Determinants of Voluntary External Assurance on Corporate Sustainability Reports: A Comparison Between Europe and North America

Radboud University
Faculty of Management Sciences
Nijmegen School of Management
Supervisor: Dr. G.J.M. (Geert) Braam RA
Second reader: Dr. K. (Katarzyna) Burzynska

Matthijs van Ekelenburg (S4222024)
Master Economics
Specialization: Accounting & Control
Thesis defense: June 28, 2016

Abstract: Companies increasingly demand voluntary external assurance on corporate sustainability reports (CSR). Evidence is gathered regarding the increase in corporate sustainability reporting disclosure and assurance demand over the years (2009-2014). This paper seeks to understand the emerging voluntary assurance market and therefore, investigates which publicly-listed companies demand assurance and which companies do not demand assurance. The aim of the paper is to explain the assurance variation by examining firm-specific and country-level determinants. The main focus is on environmental and social firm-specific performance. By making use of a sample containing 656 European companies and 179 North American companies, a multilevel panel data logistic regression analysis is executed. The main findings show support for a higher likelihood of CSRA demand if companies: (1) have superior social and environmental performance; (2) are domiciled in stakeholder-oriented countries; and (3) are domiciled in countries with weaker legal enforcement mechanisms. Results are controlled for socially and environmentally sensitive industries. Stakeholders, international standard setters and regulators, and assurance providers can take advantage of the outcomes.

Keywords: corporate sustainability reporting (CSR); voluntary external assurance; determinants; environmental performance; social performance; assurance providers; type of assurance; stakeholders.

Data availability: all data are publicly available.

Table of contents

1. Introduction

The recent diesel emission scandal of the German car manufacturer Volkswagen AG has caused shareholders and society to lose trust in the credibility and creditworthiness of worldwide leading companies towards environmental and social awareness. The question arises how Volkswagen AG could so easily cheat on emission values for years. This shows that top management tries to report better car emissions than in reality. Therefore, information asymmetry towards stakeholders exist. In order to meet stakeholder pressure, Volkswagen AG bought voluntary external assurance (hereafter CSRA) on its sustainability report. However, it is considerable that the external assurance provider approved this sustainability report (hereafter CSR report). Due to the emission scandal, the foundations of the reporting process are brought into disrepute. Do assurance providers have enough knowledge and expertise in order to handle with such specialized business operations? Internationally, there is growing need for credibility enhancement by CSR disclosure and CSRA demand (KPMG, 2015; Simnett, Vanstraelen, and Chua, 2009). However, great diversity in CSRA between companies exists. Due to the voluntary nature of CSRA, literature suggests that CSRA variation can be explained by different perspectives. On the one hand, inferior legitimizing purposes and on the other hand, superior signaling purposes are among the possibilities. (Casey & Grenier, 2015; Kolk & Perego, 2012). For this reason, this paper investigates which companies demand for CSRA and which companies do not demand for CSRA. The research makes use of social and environmental firm-specific performance and country characteristics in European and North American companies. The aim of this paper is to examine the variation in CSRA demand between publicly-listed companies of different continents.

Over the last decade, there is increased attention and pressure by society, government and stakeholders to improve and adapt a sustainable mode of capitalism (Simnett et al., 2009; Ballou, Heitger, and Landes, 2006). The rise in CSR stemmed from pressure exerted by greenly-oriented lobby groups to organizations banning their child-labor policy and reducing CO_2 emissions. Non-financial information is becoming required business practice and it becomes relatively more important in addition to the "regular" financial information issued by companies. This "additional" type of information is becoming increasingly demanded by stakeholders. Financial reports are not able to suitably represent the various areas of stakeholder value, such as environmental and social footprints (Simnett et al., 2009). CSR is also known as triple-bottom-line reporting and consists of a company's economic, environmental and social performance (Ballou et al., 2006; Ioannou & Serafeim, 2011). In order to add transparency and

credibility to these reports, companies increasingly demand for CSRA to, for example, satisfy stakeholder pressure (Simnett et al., 2009; Casey & Grenier, 2015; Kolk & Perego, 2010).

After assurance is assigned to the CSR report, the next essential and contributing step, compared to prior literature, is to analyze the type and quality provided by the assurance provider. This research examines what level (e.g. limited/moderate assurance) and scope (e.g. assurance on greenhouse gases only) of assurance is provided by either a member of the accounting profession and other assurance providers (e.g. consultancy firms). Limited assurance comprises less effort (i.e. a review) and is therefore considered to be "cheap" assurance. Reasonable assurance is more extensive (i.e. an audit) and is therefore seen as "expensive" assurance. Prior literature did not examine this distinction in relation to company- and country-level characteristics and controlling for sensitive industries.

KPMG (2013) reported that companies engaging in CSR reports continue to grow. In 2015, 73 percent of the largest 100 companies in 45 countries worldwide (N100 companies) reported on CSR. This is a small increase compared to 2013 (71 percent). Two years earlier, the percentage of N100 companies publishing CSR reports stabbed at 64 percent. Over the past five years, the percentage of CSRA on these reports (N100) grew also slightly from 38 percent to 42 percent (KPMG, 2015). However, the report mentions that the greatest growth in CSRA had been on integrated (annual) reports. This paper also focuses on integrated reports, which means that assurance on sustainability issues in integrated reports is captured. By only focusing on stand-alone CSR reports, KPMG (2011) found a CSRA rate of 13 percent. Casey & Grenier (2015) do not exceed an 8.68 percent stand-alone CSRA rate.

This study empirically contributes to the literature in several ways. Firstly, Simnett et al. (2009) use an international sample of 2,113 companies that published stand-alone CSR reports in the period 2002-2004 and focused on country- and industry-specific determinants of CSRA. Casey & Grenier (2015) and Peters & Romi (2015) are one of the few authors who include social performance determinants. However, there is no clearly motivated reasoning to what extent social performance is captured. Environmental performance is not included at all. The extension and contribution of this study compared to previous research is on firm-specific determinants of publicly-listed companies. Literature emphasized this knowledge gap and the need to empirically examine CSRA demand variation in relation to a firm's social and environmental performance (Kolk & Perego, 2012; Casey & Grenier, 2015; Peters & Romi, 2015). By making use of these determinants, a better and detailed insight in CSRA demand variation is provided. Secondly, previous literature mainly focused on CSRA demand of companies in the United States (Simnett et al., 2009; Casey & Grenier, 2015). In contrast, this

paper contributes to the literature by focusing on both publicly-listed European and North American companies. These countries are selected based on their established CSR and CSRA research and the data availability related to social and environmental performance. Lastly, the time period used, covers the period 2009-2014 and is longer and more recently than usual in this field of research.

The theoretical contribution of this paper comprises a broadly-oriented theoretical background in order to provide insights into competing ideas of CSRA determinants, variation in CSRA accounting provider, level and scope of CSRA engagement. These theories are hardly used in relation to CSRA demand variation and therefore useful to provide new and competing insights. Traditional economics-based theories are not completely able to explain social and political factors. Socio-political theories are broader-oriented and therefore, better able to explain the dynamical relations between power and politics among shareholders, society and government (Clarkson, Li, Richardson, and Vasvari, 2008).

The results of this research have practical implications for several stakeholders of publicly-listed European and North American companies that are considering CSRA. Firstly, interested stakeholders that require more and better insight into the CSRA demand decision are members of the accounting profession, non-accounting firms, managers, audit committee members, investors, employees, shareholders, and the government. Secondly, this research is also relevant for institutional purposes (e.g. international standard setters and regulators) to critically reflect the implementation and elaboration of the provided guidelines on CSR and CSRA. These guidelines could, for example, lead to a more uniform and international comparable set of rules. Lastly, assurance providers may use the results to develop, promote, and improve their CSRA services to clients.

The remaining of this paper is organized as follows. The next section provides a theoretical background concerning the demand for CSRA, followed by company-level determinants of CSRA. These determinants are discussed by making use of both socio-political theories and traditional economics-based theories. Subsequently, the types of CSRA engagement and CSRA providers are discussed. Chapter two concludes with country-level determinants of CSRA, containing legal environment and enforcement mechanisms. After that, the research method, including data and empirical models is discussed, followed by the presentation of results and tests of hypotheses. Lastly, the conclusion and discussion is presented. Data has been collected on the basis of international databases, such as DataStream, ASSET 4 ESG database, Thomson One, Global CompuStat and the Global Reporting Initiative Database.

2. Literature overview and development of hypotheses

2.1 Theoretical background

CSR reports may be assured by members of the accounting profession (e.g. big four accounting firms) and/or other assurance providers. Other assurance providers may be specialist consultancies or certification bodies (Cohen & Simnett, 2015). So, in contrast to the audit of the financial statements, members outside the accounting profession also have the possibility to provide assurance on CSR reports. There are no generally accepted standards related to CSRA (Ballou et al., 2006). Apart from a minority of countries (e.g. the 2012 Grenelle II Act in France), no mandatory rules and standards are required for the assurance of these reports. However, certification standards for sustainability reporting are released by the Global Reporting Initiative (GRI) to encourage both quantity and quality of CSRA (Kolk, 2003). Besides that, the meaning of external assurance could be enhanced by adhering to certain codes of conducts. Firstly, the assurer should be someone independent of the company demanding for CSRA. Secondly, the assuror should have competent knowledge and expertise regarding several possibilities of measuring and reporting on specific CSR information. Thirdly, the professional is well-educated and skilled in assurance and evidence gathering sustainability techniques. Lastly, the assurer has enough quality controls over the reporting process (Huggins, Green, and Simnett, 2011).

However, it is of importance to ascertain the foundations of the CSRA process. An important driver regarding the voluntary CSRA demand decision is the need to reduce information asymmetry between top management and stakeholders. An agency theory perspective is useful to describe the agency problem between managers, employees, customers, shareholders, creditors, suppliers, society, and government (Moroney, Windsor, and Aw, 2012). "*The agency problem occurs when cooperating parties have different goals and division of labor.*" (Eisenhardt, 1989, p. 58). This problem might occur when other stakeholders (the principals) want the organization to behave in an economic, environmental and/or social direction opposite to that of the interest of the manager (the agent). Managers have the unique opportunity to control parts of the organization, but they also have to act in accordance with the interests of stakeholders. For example, shareholders, employees and the government are not only interested in financial results. They are also interested in non-financial firm-specific performance (Moroney et al., 2012). Stakeholders are increasingly sensitive to a company's long-term commitment towards non-financial performance. This is important because of the social and environmental footprint of companies relatively to other companies. Due to climate change and increased monitoring by institutions, public appearance towards social and

environmental responsibility is becoming even more important. In contrast, managers have short-term monetary incentives and have the possibility to leave the company at any moment in time. They might use CSR in order to improve their reputation and subsequently, increasing their bonus. According to this higher demand for CSR information and the lack of manager's monitoring, the need to demand for CSRA also increases (Kolk & Perego, 2010). Therefore, stakeholders are interested in credibility enhancement by, for example, CSRA (McWilliams & Siegel, 2001; Simnett et al., 2009). So, CSRA reduces agency costs and increases stakeholder confidence towards the CSR information disclosed (Peters & Romi, 2015; Simnett et al., 2009).

In practice, there are many differences in the severity and independence of the assurance provider, as well as the type of CSRA delivered (Clarkson, Li, Richardson, and Tsang, 2015; Casey & Grenier, 2015; O'Dwyer & Owen, 2005). Because of the increasing importance of CSR reports and the need to add credibility to these reports, a rapidly-growing non-financial assurance market emerged (Simnett et al., 2009). Before the mid-2000s, the CSRA market was widely diffused. Big four accounting firms, consultancy firms, specialists and non-governmental organizations (NGOs) were among the assurance provider possibilities. However, in the last decade, there has been a shift towards three main assurance providers: big four accounting firms, specialist consultancies and certification bodies (O'Dwyer, 2011; Cohen & Simnett, 2015; Kolk & Perego, 2012). The three key players dominate more than 90 percent of the global CSRA market. The increasing interest in CSRA lies in the fact that CSR reports are becoming more complex and comprehensive. Therefore, the need to mitigate information asymmetry increases significantly. Specifically, external assurance on environmental performance is the mostly used type of non-financial assurance offered (Hasan, Maijoor, Mock, Roebuck, Simnett, and Vanstraelen, 2005).

The main non-financial assurance standards are GRI standards, AccountAbility 1000 (AA1000) and ISAE 3000 (O'Dwyer & Owen, 2005, 2007; Moroney et al., 2012; Kolk & Perego, 2010, 2012). AA1000 are mostly used assurance standards among providers outside the accounting profession (Mock, Strohm, and Swartz, 2007). ISAE 3000 is the main assurance standard provided by the International Auditing and Assurance Standards Board (IAAASB). It is challenging for assurance providers to ensure that all significant topics, which are covered by these standards, are reported in the right way and conform the reporting criteria (O'Dwyer, 2011). By following these guidelines, the credibility of environmental information increases and the information asymmetry between management and stakeholders' decreases (Moroney et al., 2012). However, due to a lack of a uniform set of standards and approaches, inevitable variation between countries, assurance providers, type and quality of non-financial assurance

exists (Kolk & Perego, 2010). This variation does not benefit credibility and comparability of sustainability assurance statements.

Many prior research focused on the voluntary CSR decision by making use of socio-political theories (e.g. legitimacy theory and stakeholder theory) or traditional economics-based theories (e.g. signaling theory and agency theory) (Casey & Grenier, 2015; Clarkson et al., 2008; Hahn & Kühnen, 2013; Cohen & Simnett, 2015). According to Simnett et al. (2009), Casey & Grenier (2015) and Kolk & Perego (2010), companies seeking to enhance credibility and transparency of CSR reports are more likely to demand for CSRA. In contrast to CSR disclosure, relatively little empirical research has been conducted on external assurance determinants of CSR reports. Moreover, a great variety in companies assuring their CSR report exist (Simnett et al., 2009). The reasons for CSRA variation are still unknown and far from comprehensive. Therefore, this paper aims to come up with firm-specific and country-level determinants in order to develop hypotheses to explain variation in CSRA demand of publicly-listed European and North American companies. The results are controlled for socially and environmentally sensitive industries. The extension and contribution compared to previous research is on firm-specific determinants of CSRA. These determinants include social and environmental performance and are hardly separately covered in prior research. Research using social and environmental performance is inconclusive and based on ill-defined performance measures (Casey & Grenier, 2015; Peters & Romi, 2015). It is important to clarify and extent social and environmental performance. The possible association between CSRA among inferior/superior CSR performing companies, assurance provider and type of assurance engagement has not yet been examined on a large scale. Therefore, it is interesting to study these determinants for the purpose of CSRA demand variation.

2.2 Company-level determinants of CSRA

The first type of CSRA determinants is on the company-level. Firstly, social performance is often referred to as Corporate Social Performance (CSP) in the literature. However, there was no generally accepted definition of CSP for a long time (Clarkson, 1995). According to the Social Performance Task Force (SPTF), social performance is described as: "*the effective translation of an institution's mission into practice in line with accepted social values.*" CSP is about making an organization's social mission a reality. For example, Royal Dutch Shell commits several social values to society, such as improving financial and nonfinancial services to the poor, reducing vulnerability, alleviating poverty, etc. All related Shell companies,

contractors and joint ventures must operate in line with this international commitment policy in order to punctuate the propagating decision (Royal Dutch Shell, 2016).

Secondly, more or less the same applies to Corporate Environmental Performance (CEP); many authors disagree about the explicit definition of this concept. Trumpp, Endrikat, Zopf, and Guenther (2015) identify and combine several articles related to CEP in order to come up with an acceptable definition. The ISO 14001 (2015) definition captures the most important aspects of the articles analyzed: "*environmental performance refers to the environmental results that are achieved whenever the environmental aspects of activities, processes, products, services, systems, and organizations are managed and controlled. Environmental performance is improved whenever the environmental aspects of activities, processes, products, services, systems, and organizations are managed and controlled and whenever adverse environmental impacts are reduced and beneficial environmental impacts are produced."*

Casey & Grenier (2015) take into account social performance (as measured by the KLD social performance index) in relation to CSRA demand. The results show that both companies with superior social performance as well as companies with inferior social performance are more likely to demand for CSRA. On the one hand, the appointment of weak performance among companies with CSR concerns can be seen as plausible. Companies do not choose to disclose weak non-financial performance, while actually performing well. On the other hand, by taking a socio-political perspective, companies with CSR concerns could benefit most of CSRA. This is because of improving their public image and the need to legitimize their actions in order to avoid legitimacy threats (O'Dwyer, Owen, and Unerman, 2011; Coram, Monroe, and Woodliff, 2009). Peters & Romi (2015) include environmental performance (as measured by the KLD database) and confirm the expectation that a negative relationship exists between firm-specific environmental performance and CSRA demand. However, it is unclear how and in what way environmental performance is measured. Clarkson et al. (2015) found a positive relation between CSR performance observed by the public and CSRA demand. However, CSR performance is not divided into, for example, social and environmental performance.

According to socio-political theories, including legitimacy theory and stakeholder theory, companies with inferior social and/or environmental performance are more likely to disclose CSR reports (Braam, Uit de Weerd, Hauck, and Huijbregts, 2016; Clarkson et al., 2008). A negative relationship between a company's social and/or environmental performance and CSR disclosure exists (Cho & Patten, 2007). Legitimacy theory is closely related to stakeholder theory (Gray, Kouhy, and Lavers, 1995; Deegan, 2002; Patten, 2002). However, stakeholder theory is specifically oriented towards stakeholders as most important interest group.

Legitimacy theory is broader in scope and states that: "*Organizations have implicit contracts with society and fulfilling these contracts legitimates the organizations and their operations*" (Kolk & Perego, 2010, p. 187). Social and political pressures are the most important and persistent concerns of an inferior CSR performing company (Clarkson et al., 2008, 2011). Organizations are more willing to act in the interest of important interest groups (e.g. stakeholders and/or society) in order to survive (Cohen & Simnett, 2015). Stakeholders corresponding to the largest legitimacy threats are of most importance (Casey & Grenier, 2015).

Companies run an implicit social contract with society in order to reduce danger to the persistence of the contract (Casey & Grenier, 2015). Companies must meet a socially constructed system of values and expectations to legitimate their activities. Operations of firms are becoming increasingly magnified by authorities, such as the government, regulatory bodies, media and the public. Not meeting these social requirements and expectations lead to social and political pressures (legitimacy threats) (O'Dwyer et al., 2011; Clarkson et al., 2008; Cho & Patten, 2007). In order to reduce this pressure, companies are more likely to present that they are not as "bad" as they seem to be at first sight (Casey & Grenier, 2015). Therefore, companies with inferior CSR performance are more willing to selectively disclose "soft" information and unverifiable measures in order to increase their public appearance (Clarkson, Overell, and Chapple, 2011). A possibility to consort with this pressure from society is by demanding CSRA. So, according to socio-political theories, it is expected that inferior CSR performing companies are more likely to demand for CSRA. CSRA leads to enhanced credibility towards stakeholders and/or society. (Simnett et al., 2009; Cohen & Simnett, 2015). The underlying thought is, in order to reduce societal pressure and risks, companies try to deviate from their polluting, core business in order to reduce their legitimacy, change perceptions, and improve their business reputation (Braam et al., 2016; Cho, Guidry, Hageman, and Patten, 2012). Besides that, companies run the risk that their legitimacy and "license to operate" will be threatened (O'Dwyer et al., 2011; Deegan, 2002; Cho et al., 2012). Therefore, according to socio-political theories, the following hypotheses are constructed:

H1a. Companies with inferior social performance are more likely to demand for CSRA than companies with superior social performance.

H1b. Companies with inferior environmental performance are more likely to demand for CSRA than companies with superior environmental performance.

Economics-based theories, including signaling theory and agency theory, assume that superior CSR performing companies disclose CSR reports in order to differentiate themselves from other superior CSR performing companies (Clarkson et al., 2008). Hereby making use of objective and verifiable performance measures in order to distinguish from companies which disclose soft and subjective measures (Braam et al., 2016; Ioannou & Serafeim, 2011; Clarkson et al., 2008). Due to the credibility enhancement of CSRA, superior CSR performing companies have to differentiate themselves by assuring their CSR report. Because of the competitive market among accounting and non-accounting firms, CSRA is a costly decision and it is important to notice that the costs associated with CSRA should be carefully taken into account. Looking from an economic perspective, it is more likely that those companies demand for CSRA if the expected benefits (e.g. increased credibility) outweigh the extra costs (e.g. accounting/non-accounting fees) (Cohen & Simnett, 2015; Fernandez-Feijoo, Romero, and Ruiz, 2015; Kolk & Perego, 2010; Simnett et al., 2009; Verrecchia, 1983). Subsequently, companies with superior social and/or environmental performance are more likely to assure their CSR report. It is expected that those companies and stakeholders can take advantage (i.e. reduced cost of capital, lower analyst forecast diffusion, increased analyst coverage, and better shareholder protection) of this publicly-available assured information (Clarkson et al., 2015). According to signaling theory, a positive signal to interest groups is given when CSRA is demanded.

Assurance is also a unique and compelling way to mitigate information asymmetry and/or agency costs between top management and capital providers. The agency perspective, as one of the first studied by Chow (1982), made clear that agency costs are related to voluntary assurance services. These agency costs occur because of managerial incentives to disclose only self-interested CSR information. Stakeholders may doubt the credibility of this CSR information and demand for CSRA in order to enhance the trustworthiness of CSR reports (Clarkson et al., 2015). In other words, assurance reduces agency costs, mitigates information asymmetry, increases validity and user confidence, and enhances perceived credibility and reliability of CSR reports (Kolk & Perego, 2010; Simnett et al., 2009; Cohen & Simnett, 2015). It is also expected that CSRA is more often demanded by companies whose organizational benefits are greater than the associated costs (Kolk & Perego, 2010). In the case of American publicly-listed companies, a low CSRA demand exists, because of a generally expected disbelief in benefits justifying costs (Casey & Grenier, 2015). This might indicate that the cost of assurance services is too high, or that the expected credibility enhancement does not worth it. On the other hand, as indicated by Moroney et al. (2012), cost is the least important part of CSRA demand in the Netherlands. Therefore, it is necessary to conduct an extensive, firm-

specific, cost-benefit analysis (incl. reduced cost-of-capital) in order to determine the decision as to whether or not to demand for CSRA. According to economics-based theories, the following hypotheses are constructed:

H2a. Companies with superior social performance are more likely to demand for CSRA than companies with inferior social performance.

H2b. Companies with superior environmental performance are more likely to demand for CSRA than companies with inferior environmental performance.

Types of CSRA engagement

In contrast to the studies of reporting standards provided by the international regulatory bodies, most of them do not take into account the level and scope of CSRA engagement provided. Regarding the level of assurance, ISAE 3000 and the IFAC International Framework for Assurance Engagements both distinguish between "reasonable assurance engagements" (i.e. an audit) and "limited assurance engagements" (i.e. a review) as delivered by the accounting profession. Reasonable assurance indicates a positive assurance opinion. On the other hand, limited assurance represents a negative assurance opinion (O'Dwyer et al., 2011; Hasan et al., 2005). The latter is a smaller amount of assurance obtained and therefore a lower level of confidence is given to the CSR report (Houghton, 2010). Members outside the accounting profession are permitted to AA1000 assurance standards and are categorized into "high assurance" and "moderate assurance" level (O'Dwyer, 2011; Manetti & Becatti, 2009; Ballou et al., 2006; Mock et al., 2007).

The second part of the type of CSRA engagement includes the scope of assurance. The scope qualifies the extent, focus and boundary of an assurance engagement. In other words, the broader the scope of assurance, the more extensive the CSRA engagement. This is, for example, assurance on the entire CSR report, as opposed to assurance on specified section(s), or greenhouse gases (GHG) only.

According to a socio-political perspective, the more extensive the assurance engagement, the higher the credibility enhancement. It is expected that inferior social and environmental performing companies are more likely to demand for a higher type of CSR engagement (i.e. an audit) in order to obtain increased corporate legitimacy. By assuring more extensively, inferior social and environmental performing companies suggest that their CSR report becomes more

reliable, transparent and trustworthy. The benefits of an extensive assurance engagement are more likely to outweigh the associated assurance costs.

Economics-based theories predict the opposite, because superior social and environmental performing companies want to differentiate from other companies in, for example, the same industry (Clarkson et al., 2008). As a result, superior social and environmental performing companies are expected to demand for higher quality assurance relative to inferior social and environmental performing companies demanding for lower quality assurance.

To date, no research has been conducted on the level and scope of CSRA engagements in relation to a company's social and environmental performance. However, this paper adheres to a socio-political perspective, because it is expected that inferior social and environmental performing companies are more willing to demand a higher assurance quality in order to legitimize their actions. Inferior social and environmental performing companies demand a higher type of CSRA engagement in order to take advantage of credibility enhancement. By assuring a CSR report more extensively, a higher level of assurance can be provided. This results in higher stakeholder commitment and a reducing legitimizing threat towards stakeholders and/or society. This paper assumes that superior social and environmental performing companies have in all probability, not the need to demand high assurance quality in order to differentiate from other superior CSR performing companies. A lower type of assurance is also sufficient to provide a positive signal to stakeholders and/or society. Therefore, the following hypotheses are constructed:

H3a. Companies with inferior social performance are more likely to demand for a higher type of CSRA engagement than companies with superior social performance.

H3b. Companies with inferior environmental performance are more likely to demand for a higher type of CSRA engagement than companies with superior environmental performance.

CSRA providers

According to socio-political theories, companies highly prefer size, reputation and competencies of assurance providers. Especially big four accounting firms are associated with higher assurance quality, professional reputation and integrity (Perego, 2009; Simnett et al., 2009; Moroney et al., 2012). These assurance companies have economies of scale and more

opportunities to invest in human capital and technologies (Simnett et al., 2009; O'Dwyer, 2011). Traditionally, the primary purpose of accounting firms is to audit or advice clients about their financial statements provided. Therefore, the possibility could arise that assurance providers outside the accounting profession (e.g. consultancies and certification bodies) may have more skills, knowledge and expertise of the CSR information required for the assurance of non-financial information (Corporate Register, 2008; Cohen & Simnett, 2015). In other words, specific CSRA competences of assuring non-financial information may be more present at members outside the accounting profession (Cohen & Simnett, 2015). In order to lag not behind the competitors, big four accounting firms specialized in this subject-matter expertise. CSRA competences are generally bought from non-accounting firms nowadays (Simnett et al., 2009; Manetti & Becatti, 2009).

Acquisitions of, for example, environmental consultancies are another way of gathering and applying the specific CSRA competences. Especially big four accounting firms were seeking to enhance their reputation as CSRA provider in order to attract new CSRA clients (O'Dwyer et al., 2011). Another important driver for the relative rise of switching to the three dominant assurance providers is that it becomes more efficient and effective for companies which already assure their financial information at the same assurance provider. The possible future aim may be to combine financial and non-financial information in an integrated report (O'Dwyer, 2011). Therefore, it is not surprising that 90 percent of the CSRA market is dominated by renowned companies (mainly big four accounting firms) (O'Dwyer, 2011). The differences in regulation between accounting and non-accounting assurance providers are useful to provide insight in the type and differentiation of CSRA engagement provided to European and North American publicly-listed companies.

Previous research shows that companies with superior social performance are more likely to choose a member of the accounting profession as assurance provider. Subsequently, companies with inferior social performance are more likely to choose assurance outside the accounting profession (Casey & Grenier, 2015). However, to date, no research related to environmental performance and assurance provider is conducted. In contrast to the findings of social performance by Casey & Grenier (2015), this paper follows a socio-political perspective and expects that companies with inferior social and environmental performance are more likely to choose a member of the accounting profession as assurance provider. In accordance with the types of CSRA engagement, it is expected that inferior social and environmental performing companies demand a higher quality assurance to legitimize their actions. Superior social and environmental performing companies might not need the higher quality assurance of accounting

firms in order to differentiate from other superior performing companies. A lower quality assurance provider may also be adequate to provide a positive signal to stakeholders and/or society. Therefore, the following hypotheses are constructed:

H4a. Companies with inferior social performance are more likely to demand for CSRA from the accounting profession than companies with superior social performance.

H4b. Companies with inferior environmental performance are more likely to demand for CSRA from the accounting profession than companies with superior environmental performance.

However, according to Manetti & Becatti (2009), it is not possible to obtain highly reliable CSRA. This is because CSR reports consist of both quantitative (e.g. CO_2 emissions) and qualitative information (e.g. processes), which are hard to approach objectively (Ballou et al., 2006). Results of prior literature show that merely limited assurance, as opposed to reasonable assurance, is provided by accounting firms (Casey & Grenier, 2015; Hasan et al., 2005). The accounting profession is subject to extensive regulatory oversight by authorities and adherence to professional financial reporting standards. These standards encourage the quality and cautiousness of other assurance services. In contrast, the consequence is that costs associated with CSRA are relatively higher for accounting firms and lower for non-accounting providers (Peters & Romi, 2015). Due to a cost-benefit analysis, accounting providers are expected to provide merely limited assurance rather than reasonable assurance engagements (O'Dwyer & Owen, 2005; Kolk & Perego, 2012; Moroney et al., 2012). In other words, the more extensive the implementation of an assurance engagement, the higher the costs associated with this engagement. So, due to the accounting fees of assurance engagements, accounting providers tend to report more limited assurance opinions. Other assurance providers do not have to comply with those "expensive" reporting standards and are therefore more likely to report positive assurance engagements (Peters & Romi, 2015). It is also possible to give a disclaimer of opinion when the assurance provider is not able to collect enough evidence (Gray, 2000). The possibility exists that different parts of the report may have different levels of assurance for qualitative and quantitative CSR information (Manetti & Becatti, 2009; Cohen & Simnett, 2015).

2.3 Country-level determinants of CSRA

The second part of this paper discusses country-level determinants of CSRA. These determinants include legal environment and enforcement mechanisms. Emphasizing the historical impact of institutions and corporate responsibility, a great variety of differences among legal and governmental institutions in countries exist. In contrast, previous literature does not examine culture as an important explanation for CSRA demand (Matten & Moon, 2008; Gray, 1988). Addressing this issue is useful to describe and predict international differences in CSRA demand and CSRA differentiation among countries.

Legal environment

The first country-level factor this paper distinguishes is legal environment. In this respect, the distinction between common law countries and code/civil law countries is made (La Porta, Lopez-De-Silanes, Shleifer, and Vishny, 1997). According to Ball, Kothari, and Robin (2000), firms domiciled in common law countries are considered to have a more shareholder-oriented corporate governance structure. Firms in code/civil law countries are characterized as having a more stakeholder-oriented corporate governance structure. The main goal of companies in common law countries is to maximize shareholder wealth. Subsequently, shareholders and creditors are the most important interest groups that should be legally protected. The primary purpose of a common law country organization is to increase share prices and dividends. Thus, investor protection is most important in common law countries (Ball et al., 2000; La Porta et al., 1997; Kolk & Perego, 2010). For example, a European country with a common law legal environment is the United Kingdom. The law is made according to norms and values and completed by judges. Afterwards, the law is being unified into legislation. According to consistent and predefined principles, similar facts should lead to similar judges. A future judgment is mostly made on the basis of previous reasoning and decisions. There is, however, a possibility to distinct from prior cases if the current affair fundamentally differs. Judgment is made on the basis of interpretation and legislation serves as a guideline in the passing judgment (La Porta et al., 1997).

On the contrary, in code law countries, economic benefits are not the only goal of an organization. In addition, companies have social responsibilities and therefore shareholders are not the only important interest group. Other stakeholders, related to social well-being (e.g. employees, suppliers, and society) are at least as important as shareholders (Kolk & Perego, 2010). Stakeholder-oriented countries place more emphasis on non-shareholder interest groups. Social aspects are more important relatively to purely economics-based practices (Garcia-

Sanchez, Cuadrado-Ballesteros, Frias-Aceituno, 2015). European code law countries are, for example, France, Germany and Norway. In contrast to common law countries, code law countries protect shareholders and creditors the least. Specifically, French civil law countries have the least developed capital markets, and the weakest investor protections (i.e. worse rights to equity finance and low quality law enforcement mechanisms). The core principles of code law countries are embedded in a complete framework, which can serve as primary sources of principles. Judgment in code law countries is based on abstract and generalizable principles. Therefore, less discretionary space exists (La Porta et al., 1997).

In order to deepen the code or common law country understanding, Matten & Moon (2008) made a distinction between "implicit" and "explicit" countries to gain (historical) understanding in the CSR differences between the United States and Europe. The first-mentioned is shareholder-oriented and historically seen as explicit, discretionary, CSR information discloser. Explicit CSR is referred to as: "*corporate policies that assume and articulate responsibility for some societal interests*" (Matten & Moon, 2008, p. 409). On the other hand, implicit CSR is referred to as: "*corporations' role within the wider formal and informal institutions for society's interests and concerns*" (Matten & Moon, 2008, p. 409). Therefore, in line with the difference between stakeholder- and shareholder-oriented countries, explicit CSR is historically seen as more sensitive to shareholder-oriented countries. This is due to social and business practices and their moral responsibility towards society, regardless of rules and regulations requiring those practices. In other words, companies have to disclose CSR practices themselves, regardless of pressure from regulators.

On the other hand, implicit CSR is based on norms, values, and rules and therefore regulators take a much larger role in emphasizing and enforcing the requirements. Less discretionary space exists in determining their commitment to social and environmental responsibility (Matten & Moon, 2008). So, the difference between implicit and explicit CSR can be explained by both the institutional and the (mandatory) legal environment. However, European firms also tend to take a more explicit approach on CSR practices due to changes in liberal market economies and coordinated market mechanisms, ethical trade movements, and European Commission requirements. Apart from England and Ireland, European countries are stakeholder-oriented and therefore the distinction between explicit countries (North America) and implicit countries (Europe) is becoming less clear nowadays (Matten & Moon, 2008).

Studies related to legal environment and CSRA have found about the same results. According to Kolk & Perego (2010), Simnett et al. (2009), Garcia-Sanchez et al. (2015), and Clarkson et al. (2015), companies domiciled in stakeholder-oriented countries are more likely

to demand for CSRA than companies domiciled in shareholder-oriented countries. Due to the broader, non-financial interests of stakeholders, instead of the (only) financial interests of shareholders, more CSRA is demanded. The positive association is explained by stronger emphasis on social and environmental issues in stakeholder-oriented countries in relation to shareholder-oriented countries. Fernandez-Feijoo et al. (2015) and Clarkson et al. (2015) found no association between legal environment and CSRA. The results of Fernandez-Feijoo et al. (2015) may be explained by the above even distribution of stakeholder-oriented countries instead of shareholder-oriented countries included in the data sample. According to Clarkson et al. (2015), most important stakeholders in these countries are professional analysts and considered to be advanced CSR information users. Therefore, little variation exists among the rate of stakeholder-orientation of the countries included. Considering the results of prior-literature and the lack of well-defined variables in the last two studies mentioned, the following hypothesis is constructed:

H5. Companies domiciled in stakeholder-oriented countries are more likely to demand for CSRA than companies domiciled in shareholder-oriented countries.

Enforcement mechanisms

The second country-level determinant is enforcement mechanisms; as measured by the World Bank rule of law. "*Rule of law captures perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence*" (Kaufmann, Kraay, and Mastruzzi, 2011, p. 233). This principle is based on the notion that law should control a country and the prevalence and authority of government in general. A distinction can be made between countries with a weaker and stronger legal enforcement mechanism. Traditionally, richer countries have better enforcement mechanisms than poorer countries. This is reflected in the fact that countries with a stronger rule of law are related to a higher ratio of initial public offerings (IPOs), more domestic firms and a higher private sector debt ratio related to gross national product (GNP) (Choi & Wong, 2007; Kolk & Perego, 2010). This distinction is being made on the law enforcement quality index of La Porta et al. (1997).

Because of the differences in governance mechanisms on country-level institutions, it is expected that the quality of enforcement mechanisms affects the quality of assurance services. Lower quality audits are generally provided in countries with weaker legal systems. Subsequently, countries with stronger legal systems generally demand for higher quality audits

(Choi & Wong, 2007). However, due to the voluntary nature of CSRA demand by independent third parties, companies may decide themselves whether or not to assure a CSR report. Two conflicting theories exist among the strengths of those enforcement mechanisms on CSRA demand (Kolk & Perego, 2010; Choi & Wong, 2007). On the one hand, CSRA may serve as a substitute in weaker legal environments. Due to the absence of institutions that may serve as protection mechanisms among companies and stakeholders in weaker legal systems, CSRA is seen as a great opportunity to add reporting credibility, increase user confidence and lower litigation costs. Companies in countries with stronger legal systems can provide adequate protection from other institutions. Therefore, more importance may be attached to independent assurance in weaker legal systems (Kolk & Perego, 2010; Choi & Wong, 2007). On the other hand, the role of assurance in countries with a weaker legal system may be seen as less credible and there may be a lack of CSRA compliance among companies. Other institutions are becoming more important and this results in the fact that CSRA will have a more limited and complementing role. Literature suggests that independent assurance has a greater influence in countries with a stronger legal system (Ioannou & Serafeim, 2011; Simnett et al., 2009).

In accordance with the literature, prior research shows mixed results. Kolk & Perego (2010) and Choi & Wong (2007) support the argument that companies in countries with a weaker legal system are more likely to demand for CSRA. CSRA is seen as a substituting role for the absence of institutions and assurance providers serve as a dominant governance mechanism. Simnett et al. (2009) and Ioannou & Serafeim (2011) came up with opposite results: companies in countries with a stronger legal system are more likely to demand for CSRA. However, a decrease in the variable significance over time appeared. The underlying assumptions of the first two papers mentioned are opposite to the last two papers. The results support their hypothesis and therefore a dichotomy exists. Fernandez-Feijoo et al. (2015) found no association between legal system and CSRA demand. Due to the voluntary nature of CSRA, this paper expects that companies assure their CSR report in order to add credibility and increase user confidence. The demand for assurance is higher in countries with a weaker legal system, because CSRA plays a substituting role in disclosing reliable and credible information to the public. Absence of institutions that provide protection among companies and stakeholders in weaker legal systems result in the following hypothesis:

H6. Companies in countries with weaker legal enforcement mechanisms are more likely to demand for CSRA than companies in countries with stronger legal enforcement mechanisms.

3. Research method

3.1 Data sample

The total sample consists of 4,686 observations of 835 publicly-listed companies during the period 2009-2014. The sample is divided into a European subsample (3,644 observations, 656 companies, 19 countries) and a North American subsample (1,042 observations, 179 companies, 2 countries). The North American subsample includes both the United States and Canada. Based on the KPMG (2015) Survey of Corporate Responsibility Reporting, the top 100 publicly-listed companies in 21 countries were selected. These 100 largest companies per country are selected by making use of the Thomson One database on the basis of revenue as of end 2014. This means that publicly-listed companies with the largest revenues on 31st of December 2014 are selected in the 6-year sample. The top 100 companies are considered a maximum guideline. In all countries, no 100 publicly-listed companies with firm-specific data are available. Also, some companies were dropped out the research, because of missing data. Missing data may occur due to missing environmental and social performance scores, and missing primary firm-specific data such as net income, total assets, etc. The United States is included, because prior research often focused on this country. Also, between 2002 and 2005, the United States was one of the few countries where the number of published CSR reports decreased (Simnett et al., 2009). After these years, it is interesting to study in which direction CSR and CSRA tends to move. Canada is chosen because of the geographical and legal solidarity with the United States. The CSRA rate of both countries was very low during the period 2002-2005 (Simnett et al., 2009). Therefore, this study makes a comparison between European and North American companies in order to make differences clear and probably revise the North American perspective on CSR disclosure and CSRA demand.

Primary country- and firm-specific data is collected by CompuStat and Thomson One. Company data is converted into euros in order to eliminate the differences in (headquarter) reporting currencies. Social and environmental data is captured by the ASSET 4 ESG database of Thomson Reuters. Assurance-related data is collected on the basis of the Sustainability Disclosure Database of the Global Reporting Initiative (http://database. globalreporting.org) and manual search on company websites and Google. Both stand-alone CSR reports and integrated (annual) reports with a CSR chapter are captured. Annual rule of law index scores are gathered by the World Bank database. According to Simnett et al. (2009), a stakeholder-/shareholder country orientation is determined.

Figure 1 shows the decision tree of the total number of observations (Panel A), as well as the total number of observations in European countries (Panel B) and total number of

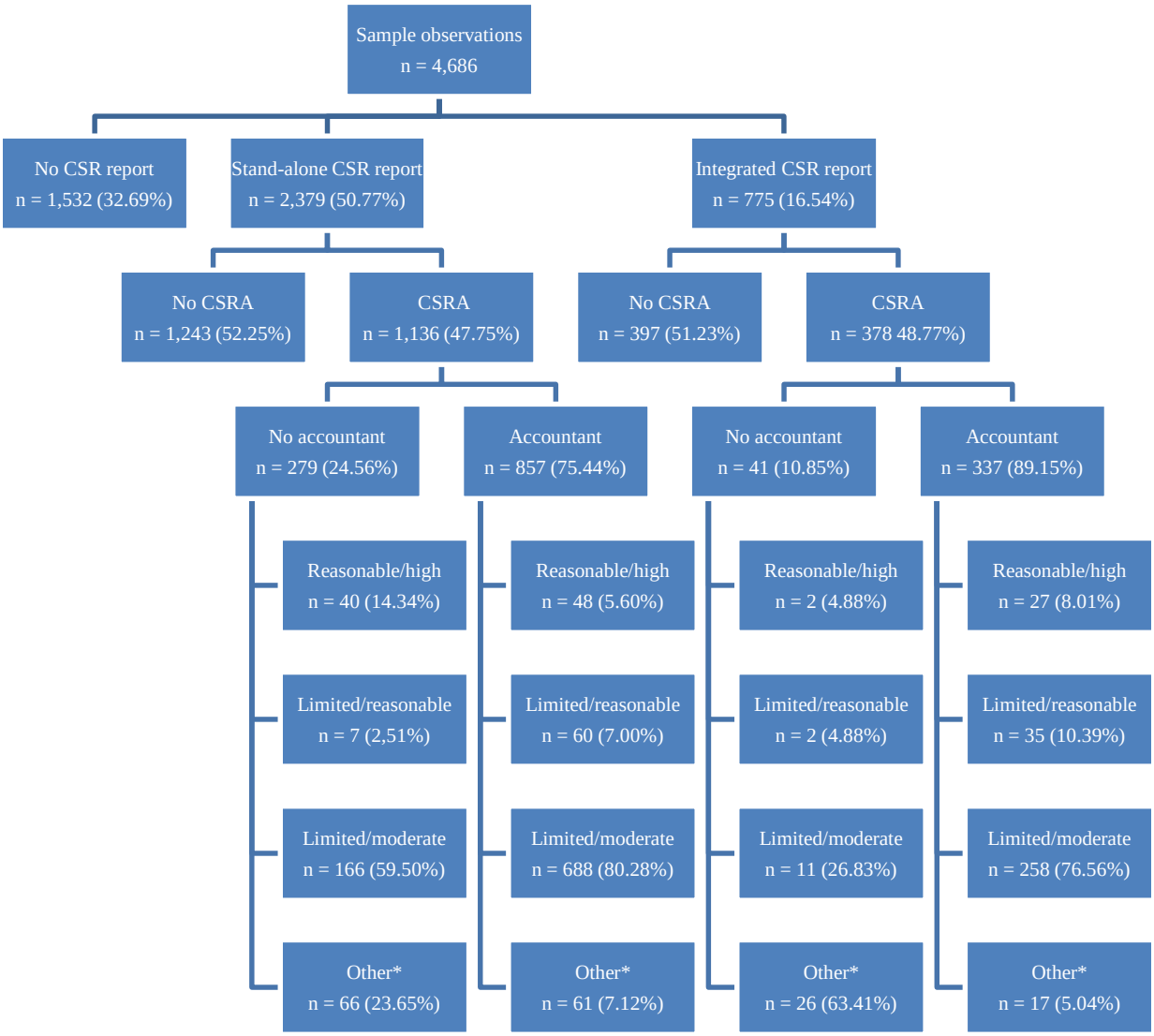
observations in North America (Panel C). Figure 1 represents sample observations, type of CSR report, CSRA, accountancy firms and the level of CSRA provided. Table 1 provides an overview of most important factors regarding CSRA and accountancy firms over the sample period 2009-2014. Table 2 makes a comparison between Europe and North America, containing number of observations, CSR and CSRA during the years 2009-2014. The European subsample consists of 3,644 observations with an average CSR disclosure rate of 69.73 percent and a CSRA demand rate of 53.72 percent. In contrast to Europe, the North American subsample (1,042 observations) shows a significantly lower average CSR disclosure rate of 58.83 percent and a significantly lower CSRA demand rate of 24.31 percent.

Table 3 represents the sample distribution per country during the years 2009-2014. Panel A includes the companies listed in 19 European countries and Panel B includes the United States and Canada. The tables consist of the origin of law per country. A distinction between stakeholder-oriented countries and shareholder-oriented countries is made. Regression data in chapter 4 contains year-specific rule of law data per country. However, in order to provide oversight and summarize the strength (or weakness) of a legal system, this table only provides a 6-year average of the rule of law country index. The year-specific rule of law specification per country is included in appendix 1. The higher the rule of law index, the higher the strength of the legal system. Sweden has the highest rule of law index (1.96), as opposed to Russia showing the lowest rule of law index (-0.77). During the years, a significant increase in observations, CSR report disclosure and CSRA demand can be observed for both European and North American companies. When looking at specific countries, Hungary shows the highest CSR disclosure rate (100.00%). However, only 23 observations are included. Spain includes the highest CSRA demand rate (78.38%).

Table 4 shows industry characteristics during the years 2009-2014. The total sample is presented in Panel A. No observations of the industry categories “Agriculture, Forestry, Fishing” and “Public Administration” are included. These companies are not publicly-listed and/or are not large enough to be included in the top 100 companies per country. Overall, the “Construction” industry reports the highest CSR disclosure rate (73.10%) and the “Transportation & Public Utilities” industry shows the highest CSRA rate (57.82%). In Europe (Panel B), the same industries regarding highest CSR disclosure (75.15%) and CSRA rate (64.88%) appear. In the North American sample (Panel C), the “Non-classifiable” industry reports the highest CSR disclosure rate (100.00%). However, only 6 observations are included. The “Mining” industry shows the highest CSRA demand rate (53.85%).

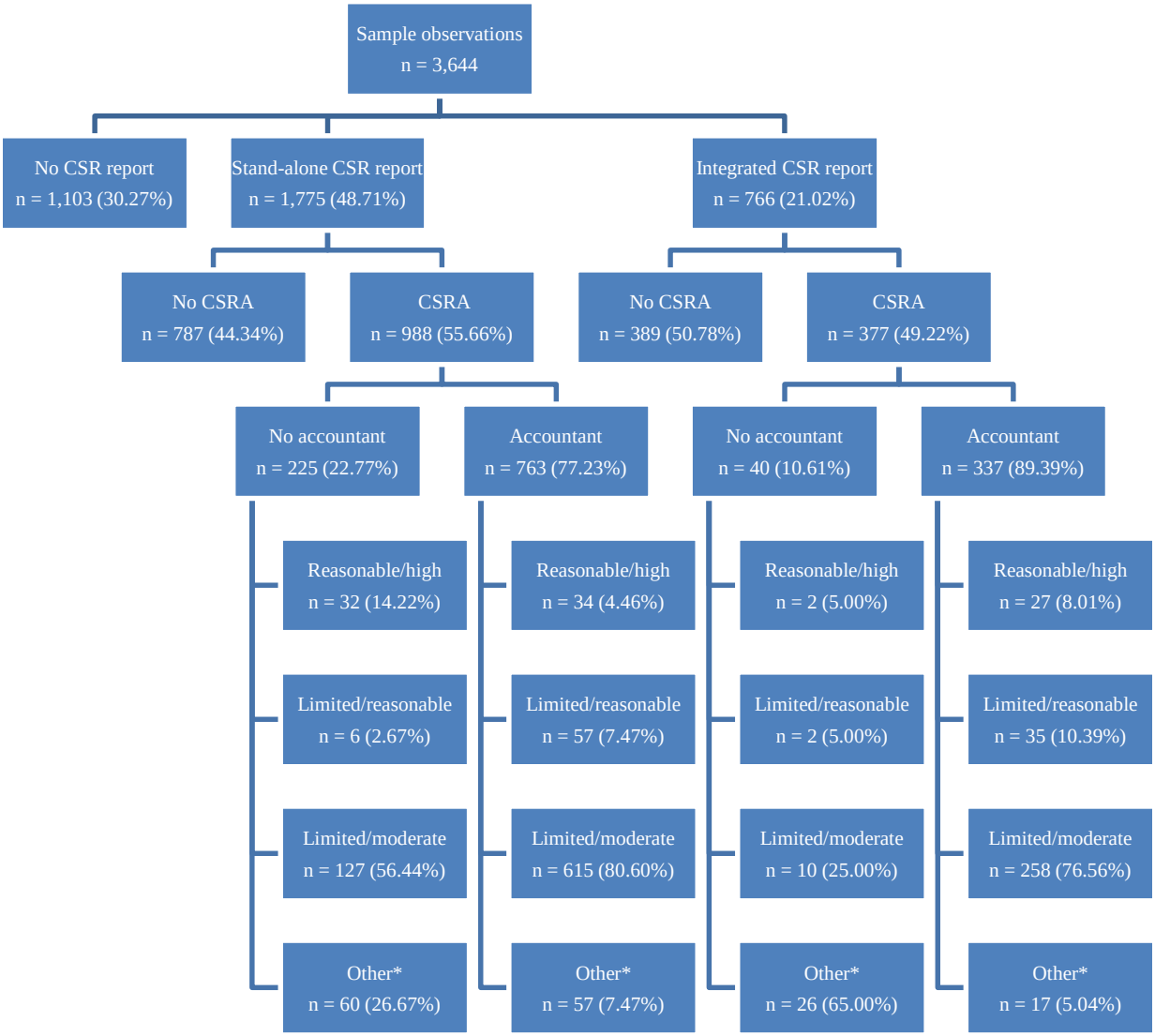
Figure 1. Decision tree.

Panel A: Total number of observations.



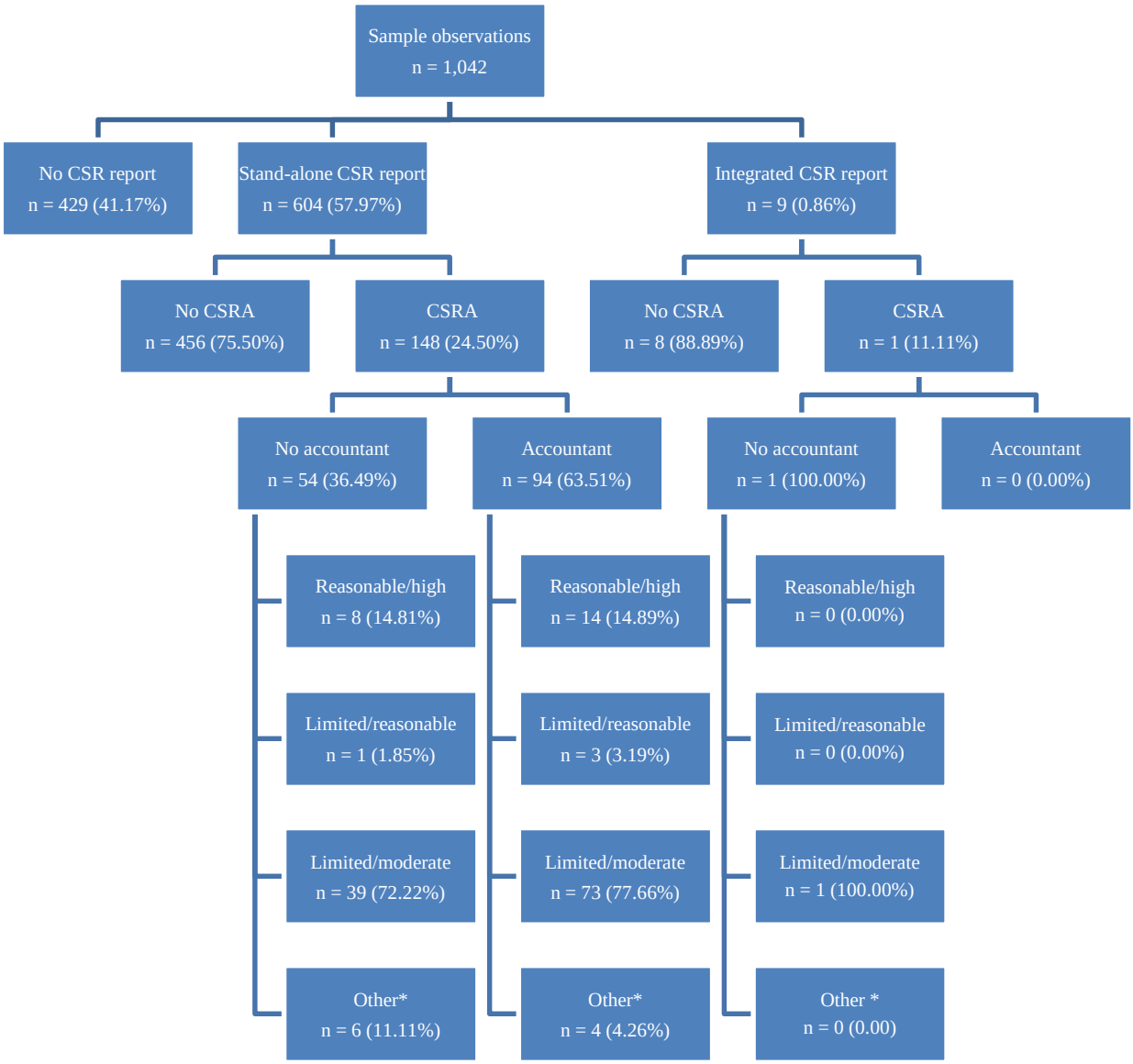
* Other contains missing, no opinion, not specified, or not specified/limited/moderate assurance combined.

Panel B: Total number of observations in Europe.



* Other contains missing, no opinion, not specified, or not specified/limited/moderate assurance combined.

Panel C: Total number of observations in USA and Canada.



* Other contains missing, no opinion, not specified, or not specified/limited/moderate assurance combined.

Table 1. Overview number of CSR reports, CSRA and accountancy rate among Europe, North America and the total sample.

	Europe			North America			Total		
CSR report	Obs.	CSRA (%)	Accountant (%)	Obs.	CSRA (%)	Accountant (%)	Obs.	CSRA (%)	Accountant (%)
Stand-alone	1,775	988	763	604	148	94	2,379	1,136	857
	(69.85)	(72.38)	(69.36)	(98.53)	(99.33)	(100.00)	(75.43)	(75.03)	(71.78)
Integrated	766	377	337	9	1	0	775	378	337
	(30.15)	(27.62)	(30.64)	(1.47)	(0.67)	(0.00)	(24.57)	(24.97)	(28.22)
Subtotal	2,541	1,365	1,100*	613	149	94**	3,154	1,514	1,194***
	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)
No CSR report	1,103			429			1,532		
Total	3,644			1,042			4,686		

* 90.64% of the CSR reports assured by a member of the accounting profession is a big-four accounting firm. ** 74.47% of the CSR reports assured by a member of the accounting profession is a big-four accounting firm.

*** 89.36% of the CSR reports assured by a member of the accounting profession is a big-four accounting firm.

Table 2. Continent characteristics containing observations, CSR and CSRA (2009-2014).

	2009			2010			2011			2012			2013			2014			Total		
Continent	Obs.	CSR (%)*	CSRA (%)**	Obs.	CSR (%)*	CSRA (%)**	Obs.	CSR (%)*	CSRA (%)**	Obs.	CSR (%)*	CSRA (%)**	Obs.	CSR (%)*	CSRA (%)**	Obs.	CSR (%)*	CSRA (%)**	Obs.	CSR (%)*	CSRA (%)**
Europe	538	315	152	592	375	182	609	417	220	621	439	240	638	482	276	646	513	295	3,644	2,541	1,365
		(58.55)	(48.25)		(63.34)	(48.53)		(68.47)	(52.76)		(70.69)	(54.67)		(75.55)	(57.26)		(79.41)	(57.50)		(69.73)	(53.72)
North-America	168	69	10	171	91	13	174	102	21	175	111	29	177	117	36	177	123	40	1,042	613	149
		(41.07)	(14.49)		(53.22)	(14.29)		(58.62)	(20.59)		(63.43)	(26.13)		(66.10)	(30.77)		(69.49)	(32.52)		(58.83)	(24.31)
Total	706	384	162	763	466	195	783	519	241	796	550	269	815	599	312	823	636	335	4686	3,154	1,514
		(54.39)	(42.19)		(61.07)	(41.85)		(66.28)	(46.44)		(69.10)	(48.91)		(73.50)	(52.09)		(77.28)	(52.67)		(67.31)	(48.00)

* CSR includes both stand-alone CSR reports and integrated CSR reports and is a percentage of number of observations. ** CSRA is a percentage of number of CSR reports disclosed.

Table 3. Country characteristics containing origin of law, rule of law, observations, CSR and CSRA (2009-2014).

Panel A: Europe.

Country-specific characteristics			2009			2010			2011			2012			2013			2014		Total		
Country[1]	OL[2]	RL[3]	Obs.	CSR (%)*	CSRA (%)**	Obs.	CSR (%)*	CSRA (%)**	Obs.	CSR (%)*	CSRA (%)**	Obs.	CSR (%)*	CSRA (%)**	Obs.	CSR (%)*	CSRA (%)**	Obs.	CSR (%)*	CSRA (%)**	Obs.	CSR (%)*	CSRA (%)**
BEL	Stake	1.41	24	12 (50.00)	4 (33.33)	25	16 (64.00)	6 (37.50)	25	16 (64.00)	6 (37.50)	25	16 (64.00)	6 (37.50)	25	16 (64.00)	4 (25.00)	26	18 (69.23)	8 (44.44)	150	94 (62.67)	34 (36.17)
CHE	Stake	1.82	48	22 (45.83)	6 (27.27)	50	26 (52.00)	7 (26.92)	52	31 (59.62)	12 (38.71)	53	32 (60.38)	12 (37.50)	54	34 (62.96)	10 (29.41)	55	37 (67.27)	12 (32.43)	312	182 (58.33)	59 (32.42)
CZE	Stake	1.01	3	3 (100.00)	0 (0.00)	3	3 (100.00)	0 (0.00)	3	3 (100.00)	0 (0.00)	3	3 (100.00)	0 (0.00)	3	3 (100.00)	0 (0.00)	3	2 (66.67)	0 (0.00)	18	17 (94.44)	0 (0.00)
DEU	Stake	1.66	53	27 (50.94)	13 (48.15)	55	32 (58.18)	18 (56.25)	57	36 (63.16)	20 (55.56)	58	38 (65.52)	22 (57.89)	60	44 (73.33)	25 (56.82)	61	45 (73.77)	26 (57.78)	344	222 (64.53)	124 (55.86)
DNK	Stake	1.93	22	12 (54.55)	5 (41.67)	25	20 (80.00)	7 (35.00)	25	23 (92.00)	7 (30.43)	25	23 (92.00)	6 (26.09)	25	24 (96.00)	7 (29.17)	26	26 (100.00)	9 (34.62)	148	128 (86.49)	41 (32.03)
ESP	Stake	1.08	33	26 (78.79)	21 (80.77)	36	28 (77.78)	20 (71.43)	39	30 (76.92)	25 (83.33)	41	32 (78.05)	25 (78.13)	42	34 (80.95)	28 (82.35)	42	35 (83.33)	26 (74.29)	233	185 (79.40)	145 (78.38)
FIN	Stake	1.98	23	16 (69.57)	7 (43.75)	24	19 (79.17)	9 (47.37)	24	19 (79.17)	13 (68.42)	24	22 (91.67)	12 (54.55)	25	23 (92.00)	14 (60.78)	24	24 (100.00)	13 (54.17)	144	123 (85.42)	68 (55.28)
FRA	Stake	1.45	68	37 (54.41)	21 (56.76)	70	44 (62.86)	25 (56.82)	70	46 (65.71)	26 (56.52)	71	53 (74.65)	37 (69.81)	71	68 (95.77)	49 (72.06)	72	69 (95.83)	52 (75.36)	422	317 (75.12)	210 (66.25)
GBR	**Share**	1.73	90	64 (71.11)	24 (37.50)	89	64 (71.91)	26 (40.63)	92	75 (81.52)	34 (45.33)	91	78 (85.71)	37 (47.44)	95	81 (85.26)	44 (54.32)	94	86 (91.49)	46 (53.49)	551	448 (81.31)	211 (47.10)
GRC	Stake	0.49	16	10 (62.50)	2 (20.00)	16	12 (75.00)	6 (50.00)	16	11 (68.75)	8 (72.73)	16	11 (68.75)	8 (72.73)	17	12 (70.59)	8 (66.67)	17	12 (70.59)	8 (66.67)	98	68 (69.39)	40 (58.82)
HUN	Stake	0.65	3	3 (100.00)	3 (100.00)	4	4 (100.00)	3 (75.00)	4	4 (100.00)	3 (75.00)	4	4 (100.00)	3 (75.00)	4	4 (100.00)	3 (75.00)	4	4 (100.00)	3 (75.00)	23	23 (100.00)	18 (78.26)
IRL	**Share**	1.76	10	1 (10.00)	0 (0.00)	11	1 (9.09)	0 (0.00)	11	2 (18.18)	0 (0.00)	14	1 (7.14)	1 (100.00)	15	2 (13.13)	1 (50.00)	15	4 (26.67)	1 (25.00)	76	11 (14.47)	3 (27.27)
ITA	Stake	0.37	41	26 (63.41)	17 (65.38)	42	27 (64.29)	20 (74.07)	43	28 (65.12)	21 (75.00)	43	28 (65.12)	21 (75.00)	44	33 (75.00)	26 (78.79)	44	33 (75.00)	25 (75.76)	257	175 (68.09)	130 (74.29)
NLD	Stake	1.84	26	17 (65.38)	14 (82.35)	28	18 (64.29)	13 (72.22)	30	21 (70.00)	15 (71.43)	31	21 (67.74)	15 (71.43)	33	23 (69.70)	14 (60.87)	36	27 (75.00)	20 (74.07)	184	127 (69.02)	91 (71.65)
NOR	Stake	1.99	17	8 (47.06)	5 (62.50)	18	8 (44.44)	4 (50.00)	18	10 (55.56)	6 (60.00)	18	9 (50.00)	6 (66.67)	18	11 (61.11)	7 (63.64)	19	15 (78.95	6 (40.00)	108	61 (56.48)	34 (55.74)
POL	Stake	0.73	10	1 (10.00)	0 (0.00)	21	3 (14.29)	0 (0.00)	23	8 (34.78)	3 (37.50)	24	11 (45.83)	3 (27.27)	25	11 (44.00)	6 (54.55)	28	13 (46.43)	8 (61.54)	131	47 (35.88)	20 (42.55)
PRT	Stake	1.05	11	5 (45.45)	2 (40.00)	11	6 (54.55)	4 (66.67)	11	6 (54.55)	5 (83.33)	11	5 (45.45)	4 (80.00)	11	5 (45.45)	4 (80.00)	9	6 (66.67)	4 (66.67)	64	33 (51.56)	23 (69.70)
RUS	Stake	-0.77	2	0 (0.00)	0 (0.00)	25	15 (60.00)	6 (40.00)	28	18 (64.29)	7 (38.89)	30	21 (70.00)	8 (38.10)	30	22 (73.33)	7 (31.82)	29	21 (72.41)	8 (38.10)	144	97 (67.36)	36 (37.11)
SWE	Stake	1.96	38	25 (65.79)	8 (32.00)	39	29 (74.36)	8 (27.59)	38	30 (78.95)	9 (30.00)	39	31 (79.49)	14 (45.16)	41	32 (78.05)	19 (59.38)	42	36 (85.71)	20 (55.56)	237	183 (77.22)	78 (42.62)
Total			538	315 (58.55)	152 (48.25)	592	375 (63.34)	182 (48.53)	609	417 (68.47)	220 (52.76)	621	439 (70.69)	240 (54.67)	638	482 (75.55)	276 (57.26)	646	513 (79.41)	295 (57.50)	3,644	2,541 (69.73)	1,365 (53.72)

* CSR includes both stand-alone CSR reports and integrated CSR reports and is a percentage of number of observations. ** CSRA is a percentage of number of CSR reports disclosed.

[1] Country means stock exchange-listed in that country. [2] Origin of law makes a distinction between shareholder-oriented countries and stakeholder-oriented countries. [3] Rule of law contains 6-year average.

A list of country abbreviations and a rule of law specification per country during the period 2009-2014 is included in appendix 1.

Panel B: North America.

Country-specific characteristics			2009			2010			2011			2012			2013			2014			Total		
Country[1]	OL[2]	RL[3]	Obs.	CSR (%)*	CSRA (%)**	Obs.	CSR (%)*	CSRA (%)**	Obs.	CSR (%)*	CSRA (%)**	Obs.	CSR (%)*	CSRA (%)**	Obs.	CSR (%)*	CSRA (%)**	Obs.	CSR (%)*	CSRA (%)**	Obs.	CSR (%)*	CSRA (%)**
CAN	**Share**	1.79	85	31 (36.47)	5 (16.13)	87	41 (47.13)	6 (14.63)	89	45 (50.56)	11 (24.44)	90	53 (58.89)	15 (28.30)	90	52 (57.78)	17 (32.69)	89	54 (60.67)	18 (33.33)	530	276 (52.08)	72 (26.09)
USA	**Share**	1.60	83	38 (45.78)	5 (13.16)	84	50 (59.52)	7 (14.00)	85	57 (67.06)	10 (17.54)	85	58 (68.24)	14 (24.14)	87	65 (74.71)	19 (29.23)	88	69 (78.41)	22 (31.88)	512	337 (65.82)	77 (22.85)
Total			168	69 (41.07)	10 (14.49)	171	91 (53.22)	13 (14.29)	174	102 (58.62)	21 (20.59)	175	111 (63.43)	29 (26.13)	177	117 (66.10)	36 (30.77)	177	123 (69.49)	40 (32.52)	1,042	613 (58.83)	149 (24.31)

* CSR includes both stand-alone CSR reports and integrated CSR reports and is a percentage of number of observations. ** CSRA is a percentage of number of CSR reports disclosed.

[1] Country means stock exchange-listed in that country. [2] Origin of law makes a distinction between shareholder-oriented countries and stakeholder-oriented countries. [3] Rule of law contains 6-year average.

A list of country abbreviations and a rule of law specification per country during the period 2009-2014 is included in appendix 1.

Table 4. Industry characteristics observations, CSR and CSRA (2009-2014).

Panel A: Total sample.

Industry-specific characteristics		2009			2010			2011			2012			2013			2014			Total		
SIC code	Industry	Obs.	CSR (%)*	CSRA (%)**	Obs.	CSR (%)*	CSRA (%)**	Obs.	CSR (%)*	CSRA (%)**	Obs.	CSR (%)*	CSRA (%)**	Obs.	CSR (%)*	CSRA (%)**	Obs.	CSR (%)*	CSRA (%)**	Obs.	CSR (%)*	CSRA (%)**
0100-0999	Agriculture, Forestry, Fishing	0	0 (0.00)	0 (0.00)	0	0 (0.00)	0 (0.00)	0	0 (0.00)	0 (0.00)	0	0 (0.00)	0 (0.00)	0	0 (0.00)	0 (0.00)	0	0 (0.00)	0 (0.00)	0	0 (0.00)	0 (0.00)
1000-1499	Mining	35	16 (45.71)	8 (50.00)	41	19 (46.34)	9 (47.37)	44	25 (56.82)	13 (52.00)	43	25 (58.14)	15 (60.00)	43	28 (65.12)	16 (57.14)	44	29 (65.91)	18 (62.07)	250	142 (56.80)	79 (55.63)
1500-1799	Construction	26	17 (65.38)	12 (70.59)	29	18 (62.07)	11 (61.11)	29	20 (68.97)	10 (50.00)	29	21 (72.41)	12 (57.14)	29	24 (82.76)	13 (54.17)	29	25 (86.21)	12 (48.00)	171	125 (73.10)	70 (56.00)
2000-3999	Manufacturing	265	158 (59.62)	65 (41.14)	287	189 (65.85)	81 (42.86)	294	211 (71.77)	98 (46.45)	301	223 (74.09)	113 (50.67)	307	236 (76.87)	127 (53.81)	311	256 (82.32)	138 (53.91)	1765	1273 (72.12)	622 (48.86)
4000-4999	Transportation & Public Utilities	114	67 (58.77)	36 (53.73)	126	84 (66.67)	42 (50.00)	129	92 (71.32)	53 (57.61)	132	100 (75.76)	56 (56.00)	135	103 (76.30)	60 (58.25)	137	104 (75.91)	71 (68.27)	773	550 (71.15)	318 (57.82)
5000-5199	Wholesale Trade	21	10 (47.62)	3 (30.00)	23	12 (52.17)	4 (33.33)	25	12 (48.00)	4 (33.33)	26	12 (46.15)	4 (33.33)	27	15 (55.56)	7 (46.67)	28	15 (53.57)	7 (46.67)	150	76 (50.67)	29 (38.16)
5200-5999	Retail Trade	50	24 (48.00)	7 (29.17)	54	32 (59.26)	8 (25.00)	56	34 (60.71)	7 (20.59)	56	37 (66.07)	10 (27.03)	57	39 (68.42)	14 (35.90)	55	40 (72.73)	12 (30.00)	328	206 (62.80)	58 (28.16)
6000-6799	Finance, Insurance, Real Estate	140	68 (48.57)	24 (35.29)	146	79 (54.11)	32 (40.51)	149	91 (61.07)	42 (46.15)	150	92 (61.33)	43 (46.74)	156	110 (70.51)	57 (51.82)	158	118 (74.68)	56 (47.46)	899	558 (62.07)	254 (45.52)
7000-8999	Services	46	19 (41.30)	4 (21.05)	48	27 (56.25)	6 (22.22)	48	28 (58.33)	11 (39.29)	50	34 (68.00)	13 (38.24)	51	37 (72.55)	15 (40.54)	51	41 (80.39)	17 (41.46)	294	186 (63.27)	66 (35.48)
9100-9729	Public Administration	0	0 (0.00)	0 (0.00)	0	0 (0.00)	0 (0.00)	0	0 (0.00)	0 (0.00)	0	0 (0.00)	0 (0.00)	0	0 (0.00)	0 (0.00)	0	0 (0.00)	0 (0.00)	0	0 (0.00)	0 (0.00)
9900-9999	Non-classifiable	9	5 (55.56)	3 (60.00)	9	6 (66.67)	2 (33.33)	9	6 (66.67)	3 (50.00)	9	6 (66.67)	3 (50.00)	10	7 (70.00)	3 (42.86)	10	8 (80.00)	4 (50.00)	56	38 (67.86)	18 (47.37)
Total		706	384 (54.39)	162 (42.19)	763	466 (61.07)	195 (41.85)	783	519 (66.28)	241 (46.44)	796	550 (69.10)	269 (48.91)	815	599 (73.50)	312 (52.09)	823	636 (77.28)	335 (52.67)	4686	3,154 (67.31)	1,514 (48.00)

* CSR includes both stand-alone CSR reports and integrated CSR reports and is a percentage of number of observations. ** CSRA is a percentage of number of CSR reports.

Panel B: Europe.

Industry-specific characteristics		2009			2010			2011			2012			2013			2014			Total		
SIC code	Industry	Obs.	CSR (%)*	CSRA (%)**	Obs.	CSR (%)*	CSRA (%)**	Obs.	CSR (%)*	CSRA (%)**	Obs.	CSR (%)*	CSRA (%)**	Obs.	CSR (%)*	CSRA (%)**	Obs.	CSR (%)*	CSRA (%)**	Obs.	CSR (%)*	CSRA (%)**
0100-0999	Agriculture, Forestry, Fishing	0	0 (0.00)	0 (0.00)	0	0 (0.00)	0 (0.00)	0	0 (0.00)	0 (0.00)	0	0 (0.00)	0 (0.00)	0	0 (0.00)	0 (0.00)	0	0 (0.00)	0 (0.00)	0	0 (0.00)	0 (0.00)
1000-1499	Mining	19	9 (47.37)	5 (55.56)	24	11 (45.83)	6 (54.55)	27	16 (59.26)	8 (50.00)	26	16 (61.54)	9 (56.25)	26	18 (69.23)	10 (55.56)	27	20 (74.07)	13 (65.00)	149	90 (60.40)	51 (56.67)
1500-1799	Construction	25	17 (68.00)	12 (70.59)	28	18 (64.29)	11 (61.11)	28	20 (71.43)	10 (50.00)	28	21 (75.00)	12 (57.14)	28	24 (85.71)	13 (54.17)	28	24 (85.71)	12 (50.00)	165	124 (75.15)	70 (56.45)
2000-3999	Manufacturing	211	130 (61.61)	60 (46.15)	232	156 (67.24)	75 (48.08)	238	170 (71.43)	88 (51.76)	245	180 (73.47)	100 (55.56)	251	194 (77.29)	111 (57.22)	254	210 (82.68)	120 (57.14)	1,431	1,040 (72.68)	554 (53.27)
4000-4999	Transportation & Public Utilities	87	56 (64.37)	34 (60.71)	98	68 (69.39)	40 (58.82)	101	76 (75.25)	49 (64.47)	104	80 (76.92)	50 (62.50)	105	83 (79.05)	54 (65.06)	107	84 (78.50)	63 (75.00)	602	447 (74.25)	290 (64.88)
5000-5199	Wholesale Trade	13	8 (61.54)	3 (37.50)	15	10 (66.67)	4 (40.00)	15	10 (66.67)	4 (40.00)	16	10 (62.50)	4 (40.00)	17	12 (70.59)	7 (58.33)	18	13 (72.22)	7 (53.85)	94	63 (67.02)	29 (46.03)
5200-5999	Retail Trade	30	18 (60.00)	7 (38.89)	34	24 (70.59)	8 (33.33)	36	26 (72.22)	7 (26.92)	36	27 (75.00)	10 (37.04)	37	27 (72.97)	13 (48.15)	35	27 (77.14)	11 (40.74)	208	149 (71.63)	56 (37.58)
6000-6799	Finance, Insurance, Real Estate	108	56 (51.85)	24 (42.86)	114	60 (52.63)	30 (50.00)	117	70 (59.83)	40 (57.14)	118	73 (61.86)	39 (53.42)	124	87 (70.16)	51 (58.62)	126	93 (73.81)	50 (53.76)	707	439 (62.09)	234 (53.30)
7000-8999	Services	37	17 (45.95)	4 (23.53)	39	23 (58.97)	6 (26.09)	39	24 (61.54)	11 (45.83)	40	27 (67.50)	13 (48.15)	41	31 (75.61)	14 (45.16)	42	35 (83.33)	16 (45.71)	238	157 (65.97)	64 (40.76)
9100-9729	Public Administration	0	0 (0.00)	0 (0.00)	0	0 (0.00)	0 (0.00)	0	0 (0.00)	0 (0.00)	0	0 (0.00)	0 (0.00)	0	0 (0.00)	0 (0.00)	0	0 (0.00)	0 (0.00)	0	0 (0.00)	0 (0.00)
9900-9999	Non-classifiable	8	4 (50.00)	3 (75.00)	8	5 (62.50)	2 (40.00)	8	5 (62.50)	3 (60.00)	8	5 (62.50)	3 (60.00)	9	6 (66.67)	3 (50.00)	9	7 (77.78)	3 (42.86)	50	32 (64.00)	17 (53.13)
Total		538	315 (58.55)	152 (48.25)	592	375 (63.34)	182 (48.53)	609	417 (68.47)	220 (52.76)	621	439 (70.69)	240 (54.67)	638	482 (75.55)	276 (57.26)	646	513 (79.41)	295 (57.50)	3,644	2,541 (69.73)	1,365 (53.72)

* CSR includes both stand-alone CSR reports and integrated CSR reports and is a percentage of number of observations. ** CSRA is a percentage of number of CSR reports disclosed.

Panel C: North America.

Industry-specific characteristics		2009			2010			2011			2012			2013			2014		Total		
SIC code	Industry	Obs.	CSR (%)*	CSRA (%)**	Obs.	CSR (%)*	CSRA (%)**	Obs.	CSR (%)*	CSRA (%)**	Obs.	CSR (%)*	CSRA (%)**	Obs.	CSR (%)*	CSRA (%)**	Obs.	CSR (%)*	CSRA (%)**	Obs.	CSR (%)*	CSRA (%)**
0100-0999	Agriculture, Forestry, Fishing	0	0 (0.00)	0 (0.00)	0	0 (0.00)	0 (0.00)	0	0 (0.00)	0 (0.00)	0	0 (0.00)	0 (0.00)	0	0 (0.00)	0 (0.00)	0	0 (0.00)	0 (0.00)	0	0 (0.00)	0 (0.00)
1000-1499	Mining	16	7 (43.75)	3 (42.86)	17	8 (47.06)	3 (37.50)	17	9 (52.94)	5 (55.56)	17	9 (52.94)	6 (66.67)	17	10 (58.82)	6 (60.00)	17	9 (52.94)	5 (55.56)	101	52 (51.49)	28 (53.85)
1500-1799	Construction	1	0 (0.00)	0 (0.00)	1	0 (0.00)	0 (0.00)	1	0 (0.00)	0 (0.00)	1	0 (0.00)	0 (0.00)	1	0 (0.00)	0 (0.00)	1	1 (100.00)	0 (0.00)	6	1 (16.67)	0 (0.00)
2000-3999	Manufacturing	54	28 (51.85)	5 (17.86)	55	33 (60.00)	6 (18.18)	56	41 (73.21)	10 (24.39)	56	43 (76.79)	13 (30.23)	56	42 (75.00)	16 (38.10)	57	46 (80.70)	18 (39.13)	334	233 (69.76)	68 (29.18)
4000-4999	Transportation & Public Utilities	27	11 (40.74)	0 (0.00)	28	16 (57.14)	2 (12.50)	28	16 (57.14)	4 (25.00)	28	20 (71.43)	6 (30.00)	30	20 (66.67)	6 (30.00)	30	20 (66.67)	8 (40.00)	171	103 (60.23)	28 (27.18)
5000-5199	Wholesale Trade	8	2 (25.00)	2 (100.00)	8	2 (25.00)	0 (0.00)	10	2 (20.00)	0 (0.00)	10	2 (20.00)	0 (0.00)	10	3 (30.00)	0 (0.00)	10	2 (20.00)	0 (0.00)	56	13 (23.21)	0 (0.00)
5200-5999	Retail Trade	20	6 (30.00)	0 (0.00)	20	8 (40.00)	0 (0.00)	20	8 (40.00)	0 (0.00)	20	10 (50.00)	0 (0.00)	20	12 (60.00)	1 (8.33)	20	13 (65.00)	1 (7.69)	120	57 (47.50)	2 (3.51)
6000-6799	Finance, Insurance, Real Estate	32	12 (37.50)	0 (0.00)	32	19 (59.38)	2 (10.53)	32	21 (65.63)	2 (9.52)	32	19 (59.38)	4 (21.05)	32	23 (71.88)	6 (26.09)	32	25 (78.13)	6 (24.00)	192	119 (61.98)	20 (16.81)
7000-8999	Services	9	2 (22.22)	0 (0.00)	9	4 (44.44)	0 (0.00)	9	4 (44.44)	0 (0.00)	10	7 (70.00)	0 (0.00)	10	6 (60.00)	1 (16.67)	9	6 (66.67)	1 (16.67)	56	29 (51.79)	2 (6.90)
9100-9729	Public Administration	0	0 (0.00)	0 (0.00)	0	0 (0.00)	0 (0.00)	0	0 (0.00)	0 (0.00)	0	0 (0.00)	0 (0.00)	0	0 (0.00)	0 (0.00)	0	0 (0.00)	0 (0.00)	0	0 (0.00)	0 (0.00)
9900-9999	Non-classifiable	1	1 (100.00)	0 (0.00)	1	1 (100.00)	0 (0.00)	1	1 (100.00)	0 (0.00)	1	1 (100.00)	0 (0.00)	1	1 (100.00)	0 (0.00)	1	1 (100.00)	1 (100.00)	6	6 (100.00)	1 (16.67)
Total		168	69 (41.07)	10 (14.49)	171	91 (53.22)	13 (14.29)	174	102 (58.62)	21 (20.59)	175	111 (63.43)	29 (26.13)	177	117 (66.10)	36 (30.77)	177	123 (69.49)	40 (32.52)	1,042	613 (58.83)	149 (24.31)

* CSR includes both stand-alone CSR reports and integrated CSR reports and is a percentage of number of observations. ** CSRA is a percentage of number of CSR reports disclosed.

3.2 Dependent variables

This research uses five dependent variables. The first step of the analysis consists of "CSR report" and represents the disclosure of a CSR report (stand-alone CSR reports and integrated CSR reports are equally valued). Value 1 is given when a CSR report is disclosed, and value 0 when no CSR report is disclosed.

The second step takes into account "CSRA" and corresponds to the demand of assuring a CSR report. The same data gathering method as of CSR reports is applied. Value 1 is given when a CSR report is assured, and value 0 when no assurance statement is provided.

The third step is "CSRA provider" and shows whether the assurance provider is from the accounting profession or not. Value 1 is given to an assurance provider belonging to the accounting profession, and value 0 is given when the assurance provider does not belong to the accounting profession.

The fourth step is "CSRA scope" and represents the scope of assurance engagement provided. The scope specifies the extent, focus and boundary of an assurance engagement. The broader the assurance scope (i.e. entire CSR report), the more extensive the assurance engagement. In this study, value 1 is given to an assurance scope containing the entire CSR report, and value 0 is given to a lower assurance scope (e.g. greenhouse gases only, specified sections).

The last step is "CSRA level" and takes into account the level of assurance engagement provided. A distinction is being made between high quality assurance and low(er) quality assurance. Subsequently, value 1 is given to both an assurance type containing a combined assurance engagement (limited/reasonable assurance) and an assurance type containing reasonable/high assurance. Value 0 is given to limited/moderate assurance, not specified assurance and no opinion on the assurance engagement provided.

The dependent variables are gathered by making use of the Sustainability Disclosure Database of the Global Reporting Initiative and manual search on company websites and Google. Table 6 provides an overview of the variables used.

3.3 Independent variables

3.3.1 Company-level independent variables

In order to measure the dependent variables, two independent company-level variables are taken into account. The first variable is "environmental score" and measures "*a company's impact on living and non-living natural systems, including the air, land and water, as well as complete ecosystems. The measure reflects how well a company uses best management*

practices to avoid environmental risks and capitalize on environmental opportunities in order to generate long term shareholder value" (Thomson Reuters, 2016). This measure is made up of three categories: emission reduction, product innovation and resource reduction of a specific company. The emission reduction category measures commitment of management and effectiveness towards reducing environmental emission (i.e. NOx, SOx, greenhouse gases) of a company. The product innovation category measures commitment of management and effectiveness towards support of research and development of environmentally friendly products and/or services. At last, the resource reduction category measures commitment of management and effectiveness towards efficient allocation of natural resources. The environmental scale runs from 0 to 100. The higher the score on this scale, the better the environmental performance of a company. In practice, a better environmental performance is achieved when, for example, a lower CO_2 emission and/or lower environmental waste is acquired. The grade earned by the Thomson Reuters website provides information regarding the reliability and validity of the environmental measure used. The grade improved during the years 2011-2013 from B to A-, meaning that the content of the environmental measure improved.

The second company-level independent variable is "social score" and measures "*a company's capacity to generate trust and loyalty with its workforce, customers and society, through its use of best management practices. It is a reflection of the firm's reputation and the health of its license to operate, which are key factors in determining its ability to generate long term shareholder value*" (Thomson Reuters, 2016). This measure is made up of seven categories: customer/product responsibility, society/community, society/human rights, workforce/diversity and opportunity, workforce/employment quality, workforce/health & safety and workforce/training and development. The customer/product responsibility category measures commitment of management and effectiveness towards value-added product creation and service-related customer security. The society/community category measures commitment of management and effectiveness towards improving local, national and global company reputation. The society/human rights category measures commitment of management and effectiveness towards global human rights agreements. The workforce/diversity and opportunity category measures commitment of management and effectiveness towards diversification and equal opportunities among workers. The workforce/employment quality category measures commitment of management and effectiveness towards serving high-quality employment advantages and job conditions. The workforce/health & safety category measures commitment of management and effectiveness towards maintaining safe and healthy working

conditions. At last, the workforce/training and development category measures commitment of management and effectiveness towards training and development programs for its employees. The scale of social score runs from 0 to 100. A higher score means better social performance of the company. This can be achieved by, for example, better customer satisfaction and/or improvement in job conditions. The Thomson Reuters website provides a grade regarding the reliability and validity of the social measure used. The grade improved from A- to A during the years 2011-2013, meaning that the content of the social score measure improved.

3.3.2 Country-level independent variables

To measure the dependent variables, two independent country-level variables are chosen. Firstly, the role of legal environment (origin of law). Based on La Porta et al. (1997), a distinction is being made between common law countries and code/civil law countries. Common law countries are considered to have a more shareholder-oriented corporate governance structure. Code law countries are considered to have a more stakeholder-oriented corporate governance structure (Ball et al., 2000). Value 1 is given to shareholder-oriented countries. Value 0 represents stakeholder-oriented countries. Due to the shareholder-orientation of both the United States and Canada, legal environment is omitted in the North American data sample and therefore, no correlation exists. Country is defined as stock exchange listed in that specific country. Table 3 presents the corporate governance orientation per country.

Secondly, the role of enforcement mechanisms, as measured by the World Bank rule of law, is taken into account. Rule of law measures "*the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, the police, and the courts, as well as the likelihood of crime and violence*" (Kaufmann et al., 2011. p. 233). The higher the rule of law index score, the stronger the legal system of that particular country. In order to provide an overview per country, table 3 includes the 6-year average rule of law index score. The regression data includes annual rule of law index scores per country. The complete overview of the data per country during the period 2009-2014 is presented in appendix 1.

3.4 Control variables

3.4.1 Environmentally sensitive industries

By taking into account environmentally and socially sensitive industries as a dummy control variable, industries can be divided into highly socially and environmentally sensitive and non-sensitive. Value 1 is given to sensitive industries and value 0 represents non-sensitive industries. In accordance with Braam et al. (2016) and Peters & Romi (2015), this paper combines the environmentally sensitive industry classification of Patten (2002) and the revisited version of Cho & Patten (2007). Mining, paper, chemicals, petroleum, metals, and utilities industries are merely exposed to environmental risks. According to Simnett et al. (2009), financial companies are considered to be socially sensitive. Table 5 presents the environmentally and socially sensitive industries.

Companies in sensitive industries may have an increased demand for CSRA in order to manage their risks and increase user confidence. These risks occur due to the societal pressure of disclosing bad environmental news (Peters & Romi, 2015; Simnett et al., 2009). According to the industry distribution of Barth, Beaver, and Landsman (1998), a framework of industry categories is available. It is expected that sensitive firms are increasingly affected by CSR disclosure and subsequently, more engaged in CSRA demand (Patten. 2002; O'Dwyer & Owen. 2005). Socio-political theories hypothesize that firms in sensitive industries have to handle with more environmental, social and political pressures. Therefore, legitimacy threats occur (O'Dwyer et al., 2011). These industries may have, for example, to do with extraction of nonrenewable resources (mining), large social footprints (finance), and greenhouse gases (utilities) (Casey & Grenier, 2015).

Table 5. Environmentally and socially sensitive industries (2009-2014) (based on Patten, 2002; Cho & Patten, 2007 and Simnett et al., 2009).

Industry-specific characteristics		Europe		North America		Total	
SIC code range	Industry	Obs.	Comp.	Obs.	Comp.	Obs.	Comp.
Environmentally sensitive							
1000-1499*	Mining	143	26	101	17	244	43
2600-2699	Paper	53	10	24	4	77	14
2800-2899**	Chemicals	168	30	36	6	204	36
2911	Petroleum	84	15	53	10	137	25
3300-3399	Metals	112	20	0	0	112	20
4900-4999	Utilities	223	39	48	8	271	47
Socially sensitive							
6000-6799	Finance, Insurance, Real Estate	707	126	192	32	899	158
Total		1,490	266	454	77	1,944	343

* Excluding quarrying of nonmetallic minerals, except fuels (SIC = 14xx). **Excluding pharmaceutical firms (SIC = 283x).

3.4.2 Firm-specific control variables

Additionally, this paper controls for firm-specific variables, including profitability, leverage and firm size. Return on assets (ROA) is used as a measure of profitability. ROA is measured by dividing the firm's annual net income by its year-end total assets. The relation between CSRA demand and profitability is not significant in the studies of Casey & Grenier (2015) and Simnett et al. (2009). However, the results are not specifically focused on European listed firms and therefore the outcome of this research may differ. This research expects a positive relationship between profitability and CSRA demand. If a company is more profitable, it is more likely that capital is available for CSRA decisions.

Secondly, leverage is taken into account. Leverage can be measured on the basis of total non-current debt as a ratio of total year-end assets (e.g. Braam et al., 2016; Casey & Grenier, 2015; Simnett et al., 2009; Clarkson et al., 2015). However, this research determines leverage as the ratio of total year-end liabilities divided by total year-end assets (D/TA-ratio). This is in accordance with Clarkson et al. (2008), Dhaliwal et al. (2011), Moroney et al. (2012) and Peters & Romi (2015). Total debt is used, because it is expected that short term debt also influences the leverage ratio. It is expected that the higher the leverage ratio, the less CSRA is demanded.

Thirdly, firm size is measured as the natural logarithm of total year-end assets. Some previous research finds that firms with an increased firm size are more likely to demand for CSRA (Casey & Grenier, 2015; Simnett et al., 2009). Other results find that firm size is negatively related to CSRA demand (Peters & Romi, 2015). However, this research expects that firm size is positively associated with CSRA demand, because of their large social and corporate visibility.

Table 6 presents an overview of the variables used, including definitions of the dependent variables, independent variables and the control variables.

Table 6. Definitions of the variables.

Variable	Definition	
Dependent variables		
CSR report	CSR report equals 1 if firm i in year t issued a CSR report, and 0 otherwise.	
CSRA	CSRA equals 1 if firm i in year t demanded an assurance statement, and 0 otherwise.	
CSRA provider	CSRA provider equals 1 if the assurance provider for firm i in year t is from the accounting profession, and 0 otherwise.	
CSRA scope	CSRA scope equals 1 if the assurance scope for firm i in year t is on the entire sustainability report, and 0 otherwise.	
CSRA type	CSRA type equals 1 if the assurance type for firm i in year t is limited/reasonable or reasonable/high, and 0 otherwise.	
Independent variables		*Exp. sign*
Environmental score	The environmental score measures "*a company's impact on living and non-living natural systems, including the air, land and water, as well as complete ecosystems. The measure reflects how well a company uses best management practices to avoid environmental risks and capitalize on environmental opportunities in order to generate long term shareholder value*" (Thomson Reuters, 2016).	SP* -/- EB** +
Social score	The social score measures "*a company's capacity to generate trust and loyalty with its workforce, customers and society, through its use of best management practices. It is a reflection of the company's reputation and the health of its license to operate, which are key factors in determining its ability to generate long term shareholder value*" (Thomson Reuters, 2016).	SP* -/- EB** +
Legal environment (origin of law)	Legal environment is a dummy variable and equals 1 for shareholder-oriented countries, and 0 for stakeholder-oriented countries (Simnett et al., 2009).	-/-
Enforcement mechanisms (rule of law)	Rule of law measures "*the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, the police, and the courts, as well as the likelihood of crime and violence*" (Kaufmann et al., 2011. p. 233).	-/-
Control variables		
Industry	Industry is a dummy variable and equals 1 if industries are classified as environmentally or socially sensitive, and 0 otherwise (Patten. 2002; Cho & Patten, 2007; Simnett et al., 2009).	+
Profitability	Profitability is measured by the return on assets and indicates the profitability of firm i in year t, assessed by dividing the firm's annual net income by its total year-end assets.	+
Leverage	Leverage is measured by the debt/total assets ratio and is used to measure the company's financial leverage, assessed by dividing the firms' total year-end liabilities by its total year-end assets.	-/-
Size	Size is the logarithm of the firm's total year-end assets.	+

* SP means based on socio-political theories.

** EB means based on traditional economic theories.

3.5 Econometric model

The hypotheses are tested by making use of a multilevel panel data logistic regression model. This model fits mixed-effects (fixed and random effects) for binary or binomial variances. This research takes the research model of Simnett et al. (2009) as a basis and extends the model by adding level and scope of the assurance engagement. Firstly, if a CSR report is found, companies may choose to externally assure their CSR report. Due to the regression model, CSRA is taken as a proportion of CSR report disclosure. In other words, the regression model for CSRA is only taken into account when a company disclosed a CSR report. The companies that did not disclose a CSR report are disregarded. Secondly, the type of assurance provider

(accountant/non-accountant) is taken as a proportion of CSRA demand. Thirdly, the level of assurance engagement (limited/reasonable assurance, reasonable/high assurance, and otherwise) and scope of assurance engagement (entire sustainability report, and otherwise) are taken as a proportion of CSRA demand. This means that the regression models for type of assuror, level and scope of CSRA engagement are only taken into account when a company demanded CSRA. The companies that did not demand CSRA are not included in the regression analysis.

Table 7 presents the Pearson correlation matrix of the total sample, the European sample and the North American sample. The total sample (Panel A) shows a highly significant and positive correlation of 0.809 between environmental score and social score. The European sample (Panel B) and North American sample (Panel C) also show a highly significant and positive correlation of 0.818 and 0.776 between environmental score and social score respectively. This is not surprising, since environmental and social measures are highly related to each other. In other words, companies with high environmental performance have a relatively higher likelihood of performing better on social issues. Multicollinearity exists and therefore separate models (see below) with environmental and social score are estimated.

To test the hypotheses, four regression models[1] are used for both European and North American companies. The first model is a multilevel panel data logistic regression model and includes environmental score. The model estimates country factors as a random-effects parameter. Subsequently, country-specific variables, such as legal environment and rule of law can therefore not be included in the same model. The second model also includes environmental score, but estimates legal environment and rule of law as independent variables. Country factors are therefore not estimated as a random-effects parameter. The third model is a multilevel panel data logistic regression model and includes social score. The model estimates country factors as a random-effects parameter. The fourth model also includes social score, but takes legal environment and rule of law as independent variables. Country factors are not estimated as a random-effects parameter in this model.

[1]By making use of the xtmelogit command in STATA for models 1 and 3, it is not possible to include a dummy variable for European/Non-European companies. STATA demands a random-effects structure (e.g. country) in order to estimate the regression mode. The inclusion of both does not promote the outcomes of the model. Besides that, a separate dummy variable per industry group would be very beneficial to gain insight into the specific industries that are (not) sensitive in the regression model (as opposed to a single dummy control variable for sensitive industries). However, due to multicollinearity problems of certain industry dummies, it is not possible to do so.

Model 1: CSR/CSRA/CSRA provider/ CSRA scope/ CSRA level = $\beta_0 + \beta_1$env. score + $\beta_2$sensitive industry$_{control} + \beta_3$size$_{control} + \beta_4$profitability$_{control} + \beta_5$leverage$_{control} + \beta_6$year || country: + ε

Model 2: CSR/CSRA/CSRA provider/ CSRA scope/ CSRA level = $\beta_0 + \beta_1$env. score + $\beta_2$legal environment$_+$ $\beta_3$rule of law + $\beta_4$sensitive industry$_{control} + \beta_5$size$_{control}$ + $\beta_6$profitability$_{control}$ + $\beta_7$leverage$_{control}$ + $\beta_8$year + ε

Model 3: CSR/CSRA/CSRA provider/ CSRA scope/ CSRA level = $\beta_0 + \beta_1$soc. score + $\beta_2$sensitive industry$_{control} + \beta_3$size$_{control} + \beta_4$profitability$_{control} + \beta_5$leverage$_{control} + \beta_6$year || country: + ε

Model 4: CSR/CSRA/CSRA provider/ CSRA scope/ CSRA level = $\beta_0 + \beta_1$soc. score + $\beta_2$legal environment$_+$ $\beta_3$rule of law + $\beta_4$sensitive industry$_{control} + \beta_5$size$_{control}$ + $\beta_6$profitability$_{control}$ + $\beta_7$leverage$_{control}$ + $\beta_8$year + ε

Table 7. Pearson correlations.

Panel A: Total sample.

	Rule of law	Sensitive indus.	Legal env.	Size	Profitability	Leverage	Env. score	Soc. score
Rule of law	1.000							
Sensitive indus.	-0.182***	1.000						
Legal env.	0.306***	-0.027*	1.000					
Size	-0.100***	0.386***	0.128***	1.000				
Profitability	-0.012	-0.037**	-0.001	-0.045***	1.000			
Leverage	-0.021	0.179***	0.038***	0.437***	-0.092***	1.000		
Env. score	0.178***	-0.044***	0.005	0.328***	0.011	0.091***	1.000	
Soc. score	0.072***	-0.045***	-0.042***	0.315***	0.023	0.098***	**0.809*** **	1.000

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

Table 6 presents definitions of variables.

Panel B: Europe.

	Rule of law	Sensitive indus.	Legal env.	Size	Profitability	Leverage	Env. score	Soc. score
Rule of law	1.000							
Sensitive indus.	-0.227***	1.000						
Legal env.	0.232***	-0.070***	1.000					
Size	-0.138***	0.430***	0.005	1.000				
Profitability	-0.010	-0.033**	0.003	-0.049***	1.000			
Leverage	-0.019	0.210***	0.058***	0.462***	-0.091***	1.000		
Env. score	0.236***	-0.043**	0.073***	0.319***	0.007	0.124***	1.000	
Soc. score	0.121***	-0.039**	0.064***	0.349***	0.021	0.141***	**0.818*** **	1.000

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

Table 6 presents definitions of variables.

Panel C: North America.

	Rule of law	Sensitive indus.	Size	Profitability	Leverage	Env. score	Soc. score
Rule of law	1.000						
Sensitive indus.	0.200***	1.000					
Size	-0.466***	0.245***	1.000				
Profitability	-0.178***	-0.188***	-0.050	1.000			
Leverage	-0.119***	0.063**	0.375***	-0.261***	1.000		
Env. score	-0.296***	-0.043	0.425***	0.091***	-0.027	1.000	
Soc. score	-0.215***	-0.056*	0.317***	0.111***	-0.059*	**0.776*** **	1.000

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

Table 6 presents definitions of variables.

4. Results

4.1 Descriptive statistics

Table 8 shows the descriptive statistics of the variables used. Panel A represents the total sample. Year, five dependent variables and eight independent variables are included (4,686 observations). The European subsample is presented in Panel B and consists of year, five dependent variables and eight independent variables (3,644 observations). Panel C represents the North American subsample and consists of year, five dependent variables and seven independent variables (1,042 observations). North American companies have higher averages for rule of law, sensitive industries, size, and leverage. On average, these companies have a stronger legal system, more sensitive industries, a larger size and a higher leverage ratio. European companies show higher averages for environmental score and social score meaning that these companies have, on average, better environmental and social performance.

Table 8. Descriptive statistics.

Panel A: Total sample.

Variable	n	Mean	Std. deviation	Min.	Max.
Year	4,686	2011.58	1.70	2009	2014
Dependent variables					
CSR	4,686	0.67	0.47	0	1
CSRA	4,686	0.32	0.47	0	1
CSRA provider	4,686	0.25	0.44	0	1
CSRA scope	4,686	0.09	0.29	0	1
CSRA level	4,686	0.05	0.21	0	1
Independent variables					
Rule of law	4,686	1.47	0.59	-0.82	2.12
Sens. industries	4,686	0.41	0.49	0	1
Legal env.	4,686	0.36	0.48	0	1
Size	4,686	9.45	1.75	5.12	14.77
Profitability	4,686	0.05	0.33	-0.83	20.20
Leverage	4,686	0.65	0.21	0.00	1.69
Env. score	4,686	69.10	28.01	8.55	95.06
Soc. score	4,686	69.66	26.92	3.66	97.87

Table 6 presents definitions of variables.

Panel B: Europe.

Variable	n	Mean	Std. deviation	Min.	Max.
Year	3,644	2011.60	1.69	2009	2014
Dependent variables					
CSR	3,644	0.70	0.46	0	1
CSRA	3,644	0.37	0.48	0	1
CSRA provider	3,644	0.30	0.46	0	1
CSRA scope	3,644	0.11	0.31	0	1
CSRA level	3,644	0.05	0.23	0	1
Independent variables					
Rule of law	3,644	1.40	0.65	-0.82	2.12
Sens. industries	3,644	0.41	0.49	0	1
Legal env.	3,644	0.17	0.38	0	1
Size	3,644	9.28	1.72	5.12	14.77
Profitability	3,644	0.05	0.38	-0.83	20.20
Leverage	3,644	0.64	0.21	0.00	1.69
Env. score	3,644	69.91	27.78	8.55	95.04
Soc. score	3,644	71.29	26.94	3.66	97.87

Table 6 presents definitions of variables.

Panel C: North America.

Variable	n	Mean	Std. deviation	Min.	Max.
Year	1,042	2011.53	1.70	2009	2014
Dependent variables					
CSR	1,042	0.59	0.49	0	1
CSRA	1,042	0.14	0.35	0	1
CSRA provider	1,042	0.09	0.29	0	1
CSRA scope	1,042	0.02	0.12	0	1
CSRA level	1,042	0.02	0.16	0	1
Independent variables					
Rule of law	1,042	1.69	0.11	1.54	1.89
Sens. industries	1,042	0.44	0.50	0	1
Size	1,042	10.01	1.71	6.33	14.37
Profitability	1,042	0.05	0.07	-0.81	0.41
Leverage	1,042	0.65	0.20	0.11	1.49
Env. score	1,042	66.27	28.62	8.61	95.06
Soc. score	1,042	63.97	26.05	6.04	97.24

* Legal environment is omitted because the United States and Canada are both shareholder-oriented, therefore no relation can exist.

Table 6 presents definitions of variables.

4.2 Tests of hypotheses

Model 1 and 3 of tables 9-13 show the results of the multilevel panel data logistic regression model. These models take country as a random-effects parameter and therefore, no country-specific variables (legal environment and rule of law) can be included in the model. Model 2 and 4 of tables 9-13 show the results of the multilevel panel data logistic regression model for country-specific variables (legal environment and rule of law). Due to the multicollinearity between environmental score and social score, separate regression models are estimated. Model 1-2 take into account environmental performance and model 3-4 include social performance. Next to the regression coefficients in the tables, the Z-values (two-tailed) are given. The tables are classified into a total sample, a European subsample and a North American subsample. However, since the United States and Canada are both shareholder-oriented, legal environment is omitted in the North American sample.

Table 9 demonstrates the effects of CSR disclosure (no hypothesis constructed). With respect to the variables of interest in the total sample, environmental score in model 1 ($z = 26.73$, $p < 0.01$, two-tailed) and social score in model 3 ($z = 28.44$, $p < 0.01$, two-tailed) are both positive and significant. This suggests that companies with better social and environmental performance are more likely to disclose a CSR report. Legal environment is negative and significant in model 2 ($z = -3.80$, $p < 0.01$, two-tailed) and model 4 ($z = -3.24$, $p < 0.01$, two-tailed) meaning that companies domiciled in countries with a stakeholder orientation are more likely to disclose a CSR report. Rule of law is negative and significant in model 2 ($z = -3.33$, $p < 0.01$, two-tailed) suggesting that CSR disclosure is higher in countries with a weaker legal system. Sensitive industries is negative and significant in model 1 ($z = -2.03$, $p < 0.05$, two-tailed) meaning that companies in sensitive industries are less likely to disclose a CSR report. Size is positive and significant in model 1 ($z = 9.24$, $p < 0.01$, two-tailed) and model 3 ($z = 8.11$, $p < 0.01$, two-tailed). Therefore, larger companies are more likely to disclose a CSR report. At last, leverage is negative and significant in model 3 ($z = -1.93$, $p < 0.10$, two-tailed) meaning that lower leveraged companies are more likely to disclose a CSR report.

The remaining of the table contains results of the European and North American subsamples. In order to be able to implement a comparison, the results can be used to compare and contrast the CSR disclosure differences among continents. The main differences between the subsamples are among rule of law (negative and significant in Europe and positive and significant in North America) and sensitive industries (negative and significant in Europe and positive and significant in North America).

Table 9. Results regression analysis with CSR disclosure as dependent variable.

	Total				Europe				North America			
CSR	Model 1 Env. score	Model 2[1] Env. score	Model 3 Soc. score	Model 4[2] Soc. score	Model 1 Env. score	Model 2[1] Env. score	Model 3 Soc. score	Model 4[2] Soc. score	Model 1 Env. score	Model 2[1] Env. score	Model 3 Soc. score	Model 4[2] Soc. score
Env. score	**0.046*** **				**0.043*** **				**0.060*** **			
	(26.73)				**(22.23)**				**(14.67)**			
Soc. score			**0.057*** **				**0.055*** **				**0.063*** **	
			(28.44)				**(24.32)**				**(14.82)**	
Legal environment		**-0.322*** **		**-0.282*** **		0.043		-0.006		0.000		0.000
		(-3.80)		**(-3.24)**		(0.37)		(-0.05)				
Rule of law		**-0.237*** **		-0.014		**-0.238*** **		-0.044		**3.716*** **		**2.929*** **
		(-3.33)		(-0.19)		**(-3.32)**		(-0.61)		**(3.32)**		**(2.65)**
Sensitive industries	**-0.189** **		-0.065		**-0.379*** **		**-0.211***		**0.459** **		**0.337***	
	(-2.03)		(-0.67)		**(-3.55)**		**(-1.86)**		**(2.34)**		**(1.68)**	
Size	**0.316*** **		**0.283*** **		**0.322*** **		**0.249*** **		**0.306*** **		**0.409*** **	
	(9.24)		**(8.11)**		**(8.40)**		**(6.31)**		**(3.82)**		**(5.18)**	
Profitability	0.709		-0.005		1.030		0.064		-1.217		-2.064	
	(1.25)		(-0.02)		(1.61)		(0.17)		(-0.80)		(-1.26)	
Leverage	-0.356		**-0.445***		-0.335		-0.435		0.029		-0.378	
	(-1.55)		**(-1.93)**		(-1.27)		(-1.61)		(0.06)		(-0.76)	
Year dummy 2010	0.361***		0.373***		0.274*		0.267*		0.713**		0.790***	
	(2.72)		(2.75)		(1.82)		(1.72)		(2.50)		(2.72)	
Year dummy 2011	0.655***		0.731***		0.585***		0.648***		0.912***		1.054***	
	(4.89)		(5.29)		(3.83)		(4.10)		(3.18)		(3.58)	
Year dummy 2012	0.865***		0.960***		0.768***		0.846***		1.236***		1.370***	
	(6.40)		(6.85)		(4.99)		(5.27)		(4.22)		(4.61)	
Year dummy 2013	1.172***		1.301***		1.115***		1.244***		1.406***		1.543***	
	(8.48)		(9.06)		(7.06)		(7.53)		(4.76)		(5.13)	
Year dummy 2014	1.481***		1.604***		1.472***		1.598***		1.541***		1.708***	
	(10.38)		(10.83)		(8.97)		(9.25)		(5.13)		(5.69)	
Intercept	-5.412***		-5.872***		-5.069***		-5.305***		-7.731***		-8.568***	
	(-13.93)		(-15.09)		(-12.13)		(-12.57)		(-8.99)		(-9.96)	
Wald chi[2]	961.99***	1,073.89***	1,032.25***	1,141.57***	688.21***	776.27***	762.92***	852.01***	261.03***	277.53***	265.55***	281.59***
Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	4,686	4,686	4,686	4,686	3,644	3,644	3,644	3,644	1,042	1,042	1,042	1,042

***, ** and * indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels respectively. The values represent the regression coefficient and the Z-value (two-tailed) in brackets.

[1] & [2] take into account rule of law and legal environment (which cannot be combined with country as a random-effects structure in the model). Table 6 presents definitions of variables.

If a CSR report is disclosed, companies may demand for CSRA in order to add credibility and transparency to the report. The regression model for CSRA is only taken into account for the companies that disclosed a CSR report. Companies that did not disclose a CSR report are omitted from the sample. The results according to CSRA demand are presented in table 10.

The variables of interest in the total sample show that environmental score in model 1 ($z = 11.96$, $p < 0.01$, two-tailed) and social score in model 3 ($z = 12.85$, $p < 0.01$, two-tailed) are positive and significant. The results are in accordance with traditional economics-based theories i.e. companies with superior social and environmental performance are more likely to demand for CSRA than companies with inferior social performance. Therefore, hypotheses 2a and 2b are supported. Subsequently, the results do not show support for hypotheses[2] 1a and 1b i.e. a legitimizing role of CSRA is not applicable to the sample. Legal environment is negative and significant in model 2 ($z = -12.10$, $p < 0.01$, two-tailed) and model 4 ($z = -11.10$, $p < 0.01$, two-tailed). The results show that companies domiciled in stakeholder-oriented countries are more likely to demand for CSRA than companies domiciled in shareholder-oriented countries. Therefore, hypothesis 5 is supported. Rule of law is negative and significant in model 2 ($z = -3.79$, $p < 0.01$, two-tailed). Companies in countries with weaker legal enforcement mechanisms are more likely to demand for CSRA than companies with stronger legal enforcement mechanisms. As a result, hypothesis 6 is supported. Sensitive industries is not significant in both models. Size is positive and significant in model 1 ($z = 12.09$, $p < 0.01$, two-tailed) and model 3 ($z = 12.36$, $p < 0.01$, two-tailed) meaning that larger companies are more likely to demand for CSRA. Profitability is not significant in both models. Leverage is negative and significant in model 1 ($z = -7.92$, $p < 0.01$, two-tailed) and model 3 ($z = -7.59$, $p < 0.01$, two-tailed). Meaning that companies with lower leverage are more likely to demand for CSRA.

The main differences between the European and North American subsample are on rule of law (negative and significant in Europe and positive and significant in North America) and sensitive industries (not significant in Europe and positive and significant in North America).

[2] In order to gain a deeper understanding of the companies that demand for CSRA, an additional analysis with the 25% superior CSR performing companies and the 25% inferior CSR performing companies is executed. On the one hand, the results show that the top 25% companies show a highly significant and positive relation regarding CSRA demand. On the other hand, the results show that the bottom 25% companies show a highly significant and negative relation regarding CSRA demand. It seems that a linear relationship between the increased degree of CSR performance and CSRA demand exists i.e. companies with superior CSR performance are more likely to demand for CSRA and companies with inferior CSR performance are not more likely to demand for CSRA. The results provide evidence for assumptions of traditional economics-based theories and reject the assumptions of socio-political theories.

Table 10. Results regression analysis with CSRA demand as dependent variable.

	Total				Europe				North America			
CSRA	Model 1 Env. score	Model 2[1] Env. score	Model 3 Soc. score	Model 4[2] Soc. score	Model 1 Env. score	Model 2[1] Env. score	Model 3 Soc. score	Model 4[2] Soc. score	Model 1 Env. score	Model 2[1] Env. score	Model 3 Soc. score	Model 4[2] Soc. score
Env. score	**0.034*** **				**0.036*** **				**0.028*** **			
	(11.96)				**(11.68)**				**(3.28)**			
Soc. score			**0.038*** **				**0.040*** **				**0.031*** **	
			(12.85)				**(12.20)**				**(4.22)**	
Legal environment		**-1.124*** **		**-1.044*** **		**-0.336*** **		**-0.374*** **		0.000		0.000
		(-12.10)		**(-11.10)**		**(-2.84)**		**(-3.16)**				
Rule of law		**-0.295*** **		-0.102		**-0.346*** **		**-0.127***		**2.604*** **		1.868
		(-3.79)		(-1.36)		**(-4.26)**		**(-1.64)**		**(2.11)**		(1.50)
Sensitive industries	-0.017		-0.007		-0.119		-0.099		**0.495*** **		**0.509*** **	
	(-0.17)		(-0.07)		(-1.07)		(-0.88)		**(1.98)**		**(2.44)**	
Size	**0.443*** **		**0.451*** **		**0.476*** **		**0.470*** **		**0.247*** **		**0.279*** **	
	(12.09)		**(12.36)**		**(11.92)**		**(11.79)**		**(2.40)**		**(3.57)**	
Profitability	0.199		0.089		0.316		0.116		-1.775		-1.992	
	(0.69)		(0.51)		(0.78)		(0.57)		(-1.18)		(-1.38)	
Leverage	**-2.151*** **		**-2.053*** **		**-2.071*** **		**-2.020*** **		**-2.289*** **		**-2.002*** **	
	(-7.92)		**(-7.59)**		**(-6.84)**		**(-6.73)**		**(-3.46)**		**(-3.08)**	
Year dummy 2010	0.051		0.054		0.080		0.058		-0.014		0.087	
	(0.31)		(0.33)		(0.45)		(0.33)		(-0.03)		(0.18)	
Year dummy 2011	0.358**		0.385**		0.367**		0.374**		0.430		0.529	
	(2.27)		(2.43)		(2.13)		(2.17)		(1.00)		(1.21)	
Year dummy 2012	0.517***		0.545***		0.473***		0.478***		0.828**		0.939**	
	(3.31)		(3.47)		(2.78)		(2.79)		(1.99)		(2.24)	
Year dummy 2013	0.737***		0.772***		0.680***		0.697***		1.089***		1.179***	
	(4.78)		(4.98)		(4.03)		(4.11)		(2.66)		(2.86)	
Year dummy 2014	0.810***		0.866***		0.744***		0.780***		1.212***		1.326***	
	(5.29)		(5.62)		(4.45)		(4.63)		(2.99)		(3.23)	
Intercept	-6.023***		-6.572***		-6.186***		-6.637***		-5.483***		-6.246***	
	(-14.24)		(-15.23)		(14.30)		(-14.95)		(-5.21)		(-6.10)	
Wald chi[2]	394.09***	469.78***	416.24***	514.10***	356.01***	393.25***	370.11***	408.81***	49.51***	52.28***	54.62***	56.50***
Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	3,154	3,154	3,154	3,154	2,541	2,541	2,541	2,541	613	613	613	613

***, ** and * indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels respectively. The values represent the regression coefficient and the Z-value (two-tailed) in brackets.

[1] & [2] take into account rule of law and legal environment (which cannot be combined with country as a random-effects structure in the model). Table 6 presents definitions of variables.

Table 11 presents the results whether or not companies are more likely to demand for CSRA of the accounting profession. The regression model for accounting provider is only taken into account for the companies that demanded for CSRA. Companies that did not demand for CSRA are omitted from the sample.

The total sample shows no significant results regarding environmental score and social score. Environmental score presents a negative sign and social score presents a positive sign. This means that there is no evidence at all to suggest that companies with inferior social and/or environmental performance are more likely to demand for CSRA from non-accounting providers than companies with superior social and environmental performance. Therefore, hypotheses 4a and 4b are not supported for the total sample. Negative and significant results of legal environment in model 2 ($z = -10.20$, $p < 0.01$, two-tailed) and model 4 ($z = -9.92$, $p < 0.01$, two-tailed) provide evidence that companies in stakeholder-oriented countries are more likely to choose CSRA of the accounting profession. Rule of law is positive and significant in model 2 ($z = 5.64$, $p < 0.01$, two-tailed) and model 4 ($z = 5.21$, $p < 0.01$, two-tailed) meaning that companies in countries with a stronger legal system demand relatively more CSRA from the accounting profession. Sensitive industries is not significant. Size is significantly positively related to the accounting profession in model 1 ($z = 4.99$, $p < 0.01$, two-tailed) and model 3 ($z = 4.67$, $p < 0.01$, two-tailed). Larger companies are more likely to demand for CSRA from the accounting profession. Profitability and leverage are not significantly related to CSRA from the accounting profession.

The North American subsample shows opposite results as the European subsample regarding environmental and social score. Environmental score is negative and significant in Europe and positive and not significant in North America. Social score is not significant in Europe and positive and significant in North America. Therefore, hypothesis 4a is not supported and hypothesis 4b is only supported for the European sample i.e. companies with inferior environmental performance are more likely to demand for CSRA from the accounting profession than companies with superior environmental performance. At last, size is positive and significant in Europe and not significant in North America.

Table 11. Results regression analysis with accounting profession provider as dependent variable.

	Total				Europe				North America			
Accounting	Model 1 Env. score	Model 2[1] Env. score	Model 3 Soc. score	Model 4[2] Soc. score	Model 1 Env. score	Model 2[1] Env. score	Model 3 Soc. score	Model 4[2] Soc. score	Model 1 Env. score	Model 2[1] Env. score	Model 3 Soc. score	Model 4[2] Soc. score
Env. score	-0.010				**-0.014****				0.029			
	(-1.56)				**(-2.09)**				(1.58)			
Soc. score			0.006				0.000				**0.030****	
			(1.06)				(-0.07)				**(2.19)**	
Legal environment		**-1.651*****		**-1.592*****		**-1.576*****		**-1.538*****		0.000		0.000
		(-10.20)		**(-9.92)**		**(-8.44)**		**(-8.31)**				
Rule of law		**0.715*****		**0.628*****		**0.680*****		**0.603*****		**11.046*****		**9.803*****
		(5.64)		**(5.21)**		**(5.23)**		**(4.93)**		**(3.67)**		**(3.53)**
Sensitive industries	0.232		0.263		0.223		0.244		0.343		0.216	
	(1.43)		(1.61)		(1.27)		(1.38)		(0.74)		(0.47)	
Size	**0.295*****		**0.271*****		**0.336*****		**0.310*****		-0.038		0.072	
	(4.99)		**(4.67)**		**(5.33)**		**(4.99)**		(-0.20)		(0.38)	
Profitability	-0.137		-0.138		-0.141		-0.137		0.711		0.459	
	(-1.00)		(-1.01)		(-0.99)		(-1.00)		(0.31)		(0.20)	
Leverage	-0.356		-0.300		-0.203		-0.193		-1.035		-0.977	
	(-0.81)		(-0.69)		(-0.43)		(-0.41)		(-0.85)		(-0.79)	
Year dummy 2010	-0.128		-0.105		-0.106		-0.090		-0.175		-0.091	
	(-0.47)		(-0.39)		(-0.37)		(-0.32)		(-0.18)		(-0.10)	
Year dummy 2011	0.225		0.255		0.268		0.292		-0.116		-0.032	
	(0.85)		(0.97)		(0.96)		(1.05)		(-0.13)		(-0.04)	
Year dummy 2012	0.488*		0.527**		0.477*		0.512*		0.600		0.736	
	(1.84)		(1.99)		(1.69)		(1.82)		(0.48)		(0.87)	
Year dummy 2013	0.611**		0.653**		0.632**		0.663**		0.657		0.802	
	(2.33)		(2.49)		(2.26)		(2.38)		(0.80)		(0.97)	
Year dummy 2014	0.653**		0.710***		0.720***		0.763***		0.575		0.660	
	(2.51)		(2.73)		(2.58)		(2.74)		(0.69)		(0.79)	
Intercept	-0.782		-1.926***		-0.754		-1.721**		-1.384		-2.608	
	(-1.06)		(-2.60)		(-0.95)		(-2.17)		(-0.61)		(-1.07)	
Wald chi[2]	55.87***	133.80***	55.17***	133.11***	59.31***	121.70***	56.35***	120.19***	5.71	22.91**	7.86	24.33**
Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	1,514	1,514	1,514	1,514	1,365	1,365	1,365	1,365	149	149	149	149

***, ** and * indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels respectively. The values represent the regression coefficient and the Z-value (two-tailed) in brackets.

[1] & [2] take into account rule of law and legal environment (which cannot be combined with country as a random-effects structure in the model). Table 6 presents definitions of variables.

The results regarding type of CSRA engagement are presented in table 12 (CSRA scope) and table 13 (CSRA level) since this paper assumes that the type of CSRA engagement consists of the scope and level of CSRA engagement respectively. The regression model for CSRA scope and CSRA level is only taken into account for the companies that demanded CSRA. Companies that did not demand CSRA are omitted from the sample.

According to the total sample, environmental score in model 1 ($z = 2.47$, $p < 0.05$, two-tailed) and social score in model 3 ($z = 2.33$, $p < 0.05$, two-tailed) are positive and significant. This suggests that companies with superior social and environmental performance are more likely to demand an extended assurance scope (e.g. assurance on the entire sustainability report, instead of assurance on specified sections, or greenhouse gases only). Legal environment is negative and significant in model 2 ($z = -3.37$, $p < 0.01$, two-tailed) and model 4 ($z = -3.43$, $p < 0.01$, two-tailed). Companies domiciled in countries with a stakeholder-orientation are more likely to demand an extended assurance scope. Rule of law is negative and significant in model 2 ($z = -3.44$, $p < 0.01$, two-tailed) and model 4 ($z = -2.72$, $p < 0.01$, two-tailed) meaning that companies in countries with a weaker legal system are more likely to demand an extended assurance scope. Sensitive industries, size, profitability and leverage are not significant.

The European subsample shows positive and significant results regarding environmental and social score, meaning that companies with better environmental and social performance are more likely to demand an extended CSRA scope. However, the North American subsample shows no significant results on environmental and social score at all. Size is significantly negatively related to CSRA scope in North America. In Europe, no significant relation of size exists.

Environmental and social score are not significant in the total sample of CSRA level. According to the extent of the level of CSRA engagement, it does not matter whether companies have superior or inferior environmental and/or social performance. Legal environment and rule of law are also not significant. Sensitive industries is positive and significant in model 1 ($z = 2.23$, $p < 0.05$, two-tailed) and model 3 ($z = 2.21$, $p < 0.05$, two-tailed). This suggests that companies in sensitive industries are more likely to demand a higher CSRA level (e.g. limited/reasonable assurance, reasonable/high assurance relatively to limited/moderate assurance). Size and profitability are not significant. Leverage shows negative and significant results in model 1 ($z = -2.12$, $p < 0.05$, two-tailed) and model 3 ($z = -2.11$, $p < 0.05$, two-tailed). The results suggest that companies with lower leverage are more likely to demand a higher CSRA level.

By making a comparison of CSRA level between Europe and North America, the results show that environmental score is not significant in the European subsample. However, environmental score is negative and significant in the North American subsample. Social score is positive and significant in Europe, but negative and significant in North America. The results suggest that North American companies with inferior social and environmental performance are more likely to demand a higher CSRA level than companies with inferior social and environmental performance. Sensitive industries is positive and significant in Europe, but not significant in North America. Size is positive and significant in North America, although not significant in Europe. At last, leverage is negative and significant in North America and not significant in Europe.

In sum, the results of CSRA scope do not show that companies with inferior social and environmental performance are more likely to demand for a higher scope of CSRA engagement than companies with superior social and environmental performance. However, the results of CSRA level in the North American subsample show that companies with inferior social and environmental performance are more likely to demand for a higher level of CSRA engagement. Therefore, hypotheses 3a and 3b are only supported for the North American subsample and the level of CSRA engagement. Judging from the significant positive results of environmental and social score of CSRA scope and CSRA level in the European subsample, traditional economics-based theories are supported. Summarizing, companies with superior social and environmental performance are more likely to demand a higher type of CSRA engagement in order to differentiate from other superior performing companies. Table 14 provides a summary of the hypotheses constructed and the regression outcomes.

Table 12. Results regression analysis with CSRA scope as dependent variable.

	Total				Europe				North America			
CSRA scope	Model 1 Env. score	Model 2[1] Env. score	Model 3 Soc. score	Model 4[2] Soc. score	Model 1 Env. score	Model 2[1] Env. score	Model 3 Soc. score	Model 4[2] Soc. score	Model 1 Env. score	Model 2[1] Env. score	Model 3 Soc. score	Model 4[2] Soc. score
Env. score	**0.014****				**0.015*****				-0.022			
	(2.47)				**(2.67)**				(-0.77)			
Soc. score			**0.014****				**0.012****				0.031	
			(2.33)				**(2.00)**				(0.96)	
Legal environment		**-0.554*****		**-0.563*****		-0.255		-0.296		0.000		0.000
		(-3.37)		**(-3.43)**		(-1.36)		(-1.59)				
Rule of law		**-0.369*****		**-0.277*****		**-0.363*****		**-0.262*****		**-17.087*****		**-12.100****
		(-3.44)		**(-2.72)**		**(-3.36)**		**(-2.57)**		**(-2.72)**		**(-2.55)**
Sensitive industries	0.165		0.147		0.125		0.105		0.473		0.420	
	(1.07)		(0.96)		(0.78)		(0.65)		(0.67)		(0.60)	
Size	-0.068		-0.057		-0.034		-0.020		**-0.632***		**-0.624***	
	(-1.26)		(-1.07)		(-0.62)		(-0.37)		**(-1.93)**		**(-1.95)**	
Profitability	0.144		0.138		0.160		0.154		-2.682		-2.412	
	(1.29)		(1.27)		(1.39)		(1.37)		(-1.06)		(-0.98)	
Leverage	-0.110		-0.093		-0.221		-0.236		1.507		2.178	
	(-0.26)		(-0.22)		(-0.50)		(-0.54)		(0.76)		(1.08)	
Year dummy 2010	0.413		0.415		0.587*		0.582*		-1.346		-1.240	
	(1.24)		(1.25)		(1.67)		(1.67)		(-1.02)		(-0.94)	
Year dummy 2011	1.361***		1.361***		1.514***		1.508***		-0.382		-0.327	
	(4.48)		(4.48)		(4.69)		(4.68)		(-0.40)		(-0.34)	
Year dummy 2012	1.797***		1.797***		2.034***		2.021***		-1.193		-1.119	
	(6.01)		(6.02)		(6.39)		(6.36)		(-1.21)		(-1.13)	
Year dummy 2013	1.654***		1.653***		1.900***		1.886***		-1.700*		-1.469	
	(5.60)		(5.61)		(6.04)		(6.01)		(-1.70)		(-1.49)	
Year dummy 2014	1.366***		1.368***		1.621***		1.610***		-2.155*		-2.014*	
	(4.62)		(4.63)		(5.16)		(5.13)		(-1.95)		(-1.85)	
Intercept	-2.827***		-2.974***		-3.250***		-3.132***		6.347		1.378	
	(-4.05)		(-3.96)		(-4.49)		(-4.07)		(1.53)		(0.31)	
Wald chi[2]	63.99***	100.96***	63.71***	99.44***	70.03***	87.16***	67.46***	83.82***	10.54	13.79	10.57	13.98
Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	1,514	1,514	1,514	1,514	1,365	1,365	1,365	1,365	149	149	149	149

***, ** and * indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels respectively. The values represent the regression coefficient and the Z-value (two-tailed) in brackets.

[1] & [2] take into account rule of law and legal environment (which cannot be combined with country as a random-effects structure in the model). Table 6 presents definitions of variables.

Table 13. Results regression analysis with CSRA level as dependent variable.

	Total				Europe				North America			
CSRA level	Model 1 Env. score	Model 2[1] Env. score	Model 3 Soc. score	Model 4[2] Soc. score	Model 1 Env. score	Model 2[1] Env. score	Model 3 Soc. score	Model 4[2] Soc. score	Model 1 Env. score	Model 2[1] Env. score	Model 3 Soc. score	Model 4[2] Soc. score
Env. score	0.005				0.010				**-0.051****			
	(0.72)				(1.41)				**(-2.06)**			
Soc. score			0.008				**0.018****				**-0.034***	
			(1.16)				**(2.13)**				**(-1.77)**	
Legal environment		-0.293		-0.284		**-0.478***		**-0.471***		0.000		0.000
		(-1.51)		(-1.47)		**(-1.87)**		**(-1.85)**				
Rule of law		-0.111		-0.105		-0.132		-0.122		-6.203		-3.695
		(-0.85)		(-0.85)		(-0.99)		(-0.97)		(-1.32)		(-0.89)
Sensitive industries	**0.398****		**0.391****		**0.372***		**0.366***		-0.168		0.281	
	(2.23)		**(2.21)**		**(1.94)**		**(1.92)**		(-0.26)		(0.47)	
Size	0.090		0.091		0.014		0.011		**1.302*****		**0.980*****	
	(1.43)		(1.46)		(0.21)		(0.16)		**(4.19)**		**(3.79)**	
Profitability	-0.990		-1.153		-0.386		-0.733		-3.472		-3.220	
	(-0.76)		(-0.88)		(-0.34)		(-0.50)		(-1.37)		(-1.37)	
Leverage	**-1.063****		**-1.057****		-0.205		-0.194		**-9.839*****		**-9.503*****	
	(-2.12)		**(-2.11)**		(-0.39)		(-0.36)		**(-4.55)**		**(-4.50)**	
Year dummy 2010	0.512		0.522		0.543		0.557		0.339		0.241	
	(1.38)		(1.41)		(1.41)		(1.44)		(0.24)		(0.17)	
Year dummy 2011	0.811**		0.820**		0.851**		0.866**		0.494		0.494	
	(2.32)		(2.34)		(2.34)		(2.38)		(0.37)		(0.37)	
Year dummy 2012	0.832**		0.843**		0.867 **		0.884**		0.826		0.711	
	(2.42)		(2.45)		(2.41)		(2.46)		(0.64)		(0.55)	
Year dummy 2013	0.850**		0.863**		0.887**		0.907***		0.903		0.871	
	(2.52)		(2.55)		(2.51)		(2.56)		(0.71)		(0.68)	
Year dummy 2014	0.734**		0.752**		0.669*		0.699**		1.427		1.441	
	(2.17)		(2.22)		(1.88)		(1.96)		(1.12)		(1.14)	
Intercept	-3.471***		-3.745***		-3.796***		-4.429***		-6.647***		-5.016	
	(-4.41)		(-4.53)		(-4.41)		(-4.67)		(-2.59)		(-1.56)	
Wald chi[2]	21.07**	27.87***	21.86**	28.14***	14.85	19.81*	17.25*	22.11**	24.32***	24.67**	24.50***	24.59**
Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	1,514	1,514	1,514	1,514	1,365	1,365	1,365	1,365	149	149	149	149

***, ** and * indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels respectively. The values represent the regression coefficient and the Z-value (two-tailed) in brackets.

[1] & [2] take into account rule of law and legal environment (which cannot be combined with country as a random-effects structure in the model). Table 6 presents definitions of variables.

Table 14. Summary of the results.

H	Content	Expected sign	Result	Conclusion
	CSRA demand (SP*)			
1a	Social performance	-/-	+	Not supported
1b	Environmental performance	-/-	+	Not supported
	CSRA demand (EB**)			
2a	Social performance	+	+	Supported
2b	Environmental performance	+	+	Supported
	Type of CSRA engagement			
3a	Social performance	-/-	+	Only supported for North America and CSRA level
3b	Environmental performance	-/-	+	Only supported for North America and CSRA level
	Accounting provider			
4a	Social performance	-/-	+	Not supported
4b	Environmental performance	-/-	+	Only supported for Europe
5	Legal environment	-/-	-	Supported
6	Enforcement mechanisms	-/-	-	Supported

* SP means based on socio-political theories.

** EB means based on traditional economic theories.

4.3 Sensitivity analysis

It may be possible that certain measures are significantly influencing the results. Therefore, a sensitivity analysis is executed for country as a random-effects parameter model (mod 1 and 3) to check the robustness of the results. The sensitivity analysis is only executed for the total sample and excludes country-specific effects, such as legal environment and rule of law (model 2 and 4). Firstly, environmental score is replaced by another environmental proxy measuring "*a firm's management commitment and effectiveness towards reducing environmental emission in the production and operational processes. It reflects a company's capacity to reduce air emissions (greenhouse gases, F-gases, ozone-depleting substances, NOx and SOx, etc.), waste, hazardous waste, water discharges, spills or its impacts on biodiversity and to partner with environmental organizations to reduce the environmental impact of the firm in the local or broader community*" (Thomson Reuters, 2016). The grade earned by the Thomson Reuters website improved during the years. In 2011, the proxy earned grade B+ and in 2013, the measure improved to grade A. Therefore, it is assumed that the proxy is reliable and valid to include as sensitivity measure. The analysis significantly affects leverage (becoming significant) of CSR disclosure ($z = -1.67$, $p < 0.10$, two-tailed) and environmental score (becoming significant) of CSRA level ($z = 1.85$, $p < 0.10$, two-tailed).

Secondly, social score is replaced by a social proxy measuring "*a firm's management commitment and effectiveness towards maintaining the firm's reputation within the general community (local, national and global). It reflects a firm's capacity to maintain its license to operate by being a good citizen (donations of cash, goods or staff time, etc.), protecting public health (avoidance of industrial accidents, etc.) and respecting business ethics (avoiding bribery and corruption, etc.)*" (Thomson Reuters, 2016). The grade earned by the Thomson Reuters website remained the highest possible (A+) over the years. The proxy is considered to be a reliable and valid measure. The analysis only significantly affects sensitive industries (becoming significant) of CSR disclosure ($z = -3.05$, $p < 0.01$, two-tailed),

Thirdly, the profitability measure ROA is replaced by ROE. This replacement only significantly affects leverage (becoming significant) of CSR disclosure in model 1 ($z = -2.07$, $p < 0.05$, two-tailed).

Fourthly, the leverage ratio debt/total assets is replaced by the leverage ratio debt/equity. The analysis significantly affects profitability (becoming significant) of CSR disclosure in model 1 ($z = 1.86$, $p < 0.10$, two-tailed), probability (becoming not significant) of CSR disclosure in model 3 ($z = 0.90$, $p > 0.10$, two-tailed), profitability (becoming significant) of CSRA demand in model 1 ($z = 1.87$, $p < 0.10$, two-tailed), leverage (becoming not significant) of CSRA demand in model 1($z = -0.12$, $p > 0.10$, two-tailed) and model 3 ($z = 0.01$, $p > 0.10$, two-tailed), size (becoming significant) of CSRA level in model 1 ($z = 1.69$, $p < 0.10$, two-tailed) and model 3 ($z = 1.67$, $p < 0.10$, two-tailed).

At last, ln(total assets) is replaced by ln(total revenues) as a proxy for firm size. As a result, sensitive (becoming significant) in model 3 ($z = 6.38$, $p < 0.01$, two-tailed) of CSR disclosure, leverage (becoming not significant) in model 3 ($z = -0.28$, $p > 0.10$, two-tailed) of CSR disclosure, sensitive industries (becoming significant) in model 1 ($z = 2.75$, $p < 0.01$, two-tailed) and model 3 ($z = 4.13$, $p < 0.01$, two-tailed) of CSRA demand, leverage (becoming not significant) in model 1 ($z = -0.28$, $p > 0.10$, two-tailed) of CSRA demand, environmental score (becoming significant) in model 1 ($z = -1.68$, $p < 0.10$, two-tailed) of accounting, sensitive industries (becoming significant) in model 1 ($z = 3.06$, $p < 0.01$, two-tailed) and model 3 ($z = 3.21$, $p < 0.01$, two-tailed) of accounting, size (becoming significant) of model 1 ($z = 3.81$, $p < 0.01$, two-tailed) and model 3 ($z = 3.76$, $p < 0.01$, two-tailed) of CSRA level.

5. Conclusion and discussion

The aim of this paper is to explain variation in voluntary external assurance of stand-alone CSR reports and integrated CSR reports by investigating determinants of CSRA among European and North American publicly-listed companies. Due to the great international variation in companies that assure their CSR report, it is interesting to study the factors that underlie the CSRA demand decision. These factors are divided into firm-specific determinants and country-level determinants. The extension and contribution compared to previous studies is on social and environmental firm-specific performance. A multilevel panel data logistic regression model is used to provide insight into CSRA demand variation. Firstly, the results are interesting for stakeholders that demand better insight into the CSRA decision of management. Secondly, international standard setters and regulators can improve their services provided in order to develop a more uniform set of rules on CSR and CSRA. Thirdly, assurance providers can use the results in order to respond to the interests of their clients.

In Europe, a significant increase in CSR report disclosure and CSRA demand occurred. In 2009, 58.55 percent of the companies disclosed a CSR report and 48.25 percent demanded CSRA. Six years later, a 79.41 percent CSR disclosure rate occurred and 57.50 percent of the companies demanded CSRA. North American companies also show an increase in CSR report disclosure and CSRA demand. However, the averages are significantly below that of European companies. In 2009, 41.07 percent of the companies disclosed a CSR report and 14.49 percent demanded CSRA. In 2014, the CSR report disclosure rate was 69.47 percent and CSRA demand stabbed at 24.31 percent.

The results of the study generally support the empirical predictions. With respect to social and environmental performance, the results show that companies with superior social and environmental performance are more likely to demand for CSRA than companies with inferior social and environmental performance. The economics-based hypotheses are supported which expect that superior CSR performing companies try to differentiate from other superior CSR performing companies by assuring their CSR report. The legitimizing role of socio-political theories are therefore not supported. The results are in accordance with the studies of Casey & Grenier (2015) and Clarkson et al. (2015).

In line with the above mentioned outcomes, the results show that social and environmental performance is positively related to the type of CSRA engagement. This means that superior CSR performing companies demand a higher type of assurance instead of a lower type of assurance. This is not in line with the expectations. However, the North American

sample shows opposite results and suggests that the level of CSRA engagement is negatively related to environmental and social performance.

The paper finds evidence for the expectations that European companies with inferior environmental performance are more likely to demand for CSRA provided by a member of the accounting profession. Inferior socially performing North American companies are more likely to demand for CSRA of non-accounting providers. This result is not in line with the expectations.

The European results show that companies domiciled in stakeholder-oriented countries are more likely to demand for CSRA than companies domiciled in shareholder-oriented countries. Also, companies in countries with weaker legal enforcement mechanisms are more likely to demand for CSRA than companies in countries with stronger legal enforcement mechanisms. These findings support the expectations. Results regarding positive associations between stakeholder-oriented countries and CSRA demand are in accordance with Kolk & Perego (2010), Simnett et al. (2009), Garcia-Sanchez et al. (2015), Clarkson et al. (2015). The increased demand for CSRA by companies in weaker legal enforcement mechanisms is supported by Kolk & Perego (2010) and Choi & Wong (2007).

The results are subject to limitations. Firstly, the proxies of social and environmental performance are not exhaustive, meaning that not every aspect of environmental and social performance is captured. Therefore, the study is dependent on the accuracy of the data presented by the ASSET 4 ESG Database. Secondly, the relatively small sample size of North American countries compared to European companies may bias the results. Due to the limited data availability of shareholder-oriented North American companies, the sample only consists of American and Canadian companies. As a result, the comparison with Europe may be biased due to the lack of stakeholder-orientation. Thirdly, annual CSR reports may be wrongly interpreted as integrated reports. As a consequence, the sample might contain a too high number of CSR reports and CSRA respectively. Besides that, it is possible that no CSR or CSRA is found for a specific company, although it may be present anywhere in a database, Google or company websites. This negatively influences the results and therefore a too low number of CSR or CSRA can be included in the sample. Fourthly, a bias against CSR reports that were not translated into English may exist, especially from countries in Eastern and Southern Europe. Fifthly, CSR reports intended for internal purposes are not captured. The research only focuses on publicly-shared CSR reports. At last, the proxy for leverage may be adjusted to only include long-term debt as a ratio of total year-end assets. This is because interest mainly dependents on long-term debt instead of short-term liabilities.

Several possibilities for future research exist. Firstly, with respect to firm-specific determinants, media attention or corporate visibility can be taken into account. The Janis-Fadner coefficient measures the relative proportion of favorable to unfavorable articles and controls for the overall volume of articles. This may be interesting to deepen the understanding regarding the perception of firm-specific performance in media, society, and government. Secondly, more research is needed to clarify the relationships regarding the quality of assurance. This is reflected in the level, scope and assurance provider of the assurance engagement provided. By further investigating this important part of CSRA, more and better insight can be presented towards companies demanding higher and lower quality assurance. At last, qualitative insights could be very useful in order to provide background information in the CSRA demand and supply decision. This can be done by management interviews of companies that assure their CSR report. It is also possible to conduct interviews at companies providing assurance services to their clients. Therefore, more and better insights can be provided into the demand and supply side of CSRA. Hereby, motives and reasons can be taken into account in order to get a deeper understanding of CSRA determinants. In sum, research into the field of sustainability reporting is becoming increasingly relevant for several sustainable purposes. It is important that companies are aware of their social and environmental practices and do not run away from their moral responsibilities. Scandals of, for example, Volkswagen AG show that there is still much room for a sustainable improvement on social and environmental issues.

References

Ball, R., Kothari, S.P. & Robin, A. (2000). The Effect of International Institutional Factors on Properties of Accounting Earnings. *Journal of Accounting and Economics, 29*(1), 1-51.

Ballou. B., Heitger, D.L. & Landes, C.E. (2006). The Future of Corporate Sustainability Reporting: A rapidly growing assurance opportunity. *Journal of Accountancy, 202*(6), 65-74.

Barth, M.E., Beaver, W.H. & Landsman, W.R. (1998). Relative Valuation Roles of Equity Book Value and Net Income as a Function of Financial Health. *Journal of Accounting and Economics, 25*(1), 1-34.

Braam, G.J.M., Uit de Weerd, L., Hauck, M. & Huijbregts, M.A.J. (2016). Determinants of Corporate Environmental Reporting: The Importance of Environmental performance and Assurance. *Journal of Cleaner Production, 129*(1), 724-734.

Casey, R.J. & Grenier, J.H. (2015). Understanding and Contributing to the Enigma of Corporate Social Responsibility (CSR) Assurance in the United States. *Auditing: A Journal of Practice & Theory, 34*(1), 97-130.

Cho, C.H. & Patten, D.M. (2007). The Role of Environmental Disclosures as Tools of Legitimacy: A Research Note. *Accounting. Organizations and Society, 32*(7-8), 639-647.

Cho, C.H., Guidry, R.P., Hageman, A.M. & Patten, D.M. (2012). Do Actions Speak Louder Than Words? An Empirical Investigation of Corporate Environmental Reputation. *Accounting, Organizations and Society, 37*(1), 14-25.

Choi, J.H. & Wong, T.J. (2007). Auditors' Governance Functions and Legal Environments: An International Investigation. *Contemporary Accounting Research, 24*(1), 13-46.

Chow, C.W. (1982). The Demand for External Auditing: Size. Debt and Ownership Influences. *The Accounting Review, 57*(2), 272-291.

Clarkson, M.B.E. (1995). A Stakeholder Framework for Analyzing and Evaluating Corporate Social Performance. *Academy of Management Review, 20*(1), 92-117.

Clarkson, P.M., Li, Y., Richardson, G.D. & Vasvari, F.P. (2008). Revisiting the Relation Between Environmental Performance and Environmental Disclosure: An Empirical Analysis. *Accounting, Organizations and Society, 33*(4-5), 303-327.

Clarkson, P.M., Overell, M.B. & Chapple, L. (2011). Environmental Reporting and its Relation to Corporate Environmental Performance. *A Journal of Accounting. Finance and Business Studies, 47*(1), 27-60.

Clarkson, P.M., Li, Y., Richardson, G. & Tsang, A. (2015). Voluntary External Assurance of Corporate Social Responsibility Reports and the Dow Jones Sustainability Index Membership: International Evidence. *Article in Press.*

Cohen, J.R. & Simnett, R. (2015). CSR and Assurance Services: A Research Agenda. *Auditing: A Journal of Practice & Theory, 34*(1), 59-74.

Coram, P.J., Monroe, G.S. & Woodliff, D.R. (2009). The Value of Assurance on Voluntary Nonfinancial Disclosure: An Experimental Evaluation. *Auditing: A Journal of Practice & Theory, 28*(1), 137-151.

Corporate Register (2008). Assure View: The CSR Assurance Statement Report. *London, U.K.: CorporateRegister.com.* Available at: http://www.corporateregister.com/pdf/Assure View.pdf

Deegan, C. (2002). Introduction: The Legitimizing Effect of Social and Environmental Disclosures: A Theoretical Foundation. *Accounting, Auditing & Accountability Journal, 15*(3), 282-311.

Eisenhardt, K.M. (1989). Agency Theory: An Assessment and Review. *Academy of Management Review, 14*(1), 57-74.

Fernandez-Feijoo, B., Romero, S. & Ruiz, S. (2015). Multilevel Approach to Sustainability Report Assurance Decisions. *Australian Accounting Review, 75*(25), 346-358.

Garcia-Sanchez, I.M., Cuadrado-Ballesteros, B. & Frias-Aceituno, J.V. (2015). Impact of the Institutional Macro Context on the Voluntary Disclosure of CSR Information. *Long Range Planning, 49*(1), 15-35.

Gray, S.J. (1988). Towards a Theory of Cultural Influence on the Development of Accounting Systems Internationally. *ABACUS, 24*(1), 1-15.

Gray, R. (2000). Current Developments and Trends in Social and Environmental Auditing, Reporting and Attestation: A Review and Comment. *International Journal of Auditing, 4*(3), 247-268.

Gray, R., Kouhy, R. & Lavers, S. (1995). Corporate Social and Environmental Reporting: A Review of the Literature and a Longitudinal Study of UK Disclosure. *Accounting, Auditing & Accountability Journal, 8*(2), 47-77.

Hahn, R. & Kühnen, M. (2013). Determinants of Sustainability Reporting: A Review of results, Trends. Theory, and Opportunities in an Extending Field of Research. *Journal of Cleaner Production, 59*(1), 5-21.

Hasan, M., Maijoor, S., Mock, T.J., Roebuck, P., Simnett, R. & Vanstraelen, A. (2005). The Different Types of Assurance Services and Levels of Assurance Provided. *International Journal of Auditing, 9*(2), 91-102.

Houghton, K.A. (2010). The Future of Audit: Keeping Capital Markets Efficient: Chapter 17. Differing Levels of Audit Assurance. 643-655.

Huggins, A., Green, W. & Simnett, R. (2011). The Competitive Market for Assurance Engagements on Greenhouse Gas Statements: Is There a Role for Assurers from the Accounting Profession? *Current Issues in Auditing, 5*(2), A1–A12.

International Organization for Standardization (ISO). (2015). *ISO14001: 2015. Environmental Management Systems: An-easy-to-use checklist for small business.* Geneva: ISO

Ioannou, I. & Serafeim, G. (2011). The Consequences of Mandatory Corporate Sustainability Reporting. *HBS Working Paper Series.* 11-100.

Kaufmann, D., Kraay, A. & Mastruzzi, M. (2011). The Worldwide Governance Indicators: Methodology and Analytical Issues. *Hague Journal on the Rule of Law, 3*(2), 220-246.

Kolk, A. (2003). Trends in Sustainability Reporting by the Fortune Global 250. *Business, Strategy and the Environment, 12*(5), 279-291.

Kolk, A. & Perego, P. (2010). Determinants on the Adoption of Sustainability Assurance Statements: An International Investigation. *Business, Strategy and the Environment, 19*(3), 182-198.

Kolk, A. & Perego, P. (2012). Multinationals' Accountability on Sustainability: The Evolution of Third-party Assurance of Sustainability Reports. *Journal of Business Ethics, 110*(2), 173-190.

KPMG (2011). The KPMG Survey of Corporate Responsibility Reporting 2011. *KPMG International*. 1-34.

KPMG (2013). The KPMG Survey of Corporate Responsibility Reporting 2013. *KPMG International*. 1-20.

KPMG (2015). The KPMG Survey of Corporate Responsibility Reporting 2015. *KPMG International*. 1-48.

La Porta, R., Lopez-De-Silanes, F., Shleifer, A. & Vishny, R.W. (1997). Legal Determinants of External Finance. *The Journal of Finance, 52*(3), 1131-1150.

Manetti, G. & Becatti, L. (2009). Assurance Services for Sustainability Reports: Standards and Empirical Evidence. *Journal of Business Ethics, 87*(1), 289-298.

Matten, D. & Moon, J. (2008). “Implicit” and “Explicit” CSR: A Conceptual Framework for a Comparative Understanding of Corporate Social Responsibility. *Academy of Management Review, 33*(2), 402-424.

McWilliams, A. & Siegel, D. (2001). Corporate Social Responsibility: A Theory of the Firm Perspective. *The Academy of Management Review, 26*(1), 117-127.

Mock, T.J., Strohm, C. & Swartz, K.M. (2007). An Examination of Worldwide Assured Sustainability Reporting. *Australian Accounting Review, 17*(1), 67-77.

Moroney, R., Windsor, C. & Aw, Y.T. (2012). Evidence of Assurance Enhancing the Quality of Voluntary Environmental Disclosures: An Empirical Analysis. *Accounting and Finance, 52*(3), 903-939.

O’Dwyer, B. (2011). The Case of Sustainability Assurance: Constructing a New Assurance Service. *Contemporary Accounting Research, 28*(4), 1230-1266.

O’Dwyer, B. & Owen, D.L. (2005). Assurance Statement Practice in Environmental, Social, and Sustainability Reporting: A Critical Evaluation. *The British Accounting Review, 37*(2), 205-229.

O’Dwyer, B. & Owen, D.L. (2007). Seeking Stakeholder-Centric Sustainability Assurance. *Journal of Corporate Citizenship, 25*(1), 77-94.

O’Dwyer, B., Owen, D.L. & Unerman, J. (2011). Seeking Legitimacy for New Assurance Forms: The Case of Assurance on Sustainability Reporting. *Accounting, Organizations and Society, 36*(1), 31-52.

Patten, D.M. (2002). The Relation between Environmental Performance and Environmental Disclosure: A Research Note. *Accounting, Organizations and Society, 27*(8), 763-773.

Perego, P. (2009). Causes and Consequences of Choosing Different Assurance Providers: An International Study of Sustainability Reporting. *International Journal of Management, 26*(3), 412-425.

Peters, G.F. & Romi, A.M. (2015). The Association between Sustainability Governance Characteristics and the Assurance of Corporate Sustainability Reports. *Auditing: A Journal of Practice & Theory, 34*(1), 163-198.

Royal Dutch Shell. (2016). HSSE and Social Performance Commitment and Policy. http://www.shell.com/sustainability/our-approach/commitments-policies-and-standards/hsse-and-social-performance.html *Accessed at 26-04-2016.*

Simnett, R., Vanstraelen, A. & Chua, W.F. (2009). Assurance on Sustainability Reports: An International Comparison. *The Accounting Review, 84*(3), 937-967.

Thomson Reuters. (2016). Environmental, Social and Governance Performance. http://thomsonreuters.com/en/about-us/corporate-responsibility-inclusion/esg-performance. Html. *Accessed at 14-06-2016.*

Trumpp, C., Endrikat, J., Zopf, C. & Guenther, E. (2015). Definition, Conceptualization, and Measurement of Corporate Environmental Performance: A Critical Examination of a Multidimensional Construct. *Journal of Business Ethics, 126*(2), 185-204.

Verrecchia, R.E. (1983). Discretionary Disclosure. *Journal of Accounting and Economics, 5*(1), 179-194.

Appendix 1. Country abbreviations and rule of law per country (2009-2014).

		Rule of law						
Abbreviation	Country	2009	2010	2011	2012	2013	2014	Average
BEL	Belgium	1.36	1.37	1.40	1.40	1.40	1.51	1.41
CAN	Canada	1.81	1.81	1.74	1.75	1.74	1.89	1.79
CHE	Switzerland	1.76	1.77	1.74	1.81	1.79	2.02	1.82
CZE	Czech Republic	0.94	0.93	1.02	1.01	1.00	1.14	1.01
DEU	Germany	1.64	1.62	1.61	1.64	1.62	1.85	1.66
DNK	Denmark	1.92	1.90	1.93	1.85	1.87	2.09	1.93
ESP	Spain	1.13	1.16	1.18	1.04	1.00	0.94	1.08
FIN	Finland	1.97	1.98	1.96	1.94	1.93	2.12	1.98
FRA	France	1.43	1.51	1.44	1.43	1.40	1.47	1.45
GBR	United Kingdom	1.73	1.76	1.64	1.69	1.67	1.89	1.73
GRC	Greece	0.62	0.61	0.55	0.39	0.44	0.34	0.49
HUN	Hungary	0.76	0.75	0.74	0.60	0.56	0.50	0.65
IRL	Ireland	1.74	1.77	1.77	1.73	1.72	1.80	1.76
ITA	Italy	0.35	0.38	0.42	0.36	0.36	0.34	0.37
NLD	Netherlands	1.80	1.81	1.81	1.84	1.81	1.98	1.84
NOR	Norway	1.89	1.92	1.89	1.95	1.97	2.05	1.99
POL	Poland	0.60	0.66	0.75	0.74	0.79	0.82	0.73
PRT	Portugal	1.05	1.04	1.03	1.04	1.03	1.13	1.05
RUS	Russia	-0.77	-0.77	-0.74	-0.82	-0.78	-0.71	-0.77
SWE	Sweden	1.97	1.96	1.95	1.93	1.95	1.99	1.96
USA	United States	1.58	1.63	1.61	1.60	1.54	1.62	1.60