implications

In the first part of the empirical analysis, I examine the relation between corporate tax avoidance and CSR activity. In the second part of the empirical analysis I extend this relation by including institutional ownership characteristics which I interact with CSR activity in order to determine its combined effect on corporate tax avoidance. By using a sample of 8,044 firm-year observations which covers the period 2002-2009, I empirically test both relations using ordinary least squares (= hereafter OLS) regressions.

I gather information on a company's level of CSR activity from an independent third-party source known as the MSCI database. I obtain information on a company's institutional ownership characteristics from the Thomas Reuters Institutional (13f) Holdings database and

¹ http://europa.eu/rapid/press-release_IP-16-159_en.htm

data with regard to a company's taxation characteristics and other firm specific financial accounting data will be collected from the Compustat database.

I start by estimating a baseline regression model in order to assess whether a firm's CSR activity is statistically significant related to its tax avoidance practices. I employ two different measures of corporate tax avoidance and provide some evidence that in contrast to previous studies such as Hoi et al (2013) and Watson (2015) only a firm's corporate tax avoidance practices when measured as GAAP_ETR is negatively and significantly related to its CSR activities. As such, I find weak evidence that firms with a higher level of responsible and irresponsible CSR activity are more likely to undertake corporate tax avoidance practices.

Next, I continue by extending the baseline regression model with several interaction terms which try to capture the combined effect of a firm's CSR activity and institutional investor characteristics on its corporate tax avoidance practices. I am unable to provide evidence that a firm's corporate tax avoidance practices is positively or negatively associated with its CSR activity when these firms face a low or high level of institutional ownership and when these firms are characterized by the presence of institutional investors with a short-term or long-term investment horizon is. Taken as a whole, I conclude that institutional ownership does not moderate the relation between corporate tax avoidance and CSR activity.

In their comprehensive review article on the (empirical) tax avoidance literature, Hanlon and Heitzman (2010) state that "most interest, both for researchers and for tax policy, is in intentional actions at the aggressive end of the tax avoidance continuum." With this in mind, the results I present in this thesis are relevant to policy makers and tax researchers in that not only purely financial information such as leverage, total (foreign) turnover and/or total assets but also nonfinancial information such as a company's CSR activity and type of institutional investor should be considered when making claims and more precise predictions about corporate tax avoidance.

1.3 Overview and approach

In order to understand any claims made about corporate tax avoidance, one should firstly get a basic understanding of the history of taxation and some of its major definitions

which will be provided in part two of this thesis. Also, important concepts such as CSR and institutional ownership will be discussed shortly in this part to further provide an adequate foundation for the empirical section of this thesis. Next the empirical literature overview is discussed in part three where I will discuss several determinants of corporate tax avoidance which have been empirically evaluated during the last years. In part four I present two hypothesis with an adequate theoretical motivation which will be empirically tested. Next, this thesis will continue to discuss the relevant research design in part five and the obtained empirical results in part six. Finally this thesis ends with some concluding remarks in part seven.

II. Background

In this section I will firstly provide some background information with regard to tax avoidance as the main subject of concern. As such, some remarks will be made with regard to the origins of taxation and some recent facts and developments with regard to tax avoidance. Next I will discuss the definitions regarding the key topics analyzed in this thesis.

2.1 Brief history on the origins of taxation

Historical research by Burg (2004) traces the origins of taxation back to ancient Egypt during the years 3000 - 2800 BC where mainly two forms of taxation can be distinguished namely: *tithe* and *corvée*. The former can be explained as an early form of income tax in which a contribution of one tenth of a particular amount was being demanded. The latter can be regarded as a forced form of labor imposed by the state on inhabitants who were unable to pay regular *corvée* taxes due to poorness.

Following the work by Adams (2006), the first records of measures against tax avoidance can also be traced back to ancient Egypt. Pharaohs installed a basic tax collecting system where scribes (*highly paid tax collectors*) had to insure that households and other inhabitants complied with established taxation criteria (Adams, 2006). Punishments for not complying were severe and even included death sentences. Adams (2006) goes on and refers to ancient Greece as another illustration of the process of tax evolution and anti-evasion and avoidance measures. During times of war, the Athenian government levied taxes on wealth and property known as '*eisphora*' to finance war expenditures. Every inhabitant was strictly held to compliance and those who did not comply could face severe penalties including death sentences. Furthermore, in the Roman empire the first forms of taxation were known as '*portoria*' which consisted of custom duties levied on imports and exports (Rathbone, 1993). Also the Roman empire faced considerable challenges with regard to tax avoidance. Slemrod (2007) for example mentions historical work by Webber and Wildavsky (1986) that identifies tax evasion by Roman citizens which implied burying gold and other jewelry in order to evade the luxury tax.

The first more serious attempt in the US to organize taxation, can be traced back to the American Civil War in 1862 during in which Congress passed the Revenue Act². This gave rise to the introduction of the Internal Revenue Service which nowadays is not only seen as one of the most advanced tax enforcing mechanisms, but can also be regarded as the foundation for the modern current tax systems in the US.

All these examples indicate that taxation and especially tax avoidance have a long history and are very persistent through time.

2.2 Facts and figures

By comparing Heritage Foundation data to World Bank data, a recent study estimates global tax evasion to be around 5% of world GDP which amounts to approximately 3.1 trillion US dollars. (*Murphy, 2013*). The study also indicates that the United States, Brazil and Italy with 8.6%, 39% and 27% of GDP are the top three countries with the highest worldwide levels of tax evasion. Furthermore, the European Commission estimates that approximately € 1,000 billion of tax revenue is lost on a yearly basis due to illegal tax evasion and tax avoidance. (*Murphy, 2013*).

Moreover, recent estimates by the OECD indicate that the global corporate income tax (= *hereafter CIT*) revenue losses could be between 4% and 10% of global CIT revenues, which amounts to 100 to 240 billion US dollar on a yearly basis. Further investigation by the OECD indicates that these losses arise from a variety of causes, including aggressive tax planning by multinational companies, the interaction of domestic tax rules, lack of transparency and coordination between tax administrations, limited country enforcement resources and harmful tax practices (*OECD, 2015*).

2.3 Tax avoidance: A comprehensive definition

In order to avoid any possible confusion about its meaning for the remaining of this thesis, the definition of tax avoidance as proposed by Dyreng et al. (2008) will mainly be followed. As such, tax avoidance can broadly be defined as the reduction of explicit taxes and resembles any transaction that has consequences for a corporation's explicit tax liability

² <http://www.investopedia.com/terms/r/revenue-tax-act-1862.asp>

(Dyreg et al., 2008). This definition of tax avoidance does not differentiate between lobbying activities aimed at receiving specific tax benefits, precisely undertaken avoidance activities to reduce taxes, or real tax favored tax activities (Hanlon and Heitzman, 2010).

Furthermore this definition by Dyreg et al. (2008) does not make a distinction between ‘legal’ tax avoidance and ‘illegal’ tax evasion for a number of reasons. Firstly, most of the questionable tax transactions undertaken by firms are often technically legal. Secondly, the question if a tax avoidance transaction or strategy is even legal, is mostly considered after the transaction took place. In that way, tax avoidance resembles both certain tax positions as well as uncertain tax positions which might or might not be determined legal (Hanlon and Heitzman, 2010). Also Weisbach (2003) encounters a somewhat similar problem with regard to the definition of tax avoidance. Weisbach (2003) mentions that tax avoidance is quickly classified as legal tax planning while tax evasion is often labeled as illegal tax planning. Weisbach (2003) points out that this classification is rather naïve approach since practically no one is able to determine the legality of a tax planning structure that easy.

The empirical studies mentioned and discussed in the remainder of this study will often use various terms to describe tax avoiding activities such as “noncompliance”, “evasion”, “sheltering”, and “aggressiveness”. It is important to note that in this study any remarks made to these terms should be considered within the context of the earlier described broad definition tax avoidance.

2.4 Defining Corporate Social Responsibility

Over the years, numerous definitions of CSR have been developed which all share a certain common perspective. As such, CSR can broadly be defined as a firm’s behaviors or characteristics that are in line with being a good corporate citizen.

Holme and Watts (2000) mention for example a definition of CSR as developed by the World Business Council for Sustainable Development. This institution defines CSR as: “*the continuing commitment by business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families as well as of the local community and society at large*”.

Furthermore, following Mackey et al. (2007), CSR can generally be described as a firm's voluntary actions to improve environmental or social conditions.

Next, in accordance with Harvard University's Corporate Social Responsibility Initiative, CSR *"encompasses not only what companies do with their profits, but also how they make them. It goes beyond philanthropy and compliance and addresses how companies manage their economic, social, and environmental impacts, as well as their relationships in all key spheres of influence: the workplace, the marketplace, the supply chain, the community, and the public policy realm"* (Corporate Social Responsibility Initiative, 2008).

Next to mere definitions, comprehensive CSR models have been developed such as Carroll's (1991) CSR pyramid. Within this model, CSR represents ethical, legal, economic and philanthropic responsibilities which Carroll (1991) explains as: *"the CSR firm should strive to make a profit, obey the law, be ethical, and be a good corporate citizen"*.

Another CSR model worth mentioning explains corporate social responsibility as a driver of future value creation which include strategic governance and stakeholder capital (Kiernan, 2005).

Overall, the general believe is that all businesses should comply with basic ethical and legal standards. Most organizations and individuals however, do not agree at what cost and to what level beyond those basic standards corporations should have to go. As such, questions like *"How much should a company spend on reducing certain gas emissions?"* and *"Should a company support specific charity goals?"* are often answered ambiguously which over time has basically resulted into two competing theories (Moser and Martin, 2012):

1. Shareholder theory: Firstly, based on shareholder theory, all CSR activities should eventually increase shareholders' wealth. Shareholder theory is founded on the assumption that the firm's shareholders are the only stakeholders of primary and legitimate interest. As such, this theory indicates that every activity which diminishes shareholders' wealth, should be prevented (*see for example: Friedman, 1970*).
2. Stakeholder theory: Secondly, stakeholder theory assumes that besides an absolute focus on its shareholders, the firm is responsible for more relevant parties such as the government, society, customers and employees. Within its

decision-making process a socially responsible firm should take into account all these relevant parties (*see for example: Carroll, 1991*).

Moser and Martin (2012) note that the shareholder theory currently is the prevailing theory used within accounting research and CSR.

2.5 Defining institutional ownership

In specifying institutional ownership, this study follows the definition as outlined by the Securities and Exchange Commission (= *hereafter SEC*) in Rule 13-f of the Securities Exchange Act of 1934. Institutional investment managers that use the United States mail in the course of their business and that exercise investment discretion over 100 million US dollar or more with regard to Rule 13-f securities must file Form 13F³ and can be regarded as an institutional investor. A manager may however omit holdings otherwise reportable if the manager holds fewer than 10,000 shares and less than 200,000 US dollar aggregate fair market value. Such an institutional investment manager could for example be a bank, an insurance company, pension fund, or a broker/dealer which invests in, or buys and sells securities for its own account. An institutional investment manager is also an entity or natural person such as an investment adviser that exercises investment discretion over the account of any other natural person or entity⁴.

³ See section 13-f of the Securities Exchange Act 1935.

⁴ See section 13-f of the Securities Exchange Act 1935.

III. Prior empirical literature overview

The prior empirical literature with regard to corporate tax avoidance is rather extensive and can be divided into several streams of research. In this section I will address the main empirical findings with regard to the relation between corporate tax avoidance and several of its presumably related aspects as indicated by existing empirical research.

3.1 Empirical evidence on corporate tax avoidance and firm characteristics

Several studies focus on the relation between tax avoidance and certain firm-level characteristics. Gupta and Newberry (1997) study a wide range of determinants of GAAP Effective Tax Rates (= *hereafter ETR*). Using micro-level longitudinal panel data, their results suggest that ETRs are associated with many firm-specific characteristics such as a company's profitability, asset mix, capital structure, and size.

Rego (2003) finds that the scale of international operations results in more tax avoidance opportunities which leads to lower domestic and foreign ETRs. Furthermore, Rego (2003) points out that after controlling for pre-tax income, foreign operations, industry membership, year, and geographic location, larger firms exhibit higher ETRs which is an indication that larger firms are subject to political costs which increase their ETRs. Also, Rego (2003) documents that after controlling for firm size, companies with a higher level of pre-tax income exhibit lower ETRs indicating a negative relation between pre-tax income and ETRs.

In addition, Wilson (2009) develops a profile of the type of company that is probably engaged in corporate tax avoidance by using a set of companies which are identified by several press articles and Tax Court records as having participated in corporate tax shelters. He finds that tax shelter firms are associated with larger differences between their book value and tax value, firm size, the existence of foreign income, and aggressive financial reporting.

3.2 Empirical evidence on corporate tax avoidance and the agency theory

Beside certain specific firm characteristics, there is a growing stream of empirical literature that integrates agency theory aspects into the analysis of corporate tax avoidance.

The basic reasoning behind this is that if managers' interests are being aligned with shareholders' interests by means of performance compensation incentives, then firms that use more after-tax performance-based compensation incentives will engage in more corporate tax avoidance.

In line with this, Philips (2003) for example finds consistent evidence indicating that firms show lower ETRs and economically significant tax benefits when business unit managers are compensated based on after-tax income. This finding underlines that explicit accounting-based incentives are effective in promoting business unit managers' tax avoiding efforts which lowers a company's ETR.

Desai and Dharmapala (2006) however, report a negative association between equity-based compensation and tax avoidance as measured by abnormal book-tax differences. Their analysis indicates that increases in incentive compensation tend to reduce the level of tax avoidance. This negative effect of incentive compensation on tax avoidance does however mainly seem to hold for relatively poor governed companies and it does not seem to hold for relatively well-governed companies as measured by the level of institutional ownership and shareholder rights (Desai and Dharmapala, 2006). As such, these results suggest the simple intuition that increased alignment of shareholder's interests with management's interests would only lead to a higher level of tax avoidance in special occasions (Desai and Dharmapala, 2006).

3.3 Empirical evidence on corporate tax avoidance and firm ownership structure

Firm ownership structure also seems to be a relevant factor in determining corporate tax avoidance. Desai and Dharmapala (2008) for instance mention that ownership patterns can have an important effect on tax avoidance. Companies having a more concentrated ownership structure, may on the one hand engage in more tax avoidance since the controlling owners profit more from the tax savings while at the other hand refrain from tax avoidance since the concentrated owners have a long(er) broader time horizon and as such are more sensitive to the total costs of avoidance due to reputational risks and suspicions from minority shareholders (Hanlo and Heitzman, 2010).

In addition, Chen et al. (2010) indicate that it can be concluded that firms with high levels of family concentrated ownership show less tax avoidance in comparison with non-

family owned firms. This result contradicts the belief that family firms would participate in more tax avoidance as family owners will benefit more from tax savings. As such, it can be concluded that family owners are more concerned with the non-tax costs of tax avoidance being the potential damage on the family reputation, potential penalties imposed by the Internal Revenue Service, and possible price discounts from non-family shareholders. (*Chen et al., 2010*). Furthermore, the researchers provide evidence that relative to other family firms, family firms with long-term institutional investors which function as effective external company monitors are more tax aggressive due to the fact that these institutional investors are able to reduce the extraction of rent of family owners (*Chen et al., 2010*).

This result by Chen et al. (2010) seems to be in line with earlier work performed by Desai and Dharmapala (2006). These authors conclude that family owned companies are willing to let go the tax benefits in order to avoid concerns by minority shareholders of family rent seeking masked by tax avoidance activities.

Furthermore, Badertscher et al. (2013) pay attention to more specific organizational and ownership structures and their relation to corporate tax avoidance. By basing their research on earlier work performed by Fama and Jensen (1983) with regard to the separation of ownership and control within firms and by using a unique sample of firms with publicly traded debt and privately-owned equity, the authors assert that firms with greater concentrations of ownership and control avoid less income tax than firms with less concentrated ownership and control. The reason for this observation originates from the fact that tax avoidance is a risky activity that can impose significant costs on a firm. Companies with a greater concentration of ownership and control are perceived to be more risk averse and as such avoid less corporate taxes than companies with less concentration of ownership and control (*Badertscher et al., 2013*).

Another recent study by Khurana and Moser (2013) is relevant to discuss in light of the association between firm ownership structure and corporate tax avoidance. These authors solely focus on the effect of institutional shareholdings on a firm's tax avoidance activities. Overall, their results suggest that firms show less tax avoidance when these firms have long-term institutional shareholdings indicating that institutional investors influence the level of firm tax avoidance activities (*Khurana and Moser, 2013*). Also, the researchers show that these results are driven by poorly governed firms which is consistent with the view that long-term institutional shareholders constrain a firm's tax avoidance activities

when management is likely to use tax avoidance in order to facilitate rent extraction. (*Khurana and Moser, 2013*).

3.4 Empirical evidence on corporate tax avoidance and corporate social responsibility

Prior research literature focusing on the relation between CSR and corporate tax avoidance is ambiguous. Using a sample of 408 publicly listed Australian corporations for the financial year of 2008-2009, Lanis and Richardson (*2012*) find that the higher the level of a company's CSR disclosure, the lower is its corporate tax aggressiveness. More specifically, the authors find a negative and statistically significant association between tax aggressiveness and CSR disclosure indicating that more socially responsible corporations are likely to be less tax aggressive.

Using a large sample of U.S. public listed firms over the years 2003 – 2009 and following a comprehensive empirical examination of the relation between aggressive corporate tax avoidance and irresponsible CSR activities, Hoi et al. (*2013*) conclude that corporations with four or more irresponsible CSR activities possess a higher level of permanent and discretionary book-tax differences and are more likely to undertake tax-sheltering activities. Overall, these results indicate that corporations with excessive levels of irresponsible CSR activities are more aggressively avoiding corporate taxes, promoting the belief that CSR can be viewed as a characteristic of the corporate culture affecting corporate tax avoidance (*Hoi et al., 2013*).

Lanis and Richardson (*2015*) again examine whether CSR performance is associated with corporate tax avoidance by using a sample of 434 firm-year observations over the period 2003 – 2009. The results indicate that the higher the firm's level of CSR performance, the lower the likelihood of tax avoidance will be (Lanis and Richardson, *2015*). This study differs from earlier work in that it uses a rather relative unused proxy of tax avoidance. Instead of applying indirect proxy measures such as ETR, this study focuses on the level of tax disputes to analyze tax avoidance. Overall the results show that in a sample of US firms more socially responsible firms are likely to exhibit less tax avoidance (*Lanis and Richardson, 2015*).

Finally, the most recent work in this stream of research originates from Davis et al. (2016). By using a sample of 5,588 observations of U.S. public corporations over the years 2006 through 2011, the authors' main finding indicates that a CSR index is negatively related to five-year cash ETRs. Overall, the results show that on average socially responsible corporations do not pay more corporate taxes than other corporations. This result is inconsistent with some of the above mentioned research which indicate that low-CSR firms avoid more corporate taxes. Contrary to these studies, Davis et al. (2016) supplement the existing literature by providing new evidence that high-CSR firms avoid more corporate taxes.

3.5 Empirical evidence on corporate tax avoidance, corporate social responsibility and interacting effects

Huseynov and Klamm (2012) examine the interacting effect of tax management fees and three measures of CSR - community, diversity and corporate governance – on corporate tax avoidance. The study starts by dividing between 'concerns' and 'strengths' of each CSR category and finds that in general tax fees are associated with lower CASH ETR when a company has diversity concerns or corporate governance strengths. However, they find that tax fees are associated with higher GAAP ETR and higher CASH ETR when a company has a high level or normal level of community concerns respectively.

Furthermore, in this stream of research the work provided by Landry et al. (2013) provides an interesting extension of the relation between CSR and corporate tax avoidance by taking into account particular firm-ownership structures. By using a sample of Canadian firms listed on the Toronto Stock Exchange for the period 2004 – 2008, the authors find evidence that overall a corporation's tax behavior is not necessarily aligned with its CSR activities and that a corporation's ownership structure is able to moderate the relation between tax aggressiveness and CSR. More precisely, the results indicate that non-family owned corporations with less social responsibility show higher levels of tax aggressiveness. However, non-family owned corporations with high social responsibility also exhibit higher levels of tax aggressiveness. Furthermore, the results show that a family-owned corporation's CSR activities are not the main drivers for its corporate tax behavior (Landry et al., 2013).

Garcia (2014) examines the relation between a corporation's lobbying expenditure and its ETR, while at the same time CSR is included in that relation as a moderator variable. Using a sample of corporations whose CSR has been rated by investment advisory firm MSCI between 1998 and 2001, the author tests the relation between the interaction of CSR rating and lobbying expenditures on the one hand and the domestic effective tax rate at the other hand. He shows a negative relation implying that high CSR corporations which also lobby, receive an extra benefit from their lobbying activities in the form of lower tax rates (Garcia, 2014).

Even more recently, Watson (2015) provides some interesting insights by broadening the CSR literature and investigating how pretax earnings performance moderates the relation between CSR and tax avoidance. Using a large sample of U.S. firms, the author finds that a lack of social responsibility is positively associated with tax avoidance when corporations face low current or expected future earnings performance. Furthermore, the author finds evidence that social responsibility is positively associated with tax avoidance when current earnings performance is low but not when it is high (Watson, 2015).

Overall the results with regard to the relation between CSR and tax avoidance are not clear-cut and more extensive and detailed research in this area seems to be relevant. As such, this study tries to provide new insights within this field of study by extending the topics of CSR and corporate tax avoidance with aspects of institutional ownership. More precisely, it is expected that the level and type of institutional ownership impacts the association between CSR activity and corporate tax avoidance. The next section will delve deeper into this and will explain some of the essential empirical concepts of this study.

IV. Hypothesis development

In this part I will focus on addressing the two developed hypotheses and will mention relevant theory in support of the mentioned hypotheses.

4.1 The relation between corporate tax avoidance and CSR

The relevant literature suggests the relation between corporate tax avoidance and CSR activity can either be positive or negative. Below I will firstly address the theoretical motivation(s) for a negative relation between corporate tax avoidance and CSR activity. Secondly, I will provide relevant insights that suggest a positive relation between corporate tax avoidance and CSR.

4.1.1 Arguments for a negative relation between corporate tax avoidance and CSR activity

First of all, based on business and society theoretical insights, a firm should take into account the interests of all its stakeholders (*see for example Margolis and Walsh, 2003*). This implies that firms occasionally have to undertake socially responsible activities which are not profit maximizing and which includes fulfilling their tax obligations in order to contribute to society (*Mackey et al., 2007*). Carroll (1979) for example distinguishes between legal, ethical, economic and discretionary responsibilities as the main and basic expectations of CSR. This indicates that a firm's focus from a CSR perspective should be wider than a solely economical point of view and should take into account other important characteristics. Moreover, Kim et al. (2012) indicate that management engages in CSR activities to achieve ethical goals such as paying the company's fair share of corporate taxes instead of responding to opportunistic incentives. Furthermore, Avi-Yonah (2008) mentions that from a CSR point of view firms should not undertake tax avoidance transactions without a business purpose even if these tax avoidance transactions are completely legal. Also Christensen and Murphy (2004) mention that "*paying taxes is perhaps the most fundamental way in which private and corporate citizens engage with broader society*".

Secondly, from a corporate reputational point of view, public companies are sensitive to how stakeholders perceive their corporate tax payments (*Davis et al., 2016*). As such, companies are anxious for public reputational damage due to tax avoidance, especially when the company claims to act socially responsible. Also, following Unerman's (2008) thoughts on a company's reputation, "A corporation's reputation among its economically powerful stakeholders is a valuable asset that needs to be protected and developed, and a key aspect of this reputation is stakeholders' perceptions of the CSR".

Consequently, according to Freedman (2010) public listed firms which are more worried about potential reputational damage should be aware of media exposure concerning their otherwise completely legal tax minimization strategies. Also certain tax minimizing decisions might benefit shareholders in the short run, but will ultimately impair the firm's long-term goals. An aggressive tax minimization strategy for example which leads to a beneficial tax saving for the short run, might end up costing the firm a lot more in the form of reputational damage and a loss of market value in the long run (*Owens, 2005*). Hanlon and Slemrod (2009) indeed observe abnormal negative returns after the announcement that a particular firm engaged in tax sheltering. As such, firms have an incentive to create and maintain a good and positive image and reputation by for example expressing socially responsible behavior (*Godfrey, 2005*).

Concluding, companies pursuing certain CSR activities most probably have a lower level of tax aggressiveness due to the company's need to express integrity, transparency and last but not least, a good reputation.

4.1.2 Arguments for a positive relation between corporate tax avoidance and CSR activity (H1)

Based on traditional economic theory, a firm will allocate resources to CSR activities only if it contributes to the firm's ultimate goal of maximizing shareholder wealth (*Davis et al., 2015*). Consistent with this line of thought, Lev et al. (2010) provide evidence for a positive relation between CSR performance and revenue growth and research by Dhaliwal et al. (2011) indicates there exists a negative relation between CSR activity and the cost of capital. As such, if both CSR performance and corporate tax avoidance are regarded as ways to maximize shareholder value, there should be a positive relation between the two since

both will contribute to maximizing shareholder wealth (*Davis et al., 2016*). For this line of reasoning it is important to note that the resources devoted to CSR activity can be generated by avoiding corporate tax payments. As such, firms that avoid corporate taxes have a greater capacity to invest in and undertake socially responsible activities.

Furthermore, other quantitative and qualitative research provide arguments for a positive relation between corporate tax avoidance and CSR activity as well.

Research by Godfrey et al. (2009) suggests that firms strategically engage in CSR activity to develop a certain level of ‘*moral capital*’ and a favorable firm reputation which ultimately limits the possibility of regulatory sanctions or negative publicity due to aggressive corporate tax avoidance practices. Also Sikka (2010) for example, indicates that firms which identify themselves as socially responsible engage in corporate tax avoidance. And finally Preuss (2010) points out that firms which claim to do business in a socially responsible way, are based in tax havens.

4.1.3 Formulating hypothesis 1

Following the abovementioned and weighing the different points of view, it is not completely clear whether there is a positive or negative relation between corporate tax avoidance and CSR activity. As such, I will formulate the first hypothesis in a non-directional way as follow:

H1: Ceteris paribus, publicly traded firms’ CSR activity is not related to publicly traded firms’ corporate tax avoidance.

4.2 Institutional ownership and the relation between corporate tax avoidance and CSR

This section will provide a motivation for the role of institutional ownership and its expected interaction effect on the expected relation between corporate tax avoidance and CSR activity as outlined above. As is the case for hypothesis 1, the relevant literature suggests a possible two-way effect of the presence of institutional ownership in a company. The outcome of these competing theories of a possible two-way effect is determined by the

type of institutional investor and depends on whether the institutional investor exhibits a short-term orientation or a more sophisticated long-term investor behavior.

In the following part, I will firstly address the theoretical motivation(s) for a strengthening effect of institutional ownership on the expected relation between corporate tax avoidance and CSR activity. Secondly, I will provide relevant insights that suggest a weakening effect of institutional ownership on the expected relation between corporate tax avoidance and CSR activity.

4.2.1 Arguments for a strengthening effect of institutional ownership on the relation between corporate tax avoidance and CSR activity

Due to the fact that sophisticated long-term institutional shareholders possess large shareholdings in a certain company and show a considerable level of sophistication in comparison to individual investors, these institutional shareholders exhibit a higher incentive to acquire more information and monitor and discipline management on a more frequent scale since they receive more benefits than smaller investors from monitoring the company and managerial behavior. (*Shleifer and Vishny, 1986, 1997*). As such, it can be stated that institutional ownership leads to a higher level of management and company monitoring and disciplining by its shareholders.

Also, management of institutions with large shareholdings by a particular investor tend to be monitored and disciplined by those investors in order to assure that the company's (investment) strategies are in line with the objective of maximizing long-term value instead of realizing short-term, management induced, goals (*Dobrzynski, 1993; Monks and Minow, 1995*). This also includes the strategies with regard to the company's CSR activities in pursuing long-term value maximization.

Monitoring can either occur explicitly or implicitly. An example of explicit monitoring includes monitoring through governance activities, while implicit monitoring can take the form of information gathering and correctly pricing the impact of managerial decisions (*Bushee, 1998*).

It is however realistic to hypothesize that even sophisticated long-term institutional shareholders will make a trade-off between tax savings as a result of a company's tax avoidance activities and possible penalties and resulting reputational damage if the tax

avoidance activities turn out to be inappropriate or even illegal. Even so, it is assumed that sophisticated long-term institutional shareholders prefer a good reputation and prefer achieving long-term value maximization over tax savings since these institutional shareholders also perceive a higher level of agency costs due to the tax savings that result from the tax avoidance activities. These agency costs can take the form of ‘*empire-building*’ by management, aggressive financial reporting by management, and perquisite management consumption (Desai and Dharmapala, 2008, 2009; Chen et al., 2010).

As such, it is expected that the presence of sophisticated long-term institutional ownership in publicly traded firms greatly contributes to accomplish a company’s CSR strategies and activities due to increased monitoring and incentive to reduce agency costs. A higher level of CSR activity in turn is expected to lead to a lower level of corporate tax avoidance, as mentioned in respect of formulating hypothesis 1.

4.2.2 Arguments for a weakening effect of institutional ownership on the relation between corporate tax avoidance and CSR activity

The competing theory takes the view that due to frequent trading and fragmented ownership of institutional investors, these investors are short-term focused and concentrate on realizing short-term goals instead of long-term value maximization. In this way institutional investors act as ‘traders’ rather than ‘owners’ and place excessive focus on short-term developments (Bushee, 1998). It is important to note that this short-termism does not include any long-term strategic focus on CSR.

Moreover, in respect of this view it can be argued that in the presence of institutional shareholdings a company’s management even has the incentive to reduce CSR spending in order to avoid a possible earnings disappointment that would initiate institutional selling of the company’s shares on a large scale which leads to a decline in the company’s stock price (see for example Porter, 1992, and Bushee, 1998). This theory requires that 1) management has incentives to avoid a decline in stock price and 2) institutional investors are sensitive to bad earnings news and as a result will engage in large-scale stock trading (Bushee, 1998).

From an opportunistic point of view, the first requirement can be justified by the fact that management receives stock-based compensation and as such are hurt by a decline in

the company's share price. Besides that, management may also be afraid of a hostile takeover which tries to exploit the decline in the company's share price (*Froot et al., 1992*).

The second requirement can be justified by prior research which provides evidence in support of this condition. Lang and McNichols (*1997*) for example show that institutional trading is sensitive to earnings news. Also other studies indicate that increased institutional ownership is associated with higher trading volume around quarterly earnings announcements (*Kim et al., 1997*). This increased trading by institutional shareholders might be caused by fiduciary responsibilities which necessitate these institutions to sell a company's shares with declining earnings (*Badrinath et al., 1989*). Also, some institutional investors hold very large diversified portfolios with numerous different small stake stockholdings. For these investors it is simply not cost-effective to fully investigate the reasons behind any form of bad earnings news and conduct extensive research on the possible positive long-term prospects of the company. As such, these investors rather prefer to sell those stocks immediately in favor of a company's stocks with positive earnings (*Froot et al., 1992; Porter, 1992*).

The foregoing arguments indicate that there is reason to believe that short-term orientated institutional investors are very sensitive to bad earnings news which leads them to engage in large-scale stock trading. In general, to avoid any form of stock price decline, a company's management tries to 'combat' bad earnings news by for example cutting on the CSR budget. As such, it can be expected that the presence of short-term orientated institutional ownership in publicly traded firms and management's accompanying fear of large-scale stock trading by short-term orientated shareholders, contributes to an even stronger decline in a company's CSR activities in the potential case of bad earnings news. A lower level of CSR activity in turn is expected to lead to a higher level of corporate tax avoidance, as mentioned in respect of formulating hypothesis 1.

4.2.3 Formulating hypothesis 2

Following the abovementioned and weighing the different points of view, it is not completely clear whether there is a strengthening or weakening effect of the level and type of institutional ownership on the relation between corporate tax avoidance and CSR activity. As such, I will formulate the second hypothesis in a non-directional way as follows:

H2: Ceteris paribus, institutional ownership of publicly traded firms does not strengthen or weaken the relation between CSR activity and corporate tax avoidance of publicly traded firms.

V. Research design

In this section I will address the research design with regard to the empirical analyses. Firstly some remark will be made with regard to the sample selection and data sources. Next, the model development part will be discussed before explaining the range of variables and constructs. Finally, I conclude with some remarks concerning the internal and external validity

5.1 Sample selection and data sources

Data with regard to CSR activities originates from the MSCI annual dataset for social, governance, and environmental ratings of publicly traded companies. The MSCI database was previously known as the KLD database produced by Kinder, Lydenberg, and Domini Research & Analytics Inc. and is the prevailing CSR dataset used in academic research. A large number of previous empirical studies use the former KLD database in order to operationalize CSR activities and numerous scholars support the use of the KLD database because of its objectivity, management focus and construct validity (*see for example: Sharfman, 1996; Turban and Greening, 1997; Waddock and Graves, 1997; Szwajkowski and Figlewicz, 1999; Waddock, 2003; Chatterji, Levine, and Toffel, 2009; Mattingly and Berman, 2006*).

In order to assess a company's level of CSR activity and determine if a company is socially responsible or not, the KLD database analyses both positive and negative indicators of CSR activity and translates these into strengths and concerns in approximately 100 subcategories divided over seven major categories which are: 1) Corporate Governance, 2) Community Relations, 3) Diversity, 4) Employee Relations, 5) Environment, 6) Human Rights, 7) and Products. Additionally, the KLD database provides information on company activity in the following industrial sectors: alcohol, firearms, gambling, military, nuclear, and tobacco.

The subcategory Tax Disputes is excluded from the dataset so that possible endogeneity problems are mitigated. Furthermore, following Davis et al. (2016), Watson (2015), and Kim et al. (2012), the dataset does not include the category Corporate Governance since the relation between corporate tax avoidance and corporate governance has been studied previously (*see for example: Desai and Dharmapala, 2006; Lisowsky,*

Robinson, and Schmidt, 2012; Armstrong, Blouin, Jagolinzer, and Larker, 2014) and I wish to avoid making inferences about CSR and corporate tax avoidance that are driven by corporate governance.

Institutional ownership data is obtained from the Thomas Reuters Institutional (13f) Holdings database. By requirement of the SEC, all institutional shareholders possessing more than 100 million US dollar in total equity have to report individual equity positions in excess of 10,000 share or 200,000 US dollar in value to the Securities and Exchange Commission by the end of each quarter.

Annual data with regard to a company's taxation characteristics and other firm specific financial accounting data will be collected from the Compustat database.

The sample for the empirical analyses consists of all firms for which data are available on the Compustat, Thomas Reuters, and MSCI databases for the years 2002 until 2009. Following earlier work performed by Davis et al. (2016), Hoi et al. (2013), and Kim et al. (2012) the sample starts at the year 2002 since the database on CSR activity was substantially enlarged from that moment on. The MSCI database has greatly expanded since 2002 to include up to 3,000 U.S. companies.

In line with earlier work performed by Davis et al. (2016) and Watson (2015) observations in the financial (*SIC 6000-6999*) and utilities (*4900-4999*) industries are eliminated due to the unique regulatory environments in these industries which might alter the relation between the variables of primary concern. After merging firm-year observations from all the databases and eliminating firm-year observations with incomplete data, I use a sample of 8,044 firm-year observations which covers the period 2002-2009.

5.2 Model development

To test the hypotheses as outlined above, an empirical test will be conducted in two stages by estimating two equations using OLS. To examine the relation between CSR activity and corporate tax avoidance, I will firstly estimate a baseline regression model. Secondly I

will extend this model by including institutional ownership as a moderating variable in order to test for hypothesis 2.

5.2.1 Model I

Following hypothesis 1, I test the relation between corporate tax avoidance and CSR activity using the following regression model:

$$CTAV_{i,t} = \beta_0 + \beta_1 CSR_{i,t} + \sum \beta_k Controls_k + \epsilon_{i,t}$$

The coefficient on the CSR component captures the relation between CSR activity and corporate tax avoidance. A positive coefficient would suggest a positive relation between the CSR component and corporate tax avoidance, whereas a negative coefficient would suggest a negative relation between the CSR component and corporate tax avoidance.

In appendix B I include Libby boxes based on Libby's (1981) predictive validity framework in order to be able to better clarify the relation with regard to model I which I am empirically testing. The two Libby boxes on the 'concepts' level represent the theoretical section, while the two boxes on the 'operational' level reflect the empirical sector. The final box indicates the effect other factors have on the dependent variable and are included as control variables.

5.2.2 Model II

To test the hypothesis that institutional ownership strengthens or weakens the relation between CSR performance and corporate tax avoidance, the second equation will be estimated as follows:

$$CTAV_{i,t} = \beta_0 + \beta_1 CSR_{i,t} + \beta_2 INSTOWN_{i,t} + \beta_3 CSR_{i,t} * INSTOWN_{i,t} + \sum \beta_k Controls_k + \epsilon_{i,t}$$

This model extends model 1 to consider the possibility that the effect of CSR activity on corporate tax avoidance depends on the level and type of institutional ownership and adds an interaction term capturing this effect of CSR activity corporate tax avoidance conditional on the presence and level of institutional ownership.

The main coefficient of interest within this model is β_3 which can either have a positive or negative value. A positive coefficient would suggest a positive relation between

corporate tax avoidance and the interaction term whereas a negative coefficient would suggest a negative relation between the corporate tax avoidance and the interaction term.

Similar to model 1, control variables are included which existing literature finds to be important determinants of corporate tax avoidance.

In appendix C I again include Libby boxes with regard to the relation of model II which I am empirically testing.

5.3 Variable description

This section will provide a further analysis with regard to the variables as taken into account within both models. Firstly, I will provide information with regard to the dependent variable. Next I will discuss the independent and moderating variable. Finally, I will talk about the control variables.

5.3.1 Operationalizing the dependent variable: Corporate tax avoidance

The dependent variable for the empirical tests is represented by corporate tax avoidance (CTAV). Providing an adequate measure for corporate tax avoidance in accounting research always turns out to be rather problematic since corporate tax avoidance is not directly observable due to the private characteristic of a company's tax returns and other fiscal matters (*Hanlon and Heitzman, 2010*). As a result, accounting researchers traditionally utilize proxies to measure corporate tax avoidance which they obtained from the financial statements of a company (*see for example: Gupta and Newberry, 1997; Rego, 2003; Desai and Dharmapala, 2006; Chen et al., 2010; and McGuire et al., 2012*).

Two of the most established proxies to measure tax avoidance which are calculated from a company's financial statements are the so called effective tax rates (= hereafter ETR). The above presented models use these two ETR measures to capture corporate tax avoidance since basically both measures have their own limitations and advantages (*see for example Hanlon and Heitzman, 2010*). The primary advantage of using multiple measures to capture corporate tax avoidance appears when the results across those various measures are consistent which will provide more confidence that the results are robust. As such, $CTAV_{i,t}$ is one of the following measures:

- $CASH_ETR_{i,t}$ = Cash effective tax rate for firm i in year t and is defined as cash tax paid divided by pre-tax book income less special items. I follow Hoi et al. (2013) and set this variable as missing when the denominator takes the value zero or otherwise has a negative value. Next, I follow Gupta and Newbery (1997) and set this variable to zero for firms with tax refunds. As such, $Cash_ETR_{i,t}$ can take values between 0 and 1.
- $GAAP_ETR_{i,t}$ = Gaap effective tax rate for firm i in year t and is defined as Tax expenses $_{i,t}$ / Pre-tax income $_{i,t}$. I follow Hoi et al. (2013) and set this variable as missing when the denominator takes the value zero or otherwise has a negative value. Next, I follow Gupta and Newbery (1997) and set this variable to zero for firms with tax refunds. As such, $Cash_ETR_{i,t}$ can take values between 0 and 1.

The first proxy for corporate tax avoidance is $CASH_ETR$ and is mainly selected on the basis of the research performed by Hoi et al. (2013). Following their work, $CASH_ETR$ is widespread accepted as a tax avoidance measure relative to other proxies as mentioned in their study. Furthermore, $CASH_ETR$ exhibits similarities to the long-term cash ETR model as employed by Davis et al. (2016). The primary disadvantage of $CASH_ETR$ emerges however with regard to the fact that its denominator is a measure of book income in a particular chosen time period, while its numerator may include tax payments that apply to other time periods. Also, it only captures non-conforming tax avoidance (Hanlon and Heitzman, 2010). In spite of these drawbacks, in the accounting research literature $CASH_ETR$ is widely recognized as a broadly accepted proxy to measure tax avoidance partly because it captures both temporary and permanent tax avoidance strategies (Hanlon and Heitzman, 2010; Hoi et al., 2013; Watson, 2015).

The second proxy to measure corporate tax avoidance is $GAAP_ETR$ and is selected following the earlier research performed by Chen et al. (2010) and Huseynov and Klamm (2012). Following their work, $GAAP_ETR$ provides a rather good reflection of aggressive tax planning through permanent book-tax differences. Such aggressive tax planning activities consist for example out of investments in tax favored or tax exempt assets, participation in tax shelters which causes losses with regard to tax purposes but not with regard to book purposes, and investments in tax havens which have a lower foreign tax rate (Chen et al.,

2010). Furthermore, GAAP_ETR differs from CASH_ETR in that it takes into account tax expenses instead of taxes paid. Tax expenses for example also include deferred or accrued taxes which are determined according to accounting rules but may be subject to earnings management, while tax payments reflect cash outflows (*Hanlon and Heitzman, 2010*). Also, the tax amounts will differ due to differences in reporting domestic or foreign subsidiary income, and tax credits which reduce tax payments but do not affect tax expenses (*Huseynov and Klamm, 2012*).

5.3.2 Operationalizing the independent variable: Corporate social responsibility

I operationalize the CSR variable in two different ways based on a continuous variable and categorical variable. The first method of operationalizing the CSR variable of a company follows earlier work by for example Watson (2015), Hoi et al. (2013), Huseynov and Klamm (2012), and Callan and Thomas (2009) and basically consists out of a two-step procedure.

Firstly, for each of the used categories a value of +1 is assigned for every strength which represents a socially responsible activity and a value of -1 is assigned for every concern which represents a socially irresponsible activity. Next these values are summed per CSR category and by firm-year into an overall CSR score which is converted into two binary variables. The first binary variable will take the value equal to 1 if a firm's overall CSR score is positive and will take the value equal to 0 otherwise. The second binary variable is equal to 1 if a firm's overall CSR score is negative reflecting a socially irresponsible firm and is equal to 0 otherwise. This leads to the creation of the following variables:

- $PosCSR_{i,t}$ = Equal to 1 if a firm's overall CSR score is positive and 0 otherwise.
- $NegCSR_{i,t}$ = Equal to 1 if a firm's overall CSR score is negative and 0 otherwise.

To illustrate this with an example: the CSR component 'Community' consists among other things out of the subcategories 'Innovative giving', 'support for education', and 'Investment controversies'. The first two account for 'Community' strengths and the last one will account for a 'Community' concern. If a particular company shows all these three factor,

summing these will result in an overall positive CSR score (+1, +1, -1) for that category which will lead the variable for this category to take a value of 1 for this particular company.

The second method to operationalize the CSR variable basically displays the CSR variable on a continuous scale and simply sums the number of CSR strengths and CSR weaknesses for all involved CSR categories separately for given company in a particular firm-year. This lead to the creation of the following variables:

- $CSR_Strengths_{i,t}$ = The total number of CSR strengths from all CSR categories for firm i in year t .
- $CSR_Weaknesses_{i,t}$ = The total number of CSR weaknesses from all CSR categories for firm i in year t .

In appendix A an overall table is presented with an extensive overview of the chosen subcategories of each component of CSR activity.

5.3.3 Operationalizing the moderating variable: Institutional ownership

Institutional ownership is added in model 2 to capture the effect of CSR activity on corporate tax avoidance conditional on the level and presence of institutional ownership. Following Bushee (1998) and Khurana and Moser (2013), I firstly calculate institutional ownership for each firm-year observation in the sample as the number of shares held by institutional investors at the end of June divided by the total number of shares outstanding. Firms reporting institutional ownership in excess of 100 percent are limited to institutional ownership percentages of 100 percent. This leads to the creation of the following variable:

- $IO_{i,t}$ = The level of institutional ownership for firm i in year t , defined as the fraction of a firm's outstanding shares held by institutional investors.

Next, in order to measure an institutional investor's investment horizon, I follow Gaspar et al. (2005) and Khurana and Moser (2013) and use institutional investors' churn rates to develop a measurement of institutional investor turnover. The basic idea behind this is that a short-term orientated institutional investor buys and sells its investments

frequently, while a long-term orientated institutional investor holds the same shareholdings for a considerable amount of time. To implement this idea empirically, I firstly follow Khurana and Moser (2013) and calculate the aggregate purchases and sales for every single institutional investor that has shareholdings in the used sample of firms by using the following equations:

$$CR_BUY_{k,t} = \sum_{i=1}^{N_k} | S_{k,i,t} P_{i,t} - S_{k,i,t-1} P_{i,t-1} - S_{k,i,t-1} \Delta P_{i,t} |,$$

$$CR_SELL_{k,t} = \sum_{i=1}^{N_k} | S_{k,i,t} P_{i,t} - S_{k,i,t-1} P_{i,t-1} - S_{k,i,t-1} \Delta P_{i,t} |$$

The number of shares held by institutional shareholders k in share i at the end of quarter t and quarter $t-1$ is represented by $S_{k,i,t}$ and $S_{k,i,t-1}$ respectively. Furthermore $P_{i,t}$ and $P_{i,t-1}$ stand for the price of each stock i at the end of quarter t and quarter $t-1$.

Secondly, I follow Gaspar et al. (2005) and use the calculated churn rates to construct an average institutional ownership turnover for each specific firm-year by using the following equation:

$$InstTurn = \sum_{i \in 1} W_{k,i,t} \left(\frac{1}{4} \sum_{r=1}^4 CR_{i,t-r+1} \right),$$

where S stands for the set of institutional investors in firm i and W indicates the weight of institutional investor k in the total fraction of shares held by institutional investors at quarter t . As such, institutional ownership turnover for each specific firm-year is the weighted average of the total portfolio of churn rates of its institutional investors over four quarters. Since I am using a continuous measure, it is important to point out that a lower amount of institutional ownership turnover at the firm level indicates the presence of long-term orientated institutional investors and vice versa.

5.3.4 Operationalizing the control variables

In order to control for other effects on corporate tax avoidance a set of control variables is included in both models. Following the existing literature, these control variables are considered to be important determinants of corporate tax avoidance and affect the dependent variable through tax-planning incentives, uncertainty, and opportunities. As such, for both models the term $\sum \beta_k \text{Controls}_k$ consists out of the following measures:

- $\text{LogTA}_{i,t}$ = The natural logarithm of total assets for firm i in year t . This variable is included mainly due to earlier work performed by Dyreng et al. (2008) who find that small and high-growth firms have higher ETRs. To control for this effect, a size variable measured in the form of the log of total assets is included.
- $\text{PTROA}_{i,t}$ = Return on assets for firm i in year t measured as pre-tax income scaled by lagged total assets. This variable is included mainly due to earlier work performed by Dyreng et al. (2008) who find that small and high-growth firms have higher ETRs. To control for this effect, a performance variable in the form of return on assets is included.
- $\text{MB}_{i,t-1}$ = The market-to-book ratio for firm i at the beginning of year t . It is measured as the market value of equity scaled by the book value of equity. This variable is included mainly due to earlier work performed by Dyreng et al. (2008) who find that small and high-growth firms have higher ETRs.
- $\text{SIZE}_{i,t-1}$ = The natural logarithm of the market value of equity for firm i at the beginning of year t . This variable is included mainly due to earlier work performed by Dyreng et al. (2008) who find that small and high-growth firms have higher ETRs. To control for this effect, a size variable measured in the form of the log of the market value is included.
- $\Delta\text{SALE}_{i,t}$ = Changes in sales scaled by lagged sales for firm i in year t . This variable is included mainly due to earlier work performed by Dyreng et al. (2008) who find that small and high-growth firms have higher ETRs. To control for this effect, a performance variable in the form of return on assets is included.

- $LEV_{i,t}$ = Leverage for firm i in year t measured as long-term debt scaled by lagged total book value of assets. This variable is included due to the fact that capital structure affects taxes (*Huseynov and Klamm, 2012*). The tax deductibility of interest payments is an important motivation for companies to raise capital by issuing debt (*Graham, 2003*). As such, this effect is being controlled for by adding leverage as a control variable.
- $CapExp_{i,t}$ = Capital expenditure for firm i in year t scaled by lagged total book value of assets. This variable is included since companies in capital intensive industries may exhibit lower ETRs due to the fact that these companies have tax incentives for new investments (*Armstrong et al., 2008; Dyreng et al., 2008*).
- $Fl_{i,t}$ = Total foreign income for firm i in year t scaled by the lagged total book value of assets. This variable is included because of the possibility that some companies may be subject to various tax credits and tax treaties originating from their engagement in international trade.
- $AdvExp_{i,t}$ = Total advertising expenses for firm i in year t scaled by the lagged total book value of assets. This variable is included to control for publicity as for example Dyreng et al. (2008) show that high advertising companies are less likely to avoid corporate taxes in order to avoid potential public criticism.
- $CASH_{i,t}$ = Cash holdings for firm i in year t measured as total cash and marketable securities scaled by lagged total book value of assets.
- $R\&D_{i,t}$ = Research and development expense ratio for firm i in year t measured as total research and development expenses scaled by lagged total book value of assets.
- $PPE_{i,t}$ = Property, plant, and equipment for firm i in year t measured as total property, plant, and equipment scaled by lagged total book value of assets.

5.4 Internal and external validity

Hepner et al. (1999) define internal validity as “the confidence one can have in inferring a causal relationship among variables while simultaneously eliminating rival hypotheses”. It basically reflects the degree to which the (change in) the dependent variable is the outcome of the effect from the (change in) the independent variable. Visually, internal validity can be determined through arrow four from the Libby boxes in appendix B and C.

As is clear from the discussion above, in this thesis I follow an observational study approach. Since I use quantitative data obtained from multiple external sources to estimate the several variables of interest in order to conduct an empirical investigation, it should be mentioned that the reliability and accuracy of this data, and consequently the constructed variables, are questionable. As such, this suggests that the internal validity of this thesis is relatively low. I try to address this issue by employing several control variables which should increase the internal validity of this thesis. It is however impossible to control for every factor that could have an influence on the relation between the dependent and independent variable. I consider these possible omitted variables as a risk for investigating a potential causal effect. As such, this risk on confounding variables contributes to the low internal validity of this thesis.

External validity refers to the extent to which the empirical results are generalizable to the whole population. Visually, external validity can be determined through arrow one from the Libby boxes in appendix B and C. Since I use real world data, the empirical results of this thesis lean toward a relatively high level of external validity. Also, since I use a relatively large sample of publicly traded U.S. companies, I assume that this sample is a good representation of all publicly traded U.S. companies. As such, the external validity is relatively high.

It is essential to keep in mind that there always exists a trade-off between internal validity and external validity. This makes it very difficult for a study to exhibit both high internal validity and high external validity simultaneously.

XI. Empirical Results

In this section I address the empirical results. I begin with discussing the relevant descriptive statistics in addition to providing some tables. Next I address the empirical results and main findings relevant for this thesis.

6.1 Descriptive statistics

Table 1 provides the frequency distribution of the different values of CSR_Strengths and CSR_Weaknesses and the mean values of CSR_Strengths and CSR_Weaknesses per year. Panel A shows that a relatively high percentage of firms show zero or one responsible CSR activity. These percentages range from 80.1 percent in 2003 to 72.6 percent in 2009. Firms with four or more responsible CSR activities, on the other hand, are relatively less present. These percentages range from 7.2 percent in 2003 to 10.4 percent in 2009. The foregoing holds for irresponsible CSR activities as well, as can be noted from Panel B.

Furthermore, by comparing the frequency distribution of both responsible and irresponsible CSR activities it seems that the majority of firms overall have a higher level of irresponsible (negative) CSR activities instead of responsible (positive) CSR activities despite the fact that CSR as a concept has gained extensive popularity during the last years.

Finally it is interesting to note that for both Panel A and Panel B, the mean values of CSR_Strengths and CSR_Weaknesses are relatively lower during the year 2003. This might be due to the fact that the MSCI database increased its coverage of firms and CSR activities significantly from 2003.

I continue by providing descriptive statistics in table 2 for all the variables employed in the regression models. Following the information in Panel A, the mean of CASH_ETR is approximately 24 percent which is comparable to the values of 25.3 percent and 25.5 percent as reported by Hoi et al. (2013) and Watson (2015) respectively. Also, the mean value of GAAP_ETR is approximately 32.2 percent which is close to the U.S. statutory corporate income tax rate of 35.0 percent.

With regard to the CSR variables, Panel B indicates that the mean value of CSR_Weaknesses is 1.512 which suggests that on average the firm in the sample has

Table 1 CSR activities per year**Panel A: Responsible CSR activities per year**

Year	N	Mean	Level of CSR_Strengths				
			<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>≥4</u>
2003	1114	0.90	702	199	69	64	80
2004	1213	0.97	696	270	93	66	88
2005	1226	1.16	646	292	114	56	118
2006	1228	1.16	654	275	119	66	114
2007	1163	1.25	579	285	129	49	121
2008	1062	1.31	520	249	123	57	113
2009	1038	1.30	507	247	118	58	108

Panel B: Irresponsible CSR activities per year

Year	N	Mean	Level of CSR_Weaknesses				
			<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>≥4</u>
2003	1114	1.16	439	337	222	55	61
2004	1213	1.36	343	444	262	86	78
2005	1226	1.49	298	491	250	87	100
2006	1228	1.60	265	476	273	95	119
2007	1163	1.69	248	417	271	108	119
2008	1062	1.72	219	373	255	101	114
2009	1038	1.57	251	382	225	85	95

N = the number of observations.

Panel A and B provide the mean values of PosCSR and NegCSR per firm-year and the frequency distribution with regard to the level of PosCSR and NegCSR of the firms used in the sample from the period 2003 until 2009. The sample consists out of 8,044 individual firm-year observations for which data was available.

Table 2 Descriptive Statistics**Panel A: Tax Avoidance Variables**

<u>Variable</u>	<u>N</u>	<u>Mean</u>	<u>Std. Dev.</u>	<u>25th Pctl</u>	<u>50th Pctl</u>	<u>75th Pctl</u>
CASH_ETR	8044	0.240	0.183	0.101	0.232	0.333
GAAP_ETR	8044	0.322	0.154	0.274	0.346	0.380

Panel B: CSR, Institutional Ownership and Control Variables

<u>Variable</u>	<u>n</u>	<u>Mean</u>	<u>Std. Dev.</u>	<u>25th Pctl</u>	<u>50th Pctl</u>	<u>75th Pctl</u>
CSR_Index	8044	-0.368	2.101	-1.000	-1.000	0.000
PosCSR	8044	0.247	0.431	0.000	0.000	0.000
NegCSR	8044	0.510	0.500	0.000	1.000	1.000
CSR_Strengths	8044	1.148	1.984	0.000	0.000	1.000
CSR_Weaknesses	8044	1.512	1.633	0.000	1.000	2.000
IO	8044	0.740	0.215	0.624	0.786	0.902
InstTurn	8044	0.094	0.275	-0.046	0.027	0.133
LOGTA	8044	7.012	1.482	5.927	6.811	7.873
PTROA	8044	0.128	0.098	0.060	0.106	0.172
MB	8044	3.279	3.254	1.693	2.497	3.908
SIZE	8044	7.140	1.480	6.071	6.913	7.973
LEV	8044	0.189	0.207	0.002	0.146	0.291
CAPEX	8044	0.630	0.072	0.021	0.039	0.074
FI	8044	0.024	0.041	0.000	0.002	0.034
ADVEXP	8044	0.016	0.037	0.000	0.000	0.012
CASH	8044	0.205	0.229	0.041	0.121	0.296
R&D	8044	0.032	0.053	0.000	0.000	0.042
PPE	8044	0.443	0.514	0.116	0.256	0.581
ΔSALE	8044	0.556	2.502	0.008	0.105	0.242

N = the number of observations.

Panel A and Panel B provide descriptive statistics on the tax avoidance variables which are used in both regression models. Firm and time subscripts are omitted and all continuous variables are winsorized at the 1st and 99th percentiles. Appendix A provides further information with regard to the used categories for the CSR variables.

approximately two irresponsible CSR activities. In contrast, the mean value of CSR_Strengths is 1.148 suggesting that on average the firm in the sample has 1 responsible CSR activity. Furthermore, the median firm has one irresponsible and zero responsible CSR activity as indicated by PosCSR and NegCSR. As such, I conclude that the median firm in the sample is socially irresponsible. Also the information on PosCSR and NegCSR leads me to conclude that on average approximately 24.7 percent of the firms is socially responsible while approximately 51.0 percent of the firms is socially irresponsible.

The mean value of the total level of institutional ownership is approximately 74.0 percent while the median firm has a total level of institutional ownership of 78.6 percent. These values are comparable with values as found by earlier studies from Hoi et al. (2013) and Watson (2015). The mean value of institutional investor turnover for the sample of firms is approximately 9.4 percent while the median firm has an institutional investor turnover of 2.7 percent.

The other sample statistic of the remaining (control) variables are in line with the values as reported by earlier studies with some slight differences which are most likely due to divergence in sample size and selection.

6.2 Empirical Results Model I

In table 3 and 4, I present OLS regression results for model I based on standard errors clustered at the firm level⁵. In table 3 I use CASH_ETR as the dependent variable and in table 4 I use GAAP_ETR as the dependent variable for the OLS regression. Furthermore I employ two different ways to approximate a firm's CSR activity which results in estimating two different regression models per dependent variable. In Panel A, I employ the binary variables PosCSR and NegCSR to assess whether a firm's overall level of CSR activity is positive or negative. When a firm's overall CSR activity is neutral, this is captured in the intercept. In Panel B, I report estimates of the relation between the dependent variable and CSR by using total CSR strengths (socially responsible activities) and total CSR weaknesses (socially irresponsible activities) separately on a continuous scale.

⁵ Earlier studies in the same area also employ standard errors clustered at the firm level (see for example Hoi et al., 2013; and Watson, 2015). The formal motivation for this method can be found in Petersen (2009). Without clustering standard errors at the firm level, I obtain more significant results which should not be significant.

Table 3 OLS Regression Results Model I
Dependent Variable: CASH_ETR

Variable	Panel A		Panel B	
	Coef.	t-stat.	Coef.	t-stat.
PosCSR	0.00047	0.07		
NegCSR	0.00042	0.07		
CSR_Strengths			0.00014	0.09
CSR_Weaknesses			0.00020	0.11
IO	-0.04084	-3.12***	-0.04054	-3.07***
InstTurn	-0.04557	-5.36***	-0.04556	-5.37***
LOGTA	-0.03319	-6.03***	-0.03338	-5.90***
PTROA	0.06401	1.85*	0.06310	1.85*
MB	-0.00235	-3.00***	-0.00235	-3.00***
SIZE	0.03033	5.67***	0.03029	5.67***
LEV	-0.06205	-4.35***	-0.06184	-4.30***
CAPEX	-0.22738	-5.63***	-0.22736	-5.63***
FI	-0.13011	-1.94*	-0.13051	-1.96*
ADVEXP	0.28690	3.35***	0.28642	3.33***
CASH	-0.09671	-6.44***	-0.09674	-6.44***
R&D	-0.51284	-7.71***	-0.51316	-7.67***
PPE	-0.00778	-2.24**	-0.00778	-2.25**
ΔSALE	-0.00321	-4.09***	-0.00321	-4.08***
Intercept	0.35589	18.44***	0.35705	17.20***
R-Squared		0.0712		0.0712
Firms		2,028		2,028
N		8,044		8,044

N = the number of observations. *, **, *** Indicate statistical significance in a two-tailed t-test at p-values $p < 0.10$, $p < 0.05$, and $p < 0.01$ respectively. This table shows OLS regression results of CASH_ETR on CSR variables, institutional ownership variables and control variables based on standard errors clustered at the firm level. The results from panel A distinguish themselves from the results from Panel B in that the CSR variables of the former method are based on a binary approach while the latter model applies CSR variables in a continuous form. Firm and time subscripts are omitted and all continuous variables are winsorized at the 1st and 99th percentiles. Appendix A provides further information with regard to the used categories for the CSR variables.

Following the results in table 3, the CSR coefficients on PosCSR and NegCSR as well as CSR_Strengths and CSR_Weaknesses are all positive, but insignificant. In line with earlier studies such as Hoi et al. (2013) and Watson (2015), I do not find evidence of a statistically significant association between PosCSR and CSR_Strengths on the one hand and CASH_ETR

on the other hand. However, in contrast to these studies, the results also do not provide evidence of a statistically significant association between NegCSR and CSR_Weaknesses and CASH_ETR.

Next I consider the results from table 4 where I employ a different measure of corporate tax avoidance as the dependent variable in the form of GAAP_ETR. Panel A indicates that the coefficients on both PosCSR and NegCSR are positive. However, the results show no statistically significant association with the dependent variable GAAP_ETR. The results from Panel B point out that both the coefficients on CSR_Strengths and CSR_Weaknesses are significant and negatively associated with GAAP_ETR after controlling for other factors which might affect corporate tax avoidance. This implies that both firms with more responsible and more irresponsible CSR activities in a particular year will exhibit more tax avoidance than other firms which have a lower level of responsible and irresponsible CSR activities. To be more precisely, a one point increase in a firm's CSR_Strengths or CSR_Weaknesses will result in a 0.309 percent and 0.0302 percent decrease in a firm's GAAP_ETR. Although results from previous studies such as Hoi et al. (2013) and Watson (2015) mainly focus on CASH_ETR as their dependent variable, the tabulated statistically significant result with regard to CSR_Weaknesses is in line with the results from these previous studies in the sense that when a firm exhibits a higher level of socially irresponsible activity, this firm is more engaged in tax avoidance than other firms which have a lower level of socially irresponsible activity. The negative and statistically significant coefficient on CSR_Strengths might at first sight seem to be ambiguous since one would expect that a socially responsible firm would be less tax aggressive. The tabulated result is however in line with previous studies. Davis et al. (2016) also report a very similar statistically significant coefficient of -0.0302 percent indicating that firms with a higher level of socially responsible CSR activity engage in more tax avoidance. The intuition behind this might be that a firm sees its commitment to socially responsible activities as an excuse to engage in more corporate tax avoidance. Another thought might be that these firms initially engage in corporate tax avoidance and simultaneously engage in socially responsible CSR activities in order to justify their tax avoiding activities.

Overall the regression results with CASH_ETR as the dependent variable do not provide enough statistical evidence to reject the first null hypothesis that a publicly traded firms' CSR activity is not related to a publicly traded firms' corporate tax avoidance. The

Table 4 OLS Regression Results Model I
Dependent Variable: GAAP_ETR

Variable	Panel A		Panel B	
	Coef.	t-stat.	Coef.	t-stat.
PosCSR	0.00028	0.05		
NegCSR	0.00109	0.23		
CSR_Strengths			-0.00309	-2.24**
CSR_Weaknesses			-0.00302	-1.82*
IO	0.02071	1.94*	0.01476	-1.37
InstTurn	-0.02930	-4.11***	-0.02952	-4.15***
LOGTA	-0.00766	-1.70*	-0.00435	-0.94
PTROA	0.10150	3.43***	0.10140	3.42***
MB	-0.00084	-1.15	-0.00078	-1.09
SIZE	0.00338	0.78	0.00437	1.00
LEV	-0.00894	-0.76	-0.01270	-1.09
CAPEX	0.00069	0.03	-0.00126	-0.05
FI	-0.47094	-7.56***	-0.46322	-7.43***
ADVEXP	0.13905	2.20**	0.15403	2.40**
CASH	-0.08896	-6.46***	-0.08834	-6.43***
R&D	-0.33101	-5.25***	-0.32084	-5.06***
PPE	-0.00045	-0.15	-0.00031	-0.11
ΔSALE	-0.00004	-0.08	-0.00012	-0.22
Intercept	0.36739	23.82***	0.35001	20.83***
R-Squared		0.0686		0.0705
Firms		2,028		2,028
N		8,044		8,044

N = the number of observations. *, **, *** Indicate statistical significance in a two-tailed t-test at p-values $p < 0.10$, $p < 0.05$, and $p < 0.01$ respectively. This table shows OLS regression results of GAAP_ETR on CSR variables, institutional ownership variables and control variables based on standard errors clustered at the firm level. The results from panel A distinguish themselves from the results from Panel B in that the CSR variables of the former method are based on a binary approach while the latter model applies CSR variables in a continuous form. Firm and time subscripts are omitted and all continuous variables are winsorized at the 1st and 99th percentiles. Appendix A provides further information with regard to the used categories for the CSR variables.

regression results with GAAP_ETR as the dependent variable only provide enough statistical evidence to reject the first null hypothesis when the firm's CSR activity is measured on a continuous scale. As such, this suggests there is weak evidence that a publicly traded firm's

level of corporate tax avoidance is increasing in a higher level of socially responsible CSR activity and a higher level of socially irresponsible CSR activity.

6.3 Empirical Results Model II

Table 5 and 6 report OLS regression results with regard to the relation between corporate tax avoidance, CSR activity and institutional ownership characteristics. In the same manner as the tabulated regression results for model I, I firstly employ the binary variables PosCSR and NegCSR to assess whether a firm's overall level of CSR activity is positive or negative in Panel A. When a firm's overall CSR activity is neutral, this is captured in the intercept. Next, in Panel B I report estimates of the relation between the dependent variable and CSR by using total CSR strengths (socially responsible activities) and total CSR weaknesses (socially irresponsible activities) separately on a continuous scale.

Following the results in table 5, the coefficient on PosCSR and CSR_Strengths is negatively and the coefficient on NegCSR and CSR_Weaknesses is positively related to CASH_ETR. Similar to the results of model I, these results are however not statistically significant.

With regard to a firm's institutional investor characteristics, the results on IO are similar in comparison to previous studies. Both Hoi et al. (2013) and Watson (2015) report statistically significant and negative coefficients on IO when CASH_ETR is the dependent variable. I also provide statistical significant evidence that IO is negatively related to CASH_ETR following the results in Panel B. This implies that a one percentage point increase in IO leads to a decrease in CASH_ETR of 4.855 percent.

Furthermore and in line with expectations, the coefficient on InstTurn is significant and negative indicating that a one point increase in institutional investor turnover leads to a 4.476 percent decrease in CASH_ETR for the model in Panel A and a 5.519 percent decrease in CASH_ETR for the model in Panel B. These results show that firms which are characterized by higher level of institutional investor turnover, are more tax aggressive and will engage in more corporate tax avoidance. As such, I am able to confirm the results as found by Khurana and Moser (2013) who found that as the fraction of shares held by long-term institutional investors, corporate tax avoidance decreases since these firms report higher levels of CASH_ETR.

Table 5 OLS Regression Results Model II
Dependent Variable: CASH_ETR

Variable	Panel A		Panel B	
	Coef.	t-stat.	Coef.	t-stat.
PosCSR	-0.01096	-0.43		
NegCSR	0.01769	0.80		
CSR_Strengths			-0.00737	-1.49
CSR_Weaknesses			0.00084	0.14
IO	-0.03197	-1.37	-0.04855	-2.82***
InstTurn	-0.04476	-4.73***	-0.05519	-4.39***
IO * PosCSR	0.01541	0.48		
IO * NegCSR	-0.02349	-0.84		
IO * Strengths			0.01051	1.56
IO * Weaknesses			-0.00084	-0.11
InstTurn * PosCSR	-0.00689	-0.36		
InstTurn * NegCSR	0.00000	0.00		
InstTurn * Strengths			0.00604	1.19
InstTurn * Weaknesses			0.00397	0.58
LOGTA	-0.03328	-6.05***	-0.03385	-5.99***
PTROA	0.06473	1.87*	0.06553	1.89**
MB	-0.00237	-3.02***	-0.00235	-2.99***
SIZE	0.03060	5.70***	0.03085	5.76***
LEV	-0.06203	-4.35***	-0.06124	-4.27***
CAPEX	-0.22782	-5.65***	-0.22732	-5.64***
FI	-0.13069	-1.95*	-0.13372	-2.00**
ADVEXP	0.28745	3.37***	0.28051	3.26***
CASH	-0.09639	-6.41***	-0.09685	-6.44***
R&D	-0.51542	-7.75***	-0.51477	-7.70***
PPE	-0.00792	-2.29**	-0.00787	-2.27**
ΔSALE	-0.00321	-4.09***	-0.00313	-3.97***
Intercept	0.34797	14.69***	0.36207	16.61***
R-Squared		0.0716		0.0717
Firms		2,028		2,028
N		8,044		8,044

N = the number of observations. *, **, *** Indicate statistical significance in a two-tailed t-test at p-values $p < 0.10$, $p < 0.05$, and $p < 0.01$ respectively. This table shows OLS regression results of CASH_ETR on CSR variables, institutional ownership variables and control variables

Table 5 (continued)

based on standard errors clustered at the firm level. The results from panel A distinguish themselves from the results from Panel B in that the CSR variables for the former method are based on a binary approach while the latter model applies CSR variables in a continuous form. Firm and time subscripts are omitted and all continuous variables are winsorized at the 1st and 99th percentiles. Appendix A provides further information with regard to the used categories for the CSR variables.

Next I move on to discussing the coefficients on the interacting terms which are of primary interest when testing my hypotheses. The results of Panel A show that the coefficients on IO * PosCSR and IO * NegCSR are positive and negative respectively, but are insignificant. Furthermore, the coefficients on InstTurn * PosCSR and InstTurn * NegCSR are negative and positive respectively, but are again insignificant. The regression results in Panel B provide similar outcomes. The coefficient on IO * Strengths is positive and the coefficient on IO * Weaknesses is negative. However, I fail to find a statistically significant relation between these interaction terms and the dependent variable. Finally both the interaction terms InstTurn * Strengths and InstTurn * Weaknesses show a positive coefficient. Again, I am unable to find a statistically significant relation between these interaction term and CASH_ETR as the dependent variable.

In table 6 I report the results for model II when GAAP_ETR is the dependent variable. Panel A indicates that the coefficient on PosCSR is negative while the coefficient on NegCSR is positive. However, the results show no statistically significant association with the dependent variable GAAP_ETR which is similar to the results found in model I. Panel B indicates that the coefficient on CSR_Strengths is negative and the coefficient on CSR_Weaknesses is positive. In contrast to model I, these results are not statistically significant.

With regard to a firm's institutional investor characteristics, the results on IO are somewhat different in comparison to the regression results on CASH_ETR. Only the coefficients on InstTurn turn out to be significant and negative in both Panel A and Panel B. This indicates that that a one point increase in institutional investor turnover leads to a 2.724 percent decrease in CASH_ETR for the model in Panel A and a 2.356 percent decrease in GAAP_ETR for the model in Panel B. The intuition behind these results is similar to the results as discussed when CASH_ETR is the dependent variable.

Table 6 OLS Regression Results Model II
Dependent Variable: GAAP_ETR

Variable	Panel A		Panel B	
	Coef.	t-stat.	Coef.	t-stat.
PosCSR	-0.02639	-1.33		
NegCSR	-0.00430	-0.24		
CSR_Strengths			-0.00247	-0.55
CSR_Weaknesses			-0.00541	-0.92
IO	0.00877	0.47	0.01068	0.76
InstTurn	-0.02724	-3.39***	-0.02356	-2.37**
IO * PosCSR	0.03650	1.45		
IO * NegCSR	0.00709	0.31		
IO * Strengths			-0.00087	-0.14
IO * Weaknesses			0.00368	0.49
InstTurn * PosCSR	-0.01418	-0.93		
InstTurn * NegCSR	0.00000	0.00		
InstTurn * Strengths			-0.00017	-0.04
InstTurn * Weaknesses			-0.00417	-0.81
LOGTA	-0.00786	-1.75*	-0.00436	-0.94
PTROA	0.10176	3.44***	0.10110	3.41***
MB	-0.00085	-1.18	-0.00079	-1.10
SIZE	0.00376	0.86	0.00440	1.01
LEV	-0.00877	-0.75	-0.01266	-1.08
CAPEX	0.00006	0.00	-0.00192	-0.07
FI	-0.47119	-7.59***	-0.46281	-7.41***
ADVEXP	0.14086	2.24**	0.15349	2.38**
CASH	-0.08885	-6.46***	-0.08849	-6.43***
R&D	-0.33276	-5.29***	-0.31949	-5.03***
PPE	-0.00054	-0.18	-0.00034	-0.11
ΔSALE	-0.00004	-0.08	-0.00013	-0.24
Intercept	0.37494	19.88***	0.35257	20.08***
R-Squared		0.0692		0.0707
Firms		2,028		2,028
N		8,044		8,044

N = the number of observations. *, **, *** Indicate statistical significance in a two-tailed t-test at p-values $p < 0.10$, $p < 0.05$, and $p < 0.01$ respectively. This table shows OLS regression results of GAAP_ETR on CSR variables, institutional ownership variables and control variables

Table 6 (continued)

based on standard errors clustered at the firm level. The results from panel A distinguish themselves from the results from Panel B in that the CSR variables for the former method are based on a binary approach while the latter model applies CSR variables in a continuous form. Firm and time subscripts are omitted and all continuous variables are winsorized at the 1st and 99th percentiles. Appendix A provides further information with regard to the used categories for the CSR variables.

I continue by discussing the coefficients on the interacting terms which are of primary interest when testing my hypotheses. The results of Panel A show that the coefficient on IO * PosCSR is positive and the coefficient on IO * NegCSR is positive. The results are however not statistically significant. Moreover, the coefficient on InstTurn * PosCSR is negative and the coefficient on InstTurn * NegCSR is positive. Again, I fail to find a statistically significant relation between these interaction terms and the dependent variable CASH_ETR. Also the regression results in Panel B provide similar outcomes. Both the coefficients on IO * Strengths and the coefficient on IO * Weaknesses are negative, but not statistically significant. Finally both the interaction terms InstTurn * Strengths and InstTurn * Weaknesses show negative coefficients. Again, I am unable to find a statistically significant relation between these interaction terms and GAAP_ETR as the dependent variable.

Overall the regression results for model II with CASH_ETR as well as GAAP_ETR as the dependent variables do not provide enough statistical evidence to reject the second null hypothesis that institutional ownership measured at both the total percentage of institutional holdings level as well as the presence of institutional investors with a long-term or short-term investment horizon level, weakens or strengthens the relation between a publicly traded firm's CSR activity and corporate tax avoidance.

XII. Conclusion

In this thesis, I consider the moderating effect of institutional ownership on the relation between a firm's corporate tax avoidance practices and CSR activity by using data from a large sample of U.S. publicly traded firms in an empirical examination. As far as I am aware of, there is no other study which tried to explicitly identify the relation between corporate tax avoidance and CSR activity under these specific conditions. As such, the findings of this thesis can be regarded as important contribution to both the corporate tax avoidance and the CSR literature.

I start by estimating a baseline regression model in order to assess whether a firm's CSR activity is statistically significant related to its tax avoidance practices. I employ two different measures of corporate tax avoidance and provide weak evidence that in contrast to previous studies only a firm's corporate tax avoidance practices when measured as GAAP_ETR is negatively and significantly related to its CSR activities. As such, I find some evidence that firms with a higher level of responsible and irresponsible CSR activity are more likely to undertake corporate tax avoidance practices.

Next, I continue by extending the baseline regression model with several interaction terms which try to capture the combined effect of a firm's CSR activity and institutional investor characteristics on its corporate tax avoidance practices. I am unable to provide evidence that a firm's corporate tax avoidance practices is positively or negatively associated with its CSR activity when these firms face a low or high level of institutional ownership and when these firms are characterized by the presence of institutional investors with a short-term or long-term investment horizon is. Based on the obtained empirical results, I conclude that institutional ownership does not moderate the relation between corporate tax avoidance and CSR activity.

The main limitation with regard to this thesis is the indirect measurement of corporate tax avoidance. Since corporate tax avoidance is not directly observable due to the private characteristics of a company's tax returns and other fiscal matters, I have to use proxies in order to measure this phenomenon. Possible construct validity issues regarding these measurements of corporate tax avoidance could have consequences on the empirical results of this thesis. Furthermore, the potential presence of correlated omitted variables which are not included as control variables in the models. This leads to a low internal validity

and a possible existence of causality issues. An additional drawback for this thesis is that some firm-year observations are excluded from the sample due to a lack of data availability.

Probably the most interesting recommendation for future research is to study the combined effect of CSR activity and institutional ownership characteristics on corporate tax avoidance for companies which are not publicly listed. Non-public companies such as privately-held family companies with a substantial amount of institutional investments, might show a different set of characteristics which may lead to finding new and potential interesting results.

XIII. References

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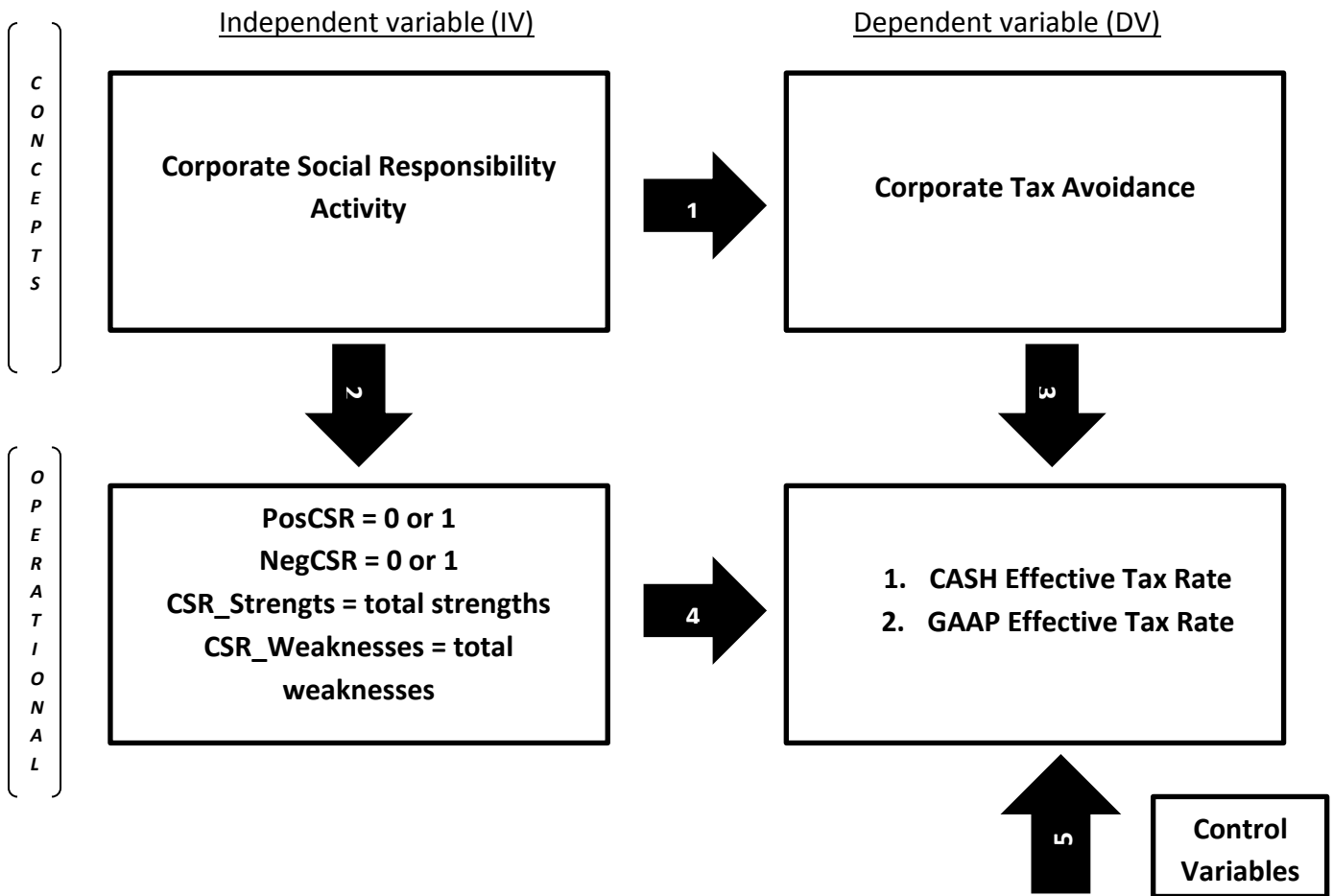
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IX. Appendix**Appendix A – CSR categories and activities in the MSCI database**

Category	Responsible CSR activities (<i>positive social rating</i>)	Irresponsible CSR activities (<i>positive social rating</i>)
Community	Charitable Giving Innovative Giving Support for Housing Support for Education Non-US Charitable Giving Other Strengths	Investment Controversies Community Impact Other Concerns
Diversity	CEO Promotion Board of Directors Work-Life Benefits Woman and Minority Contracting Employment of the Disabled Gay and Lesbian Policies Other Strengths	Workforce Diversity / Controversies Non-Representation Other Concerns
Employee Relations	Union Relations Cash Profit Sharing Employee Involvement Retirement Benefit Employee Health and Safety Other Strengths	Union Relations Health and Safety Workforce Reduction Retirement Benefit
Environment	Environmental Opportunities Waste Management Packaging Materials & Waste Climate Change Other Strengths	Hazardous Waste Regulatory Compliance Ozone Depleting Chemicals Toxic Spills & Releases Agriculture Chemicals Climate Change Other Concerns
Human Rights	Indigenous Peoples Relations Labor Rights Human Rights Policies & Initiatives	Support for Controversial Regimes Labor Rights Concerns Indigenous Peoples Relations Concerns Other Concerns
Products	Quality R&D Innovation Social Opportunities Other Strengths	Product Safety Marketing / Contracting controversies Antitrust Other Concerns
Other		Alcohol Involvement Gambling Involvement Military Involvement Firearms Involvement

Appendix B – Libby boxes model I



Appendix C – Libby boxes model II

