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Corporate Sustainability Performance and Assurance on Sustainability Reports: Diffusion of Accounting Practices in the Realm of Sustainable Development

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ABSTRACT

In response to investors and other stakeholders questioning the credibility of the performance information displayed in sustainability reports, companies increasingly have their sustainability reports voluntarily assured by an independent third party. However, voluntary third-party assurance on sustainability reports (SA) may vary considerably in terms of the choice of the assurance provider as well as the scope and level of assurance. In this study, the relationship between corporate sustainability performance (CSP) and choices related to SA is explored.

Using a panel data set of 4686 listed companies (from 21 European and North American countries) during the period 2009–2014, the results indicate that companies with a superior CSP are more likely to employ third parties to provide assurance on their sustainability reports than companies with an inferior sustainability performance. For companies that employ third parties to provide assurance, we also find that, among the companies headquartered in the more shareholder-oriented countries, CSP plays a significant role in explaining variation in the choice of the assurance provider, while predominantly in the more stakeholder-oriented countries, companies with a good CSP are more likely to choose a broader assurance scope than companies with a poor CSP. The results support the notion that companies with a superior CSP make different choices related to SA than companies with an inferior CSP. The results also indicate that country-specific characteristics are important for understanding the variation in choices related to SA. We discuss the findings and their implications. © 2017 The Authors. *Corporate Social Responsibility and Environmental Management* published by ERP Environment and John Wiley & Sons Ltd.

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Introduction

In this study, we investigate the relationship between corporate sustainability performance (CSP) and choices related to voluntary third-party assurance on sustainability reports. Investors and other stakeholders are increasingly urging companies to become more responsible and accountable for the impacts of their decisions and activities on the environment and society, and to publish information on sustainability performance in sustainability or corporate social responsibility reports. At the same time, however, they also question the credibility and reliability of the performance information disclosed in these sustainability reports. In response to concerns relating to the credibility of the sustainability information disclosed, there has been a growing tendency for companies to have their sustainability reports voluntarily assured by an independent third party (Junior *et al*., 2014; KPMG, 2015). Voluntary independent third-party assurance on corporate sustainability reports (SA) can help improve stakeholders' confidence in the credibility of the sustainability information provided and thus enhance the corporate reputation (Simnett *et al.,* 2009; Pflugrath e*t al.,* 2011; Reimsbach *et al.,* 2017). In addition, the process of independent assurance may induce companies to improve their risk management and accounting information systems to produce and disclose more reliable and accurate sustainability information, and strengthen companies' commitment to sustainability (Fonseca, 2010; GRI, 2013; Junior *et al.,* 2014; Cohen & Simnett, 2015; Gürtürk & Hahn, 2016; Braam *et al.,* 2016; García-Sánchez & Martínez-Ferrero, 2016). Furthermore, improved reporting processes and the disclosure of higher quality sustainability information may drive sustainable value creation, which might positively influence companies' competitive position (Lozano & Huisingh, 2011; Marín *et al.,* 2012; Lozano, 2015).

However, in the absence of regulation of sustainability reporting and assurance on sustainability reports, managers voluntarily decide whether or not to employ independent third parties to provide assurance on their companies' sustainability reports. Furthermore, for companies whose sustainability reports are assured by an independent third party, SA may vary considerably in terms of the choice of the assurance provider, as well as the scope, ranging from an assurance provided over the entire report to assurance provided over a specific section of the report, and the level of assurance, ranging from reasonable assurance to limited assurance. These assurance-related managerial decisions may be influenced by the CSP of the reporting firms. On the one hand, companies with a superior CSP may voluntarily employ third-party assurance to signal that the sustainability information is fairly presented, in all material respects. Here, the marginal benefits of SA are likely to outweigh the marginal costs. SA signals the credibility of their CSP disclosures and enhances confidence in the accuracy and reliability of the information disclosed. On the other hand, however, voluntary third-party assurance may also be beneficial for companies with an inferior CSP that are subject to public pressures and legitimacy threats. Due to managerial capture, which refers to management's control of the sustainability reporting and processes for SA (O'Dwyer, 2003; O'Dwyer & Owen, 2005; Smith *et al*., 2011), management can strategically use its control and discretion to not only define what CSP information to disclose but also whether to voluntarily assure the CSP information in their sustainability reports. To deflect attention from bad sustainability performance, in particular in companies with an inferior CSP, the management may self-servingly prefer to selectively disclose mostly good CSP in sustainability reports, rather than reveal the company's good and bad CSP in a balanced report (Cho *et al*., 2012; Boiral, 2013). In this case, the company's management may utilize SA as a tool to proactively manage investors' and other stakeholders' perceptions of the credibility of the CSP information revealed in the company's sustainability reports, rather than employ a third party to assure that the CSP information is not materially misstated (Cho & Patten, 2007; Cho *et al.,* 2012; Luo *et al.,* 2012; Perego & Kolk, 2012; Hahn & Lülfs, 2014; Gürtürk & Hahn, 2016; Odriozola & Baraibar-Diez, 2017). In addition, they may also selectively choose the assurance provider, as well as the scope and level of assurance to enhance perceived legitimacy and corporate reputation. Thus, we expect that managers of companies with a superior CSP make different choices related to SA than managers of companies with an inferior CSP.

This study aims to contribute to the understanding of the variety in managers' choices regarding SA practices by exploring the relationship between CSP and choices related to third-party assurance on sustainability reports. For this reason, a distinction is made between companies that issue sustainability reports with and without third-party assurance. For those companies whose sustainability reports are assured, we further analyze the choice of the assurance provider, the scope of assurance, and the level of assurance. Using a sample of listed companies, comprising 4686 observations covering the period 2009–2014 for European and North American countries that we, consistent

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with prior literature, distinguish in more shareholder and more stakeholder-oriented countries, the results indicate that companies with a superior CSP are more likely to employ independent third parties to provide assurance on the corporate sustainability reports than companies with an inferior sustainability performance. For those companies that acquire assurance, the results also indicate that, among the companies headquartered in the more shareholder-oriented countries, companies with a superior CSP are more likely to choose an assurance provider from the auditing profession than companies with an inferior CSP. Predominantly in the more stakeholder-oriented countries, companies with a good CSP are more likely to choose a broader assurance scope than companies with a poor CSP. These findings support our expectation that managers of companies with a superior CSP make different choices related to SA than managers of companies with an inferior CSP. The findings also indicate that country-specific characteristics are important for understanding of the variation in choices related to SA.

This paper contributes to the ongoing research related to SA in four ways. First, this study is among the first to systematically explore the relation between CSP and managerial choices related to third-party assurance on sustainability reports. Second, in addition to studies that investigate factors associated with the choice of the assurance provider for companies whose sustainability reports are assured (Hodge *et al.,* 2009; Simnett *et al.,* 2009; Pflugrath *et al.,* 2011; Moroney *et al.,* 2012; Casey & Grenier, 2015; Clarkson *et al.,* 2015; Fernandez-Feijoo *et al.,* 2015), this study adds CSP to explain variety in the type of assurance provider. Third, we also explore the role of CSP in explaining variations in managerial choices related to the scope and the level of SA (Hodge *et al.*, 2009). Fourth, this study complements the literature on assurance on sustainability reports on country-related factors associated with the decision to purchase SA assurance. Previous studies show that companies headquartered in stakeholder-oriented countries are more likely to employ independent third parties to provide assurance on their sustainability reports than companies headquartered in shareholder-oriented countries (Simnett *et al.,* 2009; Kolk & Perego, 2010; Dhaliwal *et al.,* 2014; Casey Grenier, 2015). In this study, we also explore whether the relationship between CSP and choices related to the assurance provider, and the scope and level of assurance differs between companies headquartered in more stakeholder oriented vs more shareholder oriented countries.

The remainder of this paper is structured as follows. First, we review the literature on the relationship between CSP and choices related to third-party assurance on sustainability reports, and then we develop hypotheses. Next, we describe the research method, followed by a presentation of the results. Finally, we summarize our conclusions and discuss the implications of the findings.

Theoretical Background and Development of Hypotheses

Signaling theory and legitimacy theory provide partly competing explanations on why companies with a greater need to increase stakeholder confidence in their sustainability reports are more likely to voluntarily have their sustainability reports assured by an independent third party (Hodge *et al.*, 2009; Simnett *et al.*, 2009; Hummel & Schlick, 2016).

Signaling theory suggests that companies with a superior CSP voluntarily employ independent third parties to provide assurance to signal their superior sustainability performance, given that the expected marginal benefits outweigh the assurance costs. Independent assurance on sustainability reports, and in particular on the CSP information disclosed, may increase stakeholders' confidence in companies' integrity regarding their accountability for their CSP, thus enhancing their corporate reputation (Simnett *et al.*, 2009; Hahn & Kühnen, 2013; Casey & Grenier, 2015). Enhanced stakeholder confidence in the credibility of the CSP information disclosed may also result in competitive advantages, such as better access to finance (Cheng *et al.,* 2014), a reduced cost of equity capital (Dhaliwal *et al.*, 2011), increased analyst coverage, lower analyst forecast errors and dispersion, a reduction of monitoring costs (Dhaliwal *et al.*, 2012; Casey & Grenier, 2015), and higher future cash flows (Lys *et al.*, 2015; Plumlee *et al.,* 2015).

Legitimacy theory, in contrast, predicts that the companies subject to public pressure and legitimacy threats due to poor sustainability performance may also employ third parties to provide assurance. Due to managerial capture, voluntary disclosure of CSP may be selective and self-serving. The management of companies with an inferior CSP may prefer to signal good CSP, rather than release bad CSP (Cho *et al.,* 2012; Boiral, 2013). To mask bad performance, they may proactively employ third parties to provide assurance on the CSP information revealed. They

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may use third-party assurance as a risk management tool to actively manage investors' and other stakeholders' perceptions of the credibility of the CSP information disclosed. Thus, independent third-party assurance helps to deflect attention from bad sustainability performance, reduce legitimacy risks, confer greater confidence among stakeholders, and prevent interventions (Freedman & Patten, 2004; Unerman, 2008; O'Dwyer *et al.*, 2011; Perego & Kolk, 2012; Gürtürk & Hahn, 2016).

However, third-party assurance is a costly process. According to economics-based theory, companies will trade off the relative costs and benefits of assurance on sustainability reports and employ third parties only if the expected benefits outweigh the costs (Verrecchia, 1983; Fonseca, 2010; Lys *et al.,* 2015). The present study posits that the expected net benefits from employing third-party assurance on sustainability reporting are likely to be higher for companies with a superior CSP than for those with a poor CSP. Independent third-party assurance aims to ensure that the CSP information disclosed in sustainability reports is, in all material respects, reliable and accurate, and in compliance with reporting standards. For this reason, the information disclosed must be verifiable. For superior performers, third-party assurance is an effective signal to positively differentiate themselves. At the same time, the management of companies with a superior CSP, on average, might be more experienced with the process of sustainability reporting and more confident in their reporting quality (e.g. data quality, accuracy) relative to those from companies with an inferior performance. For the management of companies that lag behind, the process of external assurance might be more time consuming and costly, but it might also be more uncertain whether they would 'survive' the assurance process without issues.[1] In addition, monitoring compliance with reporting standards makes it more difficult to manage and mask bad CSP. CSP disclosure in compliance with standards may increase the likelihood that stakeholders detect that the company's CSP is inferior, which may reduce the company's legitimacy and stakeholder trust, damage the company's reputation, and increase the likelihood of outside intervention. Thus,

> Hypothesis 1. *Companies with a superior CSP are more likely to have their sustainability reports assured by a third party than companies with an inferior CSP.*

In a voluntary disclosure setting, signaling theory also predicts that the companies with a superior CSP will signal information regarding choices related to voluntary third-party assurance that is hard for companies with an inferior CSP to imitate (Clarkson *et al.*, 2008; Connelly *et al.,* 2011; Pflugrath *et al.,* 2011). More specifically, to distinguish themselves from inferior performers, companies with a superior CSP are expected to make different choices related to the choice of the assurance provider, the scope of assurance, and the level of assurance than companies with an inferior CSP. For the choice of the assurance provider, consistent with the previous literature, this study makes a distinction between assurance providers from the auditing profession and other assurance providers, such as sustainability or environmental consultancies.

Prior literature argues that assurance provided by accounting firms is of a different quality than that provided by specialist consultants (Simnett *et al.*, 2009; Hodge *et al.*, 2009; Pflugrath *et al.,* 2011).[2] Empirical evidence is mixed (Pflugrath *et al.,* 2011; Moroney *et al.,* 2012; Casey & Grenier, 2015). However, some studies, including Simnett *et al.* (2009), also indicate that, on average, assurance providers from the accounting profession are more expensive than other assurance providers. Consistent with literature that argues that that fees can be a proxy of the level of audit effort (Chaney *et al.,* 2004; Hoitash *et al.*, 2007), assurance providers from the auditing profession, on average, signal higher levels of audit effort on sustainability reports than the other assurance providers, and for this reason differently affect stakeholders' perceptions of the credibility of the information revealed in sustainability reports. The scope of the third-party assurance engagement can range from assurance on information disclosed in specific sections of the report to assurance provided for the entire sustainability report. Regarding the level of assurance, a

[1]We thank one of the anonymous reviewers for bringing up this aspect.

[2]The auditing profession has experience and developed auditing standards, a body of ethics, independence and ethical requirements, and quality control mechanisms to provide high quality independent assurance. Accounting firms also have a reputation on which they rely on for the continuation of their business. For these reasons, some literature argues that assurance provided by accounting firms is of a higher quality than that provided by specialist consultants (Hodge *et al.,* 2009; Simnett *et al.,* 2009; Pflugrath *et al.,* 2011; Zorio *et al.,* 2013). A counter argument, however, is that non-auditing assurance providers, such as environmental or sustainability consultancies may possess an increased specialized expertise (Perego, 2009; Wong & Millington, 2014) and have a different focus (O'Dwyer & Owen, 2005, 2007). Assurance providers in the auditing profession, however, can buy this specialized knowledge (Simnett *et al.,* 2009; Casey & Grenier, 2015).

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distinction is made between limited (negative) assurance and reasonable (positive) assurance (CorporateRegister, 2008; Hodge *et al.,* 2009; GRI, 2013). A broader assurance scope and a higher level of assurance are expected to result in a higher quality of independent assurance, since they will result in more scrutiny.

Contingent on a cost–benefit trade-off, companies with a superior CSP are more likely to employ assurance providers from the accounting profession, and choose a broader assurance scope as well as a higher level of assurance (reasonable assurance) to distinguish themselves from the inferior performers. These 'high quality assurance options' that are difficult for inferior performers to replicate help superior performers to enhance stakeholder confidence in corporate sustainability reporting practices and the stakeholders' perceptions of the credibility of the CSP information disclosed (Hodge *et al.,* 2009).

Legitimacy theory, however, predicts that the companies with an inferior CSP may also benefit from third-party assurance. More specifically, these companies selectively and proactively employ third parties that provide assurance to signal that the disclosed information is credible. Selective assurance may signal that the CSP information released in sustainability reports is credible and reliable. Proactively signaling the credibility of the CSP information disclosed assists company management in influencing stakeholders' perceptions and may generate greater stakeholders' confidence in the level of responsibility taken in relation to sustainable development, thus enhancing corporate reputation and perceived legitimacy (Cho & Patten, 2007; Perego & Kolk, 2012; Luo *et al.,* 2012; Cho *et al.,* 2012; Hahn & Lülfs, 2014; Odriozola & Baraibar-Diez, 2017). For these reasons, inferior sustainability performers self-servingly use third-party assurance as a risk management tool to deflect attention from poor CSP and reduce its negative effects on corporate legitimacy (Gürtürk & Hahn, 2016). However, because they must comply with the reporting standards, these companies prefer the 'low quality assurance options' with less scrutiny, so they have more room to decouple their revealed CSP from their actual, true CSP. These companies are less likely to employ assurance providers from the auditing profession and are more likely to choose limited assurance on specific sections of the firms' sustainability report. Thus,

Hypothesis 2. *Companies with a superior CSP are more likely to have their sustainability reports assured by a provider from the accounting profession than companies with an inferior CSP.*

Hypothesis 3. *Companies with a superior CSP are more likely to choose a broader scope of third-party assurance than companies with an inferior CSP.*

Hypothesis 4. *Companies with a superior CSP are more likely to choose a higher level of third-party assurance than companies with an inferior CSP.*

In addition, the literature suggests that the institutional environment, legal enforcement, and the culture of a country, and in particular whether a country is more stakeholder- or shareholder-oriented, can influence firms' choices related to SA (La Porta *et al.,* 2000; Van der Laan Smith *et al.*, 2005, 2010; Simnett *et al.*, 2009; Dhaliwal e*t al.*, 2014). In more stakeholder-oriented countries, stakeholders such as customers, employees, communities, and the natural environment, are considered to possess a legitimate interest in corporate activities, and therefore have more influence on companies' business operations, compared with the stakeholder groups in more shareholder-oriented countries who 'have less legitimacy and therefore less influence on corporate activities' (Simnett *et al.,* 2009: 944). In the stakeholder-oriented countries, organizations are more likely to be managed in the interests of all their constituents, i.e., all stakeholders who can affect and/or are affected by the achievement of an organization's objectives (Freeman, 1984; Gray *et al.,* 1995), and not only in the interest of shareholders with a focus on the creation of shareholder value (Laplume *et al.*, 2008). In the more stakeholder-oriented countries, there is more emphasis on sustainable value creation and a greater need to increase the confidence of stakeholders in the credibility of sustainability reports to monitor and evaluate firms, and companies will be more responsive to the information demands of the stakeholder groups than in the less shareholder-oriented countries (Van der Laan Smith *et al.,* 2005; Kolk & Perego, 2010; Perego & Kolk, 2012). For this reason, we expect that a country's stakeholder orientation moderates the hypothesized relations between CSP and choices related to SA, i.e., the SA-related choices will be more pronounced in stakeholder-oriented countries than in shareholder-oriented countries.

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Research Method

Sample

To test the hypotheses, we used a sample of 4686 firm-year observations of publicly traded firms in 19 European and 2 North American countries during the years 2009–2014. For the 19 European countries, we used the top 100 publicly listed companies included in the KPMG Survey of Corporate Responsibility Reporting (2015), which were selected based on their revenues at the end of 2014. For the United States (USA) and Canada, we also included the 100 largest publicly listed companies per country as measured by revenues at the end of 2014. For inclusion in the sample, all financial and non-financial information had to be available. The financial information was extracted from the Datastream database (www.thomsonone.com). The data on sustainability reporting was retrieved from the Sustainability Disclosure Database from the Global Reporting Initiative (GRI) (http://database.globalreporting.org). If information was not available in this database, then the sustainability reports were retrieved from the companies' websites to gather the missing information. To measure CSP, we used data with the environmental, social and governance (ESG) scores retrieved from Thomson Reuters ASSET4. Thomson Reuters ASSET4, which is incorporated in Datastream, specializes in providing objective, verifiable, and comparable ESG data with global coverage. After we omitted the missing observations, the remaining unbalanced panel data set included data for 835 publicly listed companies, comprising 4686 firm-year observations (3644 observations of 656 European companies and 1042 observations of 179 North American companies).

Table 1 presents the descriptive statistics for these sample companies. Panel A shows the distribution of the sample companies across countries, while Panel B shows the distribution across more shareholder vs. more stakeholder-oriented countries. European countries excluding the UK and Ireland are considered more stakeholder-oriented, whereas the North American countries and the UK and Ireland have a higher shareholder orientation (Simnett *et al.*, 2009; Kolk & Perego, 2010; Perego & Kolk, 2012). Panel C illustrates the growing tendency for companies to have their sustainability reports assured by an independent third party (KPMG, 2015; Junior *et al.*, 2014).

Variables

Dependent Variables

To test our hypotheses, we used four dependent variables. First, we created a dummy variable SA, taking the value of 1 if a company's sustainability report was assured by an independent third party, and a value of 0 otherwise. Second, for the subsample of companies that employed third parties to provide assurance, we used the variable Assurance provider that takes the value of 1 if the assurance provider is a member of the auditing profession, and 0 if the assurance is not provided by a member of the auditing profession (Simnett *et al.*, 2009). Third, the dependent variable Scope is equal to 1 if the scope of the independent assurance provided covers the entire sustainability report, and 0 otherwise. Finally, the dummy variable Level takes the value of 1 if reasonable (positive) assurance was provided for the sustainability report, and 0 in the case of limited (negative) assurance.

Independent Variables

To assess companies' level of CSP, we used the ESG dataset from Thomson Reuters ASSET4 with objective and auditable data on firm environmental, social, and corporate governance (ESG) with a comprehensive global coverage. Following previous studies (Ioannou & Serafeim, 2012; Cheng *et al.*, 2014; Luo *et al.*, 2015; Qiu *et al.*, 2016), we used the ASSET4 environmental and social scores to construct a composite CSP score for each firm.[3] For each sample firm, we calculated its CSP score as the sum of the performance scores for the environmental and social dimension divided by two, thus assigning equal importance to each pillar (Waddock & Graves, 1997). To account for industry

[3]The environmental and social scores for measuring CSP cover a broad set of indicators of environmental and social performance. The environmental score includes measures of emissions, waste, water and energy consumption, the amount of investment in sustainability (i.e., innovations benefiting the environment), etc. The social score comprises measures of employee rights, diversity, employee training hours, health, workforce accidents, personnel turnover, and product responsibility. The company scores per pillar are relative measures of performance that range from 0 to 100%, with a higher score indicating a better environmental or social performance. The scores are relative measures of performance that are calculated by equally weighing and z-scoring all underlying data points and benchmarking the companies' performance scores against the other companies with ESG data.

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Panel A: Company characteristics across country

Country	Firm-year observations	Sustainability report issued		Third-party Assurance (SA)		Assurance provider: Auditing profession[3]		Scope: assurance on entire sustainabi-lity report[4]		Level of assurance: Reasonable assurance[5]	
	n	**n**	**in %**	**n**	**in %**	**n**	**in %**	**n**	**in %**	**n**	**in %**
Belgium	150	94	63%	34	36%	28	82%	4	12%	0	0%
Czech Republic	18	17	94%	0	0%	0	0%	0	0%	0	0%
Denmark	148	128	86%	41	32%	34	83%	4	10%	1	2%
Finland	144	123	85%	68	55%	51	75%	52	76%	0	0%
France	422	317	75%	210	66%	205	98%	14	7%	14	7%
Germany	344	222	65%	124	56%	107	86%	19	15%	0	0%
Greece	98	68	69%	40	59%	31	78%	6	15%	0	0%
Hungary	23	23	100%	18	78%	13	72%	8	44%	0	0%
Ireland[1]	76	11	14%	3	27%	3	100%	3	100%	0	0%
Italy	257	175	68%	130	74%	112	86%	71	55%	0	0%
Netherlands	184	127	69%	91	72%	83	91%	21	23%	14	15%
Norway	108	61	56%	34	56%	32	94%	4	12%	2	6%
Poland	131	47	36%	20	43%	16	80%	7	35%	0	0%
Portugal	64	33	52%	23	70%	22	96%	7	30%	2	9%
Russia	144	97	67%	36	37%	15	42%	15	42%	14	39%
Spain	233	185	79%	145	78%	116	80%	57	39%	15	10%
Sweden	237	183	77%	78	43%	71	91%	46	59%	5	6%
Switzerland	312	182	58%	59	32%	30	51%	19	32%	5	8%
UK[1]	551	448	81%	211	47%	131	62%	45	21%	5	2%
Europe	**3644**	**2541**	**70%**	**1365**	54%	**1100**	81%	**402**	29%	**77**	6%
Canada[2]	530	276	52%	72	26%	59	82%	5	7%	0	0%
USA[2]	512	337	66%	77	23%	35	45%	11	14%	16	21%
North America	**1042**	**613**	59%	**149**	24%	**94**	63%	**16**	11%	**16**	11%
Total	**4686**	**3154**		**1514**	48%	**1194**	79%	**418**	28%	**93**	6%

Panel B: Country orientation: more stakeholder vs. more shareholder orientation

Country-orientation	Firm-year observations	Sustainability report issued		Third-party Assurance		Assurance provider: Auditing profession[3]		Scope: assurance on entire sustainabi-lity report[4]		Level of assurance: Reasonable assurance[5]	
	n	n	in %	n	in %	**n**	**in %**	**n**	**in %**	**n**	**in %**
Stakeholder orientation											
Firms headquartered in European countries[1]	3017	2082	69%	1151	55%	966	84%	354	31%	72	6%
	3017	2082	69%	1151	55%	966	84%	354	31%	72	6%
Shareholder orientation											
Firms headquartered in European countries[1]	627	459	73%	214	47%	134	63%	48	22%	5	2%
Firms headquartered in countries in North America[2]	1042	613	59%	149	24%	94	63%	16	11%	16	11%
	1669	1072	64%	363	34%	228	63%	64	18%	21	6%
Total	**4686**	**3154**	**67%**	**1514**	**48%**	**1194**	**79%**	**418**	**28%**	**93**	**6%**

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Panel C: Company characteristics across year

Year	Firm-year observations	Sustainability reports issued		Third-party Assurance		Assurance provider: Auditing profession[3]		Scope: Assurance on entire sustainability report[4]		Level of assurance: reasonable assurance[5]	
	n	n	in %	n	in %	n	in %	n	in %	n	in %
2009	706	384	54%	162	42%	121	75%	21	13%	2	1%
2010	763	466	61%	195	42%	141	72%	32	16%	10	5%
2011	783	519	66%	241	46%	184	76%	72	30%	17	7%
2012	796	550	69%	269	49%	216	80%	97	36%	21	8%
2013	815	599	73%	312	52%	256	82%	104	33%	20	6%
2014	823	636	77%	335	53%	276	82%	92	27%	23	7%
Total	**4686**	**3154**	**67%**	**1514**	**48%**	**1194**	**79%**	**418**	**28%**	**93**	**6%**

Table 1. Summary statistics of sample companies (2009–2014)
[1]Within Europe, the UK and Ireland are classified as shareholder-oriented countries. The other European countries are classified as stakeholder-oriented countries.
[2]The USA and Canada are classified as shareholder-oriented countries.
[3]Firms that choose a third-party assurance provider from the auditing profession in numbers and as a percentage of the firms that have assurance on their sustainability reports.
[4]Firms that have a broad scope of assurance, i.e., assurance on the entire sustainability report, in numbers and as a percentage of firms that employ third parties to provide assurance on their sustainability reports.
[5]Firms that have reasonable assurance on their sustainability reports, in numbers and as a percentage of firms that employ third parties to provide assurance on their sustainability reports.

competition, consistent with Luo *et al.* (2015), we used the ratio of a firm's CSP score to the average CSP score of all competing firms in the industry as defined by the categorization of industries on the basis two-digit Standard Industrial Classification (SIC) codes as the final measure of CSP in our analysis. A higher CSP score indicates a better corporate sustainability performance, and suggests that a company is more likely to accept greater responsibility for sustainable development.[4]

At the country level, consistent with Simnett *et al.* (2009), a dummy variable Stakeholder orientation was added that is coded as 1 if a company is headquartered in a stakeholder-oriented country, and 0 if a company is headquartered in a shareholder-oriented country. Common law countries are considered more shareholder-oriented and code law countries to be more stakeholder-oriented (La Porta *et al.*, 1997, 2000).

Control Variables

Because we have repeated measurements at the firm level that are nested within countries, we included several control variables at the firm, industry and country level, and added random effects at the firm level and year dummies to control for time effects. At the firm level, consistent with previous literature (Simnett *et al.*, 2009; Moroney *et al.*, 2012; Sierra *et al.*, 2013; Casey & Grenier, 2015), the natural log of total assets (Lnsize), the return on assets (ROA), and leverage (Leverage) were included as control variables. To control for sector-specific effects, we distinguished between companies that were or were not classified as environmentally or socially sensitive industries (Industry). Consistent with Patten (2002) and Simnett *et al.* (2009), firms in the petroleum, chemical excluding pharmaceutical, metals, and paper industries were classified as environmentally sensitive industries, while firms in the finance industry were categorized as socially sensitive industries.[5] At the country level, we took the rule of

[4]To test the robustness of the results, we also computed a dummy variable CSP that is coded as 1 if the CSP score of firm i in year t was high, and 0 if the CSP score was low. The CSP score for firm i in year t was high if this score was above the industry median, and 0 otherwise. The results of the additional tests show that different measures of CSP do not change the results qualitatively, suggesting that the results are robust to different measures of CSP.
[5]The results of the additional tests that control for industry differences based on a categorization of industries with the use of the two-digit SIC codes show that the results are robust to different industry controls.

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Variable	Definition	Data source
Sustainability report	Sustainability report is a dummy variable that is equal to 1 if the company issued a standalone or integrated sustainability report, with information in at least one of the six categories from the GRI standards, and 0 otherwise.	GRIs Sustainability Disclosure (SD) database
SA	SA is a dummy variable that is equal to 1 if a company's sustainability report was assured by an independent third party, and 0 otherwise.	GRI's SD database
Assurance provider	Assurance provider is a dummy variable that is equal to 1 if the assurance provider is a member of the auditing profession, and 0 if the assurance is not provided by an accounting firm (Simnett *et al*., 2009).	GRI's SD database
Scope of assurance	Scope of assurance is a dummy variable that is equal to 1 if the scope of the independent assurance provided covers the entire sustainability report, and 0 otherwise.	GRI's SD database
Level of assurance	Level of assurance is a dummy variable that is equal to 1 if reasonable assurance was provided for the sustainability report, and 0 otherwise, i.e., limited assurance.	GRI's SD database
CSP score	The ratio of a company's CSP score to the average CSP score of all competing firms in the industry as defined by the SIC codes (Luo *et al*., 2015). A company's CSP score is calculated as the sum of the environmental and social performance scores provided by Thomson Reuters ASSET4's ESG database divided by two (Cheng *et al*., 2014; Clarkson *et al*., 2015). Higher ratios indicate a better corporate sustainability performance.	Thomson Reuters ASSET4's ESG database
Dummy CSP score	A dummy variable that is coded as 1 if the CSP score of a firm I in year t was high, and 0 if the CSP score was low. The CSP score of firm i in year t was high if this score was above the industry median, and 0 otherwise.	
Stakeholder orientation	A dummy variable that is equal to 1 if a company is headquartered in a more stakeholder-oriented country, and 0 if a company is headquartered in a more shareholder-oriented country. The distinction between stakeholder or shareholder orientation is based on the origin of law (La Porta *et al*., 1997). Companies headquartered in code law countries are considered to have a more stakeholder orientation, whereas companies headquartered in common law countries are considered to have a more shareholder orientation (Simnett *et al*., 2009). The European countries are classified as more stakeholder-oriented countries, except for the UK and Ireland that are classified as more shareholder-oriented countries. The USA and Canada are also classified as more shareholder-oriented countries.	Simnett *et al*. (2009)
Lnsize	Lnsize is the logarithm of the company's year-end total assets.	Datastream
ROA	Measures the return on assets, calculated by dividing the net income (loss) by the total assets.	Datastream
Leverage	Leverage is measured as the total liabilities divided by the total assets.	Datastream
Industry	Industry is a dummy variable that is equal to 1 if companies are classified as environmentally or socially sensitive industries, and 0 otherwise (Patten, 2002; Simnett *et al*., 2009).	Datastream
Rule of law	Proxy developed by the World Bank that measures the extent to which agents have confidence in and abide by the rules of society, including the quality of contract enforcement, property rights, and the courts, as well as the likelihood of crime and violence (Kaufmann *et al*., 2007; Simnett *et al*., 2009).	World Bank (Kaufmann *et al*., 2007)
Year dummies	Year dummies control for time effects and for omitted variables that vary over time, but are constant among firms.	Datastream

Table 2. Variable definitions

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Variable	Total sample			Subsamples					
				Stakeholder-oriented countries			Shareholder-oriented countries		
	n	Mean	Std. dev.	n	Mean	Std. dev.	n	Mean	Std. dev.
Sustainability reporting	4686	0.67	0.47	3017	0.69	0.46	1669	0.64	0.48
External assurance	3154	0.48	0.49	2082	0.55	0.49	1072	0.34	0.47
Assurance provider	3154	0.38	0.48	2082	0.46	0.49	1072	0.21	0.41
Scope of assurance	3154	0.13	0.33	2082	0.17	0.37	1072	0.06	0.12
Level of assurance	3154	0.02	0.17	2082	0.03	0.18	1072	0.02	0.14
CSP score	3154	1.00	0.22	3017	1.00	0.39	1669	1.00	0.36
Lnsize	4686	9.44	1.75	3017	9.28	1.71	1669	10.01	1.71
ROA	4686	0.05	0.33	3017	0.05	0.41	1669	0.05	0.07
Leverage	4686	0.64	0.21	3017	0.64	0.21	1669	0.65	0.20
Industry	4686	0.30	0.46	3017	0.32	0.46	1669	0.29	0.46
Rule of Law	4686	1.47	0.59	3017	1.33	0.69	1669	1.69	0.11
Stakeholder orientation	4686	0.64	0.48	3017	1	0	1669	0	0

Table 3. Summary statistics for the variables used in the analysis
See Table 2 for definitions of the variables.

law measure, developed by the World Bank, as a proxy for the quality of the legal environment (Kaufmann *et al.*, 2007).[6] Finally, we included the year dummies to control for omitted variables that vary over time but are constant among the firms.

Table 2 summarizes the definitions of the dependent, independent, and control variables employed in the analyzes. Table 3 reports the summary statistics for these variables.

Research Model

We tested the hypotheses using sequential logit models. The decisions related to SA made by a company can be modelled as a sequence of independent binary logit models. First, companies have to decide whether to issue sustainability reports. Companies that issue sustainability reports subsequently have to decide whether to have this information independently assured. Companies that decide to have their sustainability reports assured by a third party have to make three additional choices: choice of the assurance provider, choice of scope of assurance, and choice of level of assurance. These decisions, as well as the previous decision to issue a sustainability report, are illustrated in the decision tree in Figure 1.

We used multilevel (panel) data regression analyses to test our hypotheses. Multilevel analysis is an appropriate method to include explanatory variables at different levels simultaneously, i.e., at the country and firm level, and to study interactions among these levels (Hox, 2002; Dong & Stettler, 2011). To test the hypotheses, the following multilevel logistic regression models were estimated (in Stata 14):

$$\begin{aligned}\text{SA, ASSURANCE PROVIDER, SCOPE, LEVEL} = {} & \beta_0 + \beta_1 CSP + \beta_2 STAKEHOLDER\ ORIENTATION \\ & + \beta_3 CSP^{*} STAKEHOLDER\ ORIENTATION + \beta_4 FIRM_{CONTROL} \\ & + \beta_5 INDUSTRY_{CONTROL} + \beta_6 COUNTRY_{CONTROL} \\ & + \beta_7 YEAR_{CONTROL} + \varepsilon\end{aligned}$$

where the dependent variables reflect the choices related to third-party assurance on sustainability reports described above. The independent variable CSP and the control variables at the company, industry and country level are the

[6]The rule of law reflects perceptions of the extent to which agents have confidence in and abide by the rules of society in general, and the quality of contract enforcement, property rights, the police and the courts, as well as the likelihood of crime and violence in particular (Kaufmann *et al.*, 2009; Simnett *et al.*, 2009).

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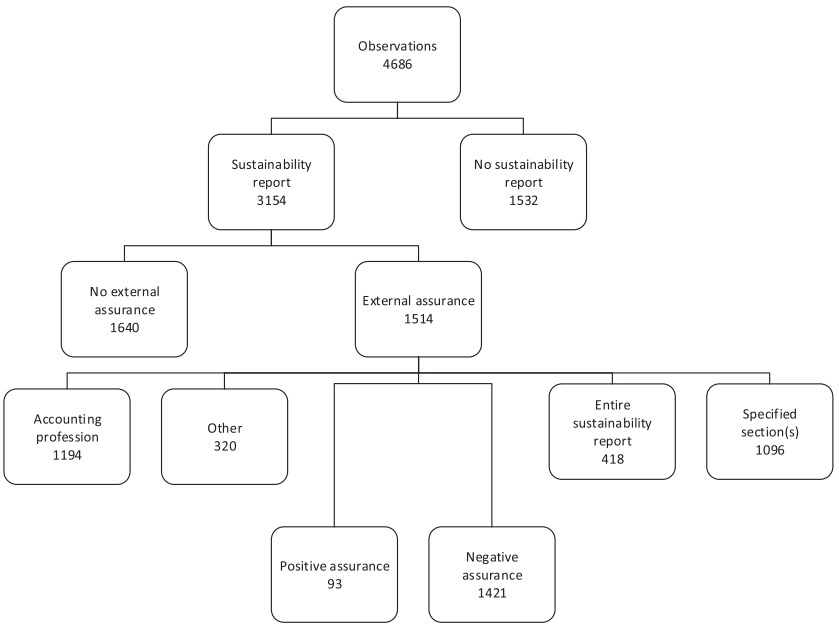

Figure 1. Decision tree with the number of observations for sequential logit analysis

factors that explain the variation in the third-party assurance practices. In addition, we controlled for firm and country random effects and included year dummies. To address the fact that the effects of CSP on SA-related choices may differ depending on the stakeholder orientation, we also analyze the interaction effects between CSP and stakeholder orientation. For this reason, we estimated models including both the direct effects of CSP and stakeholder orientation and their interactions. To compute the interaction terms, centered versions of CSP were used. The main effects therefore can be interpreted as average effects. In addition, the assumptions underlying the regression model were tested for multicollinearity. Table 4 reports the Pearson correlations.

Results

Table 5 shows the results of the regression analysis that examined the relation between CSP and third-party assurance. Model 1 indicates a positive association between CSP and the likelihood to issue a sustainability report. Model 2 depicts the results for all sample firms that have issued a sustainability report, while Models 3–4 show

	1.	2	3.	4.	5.	6.	7.
1. CSP Score	1.000						
2. Lnsize	0.346*	1.000					
3. ROA	0.011	−0.045*	1.000				
4. Leverage	0.134*	0.437*	−0.092*	1.0000			
5. Industry	0.023	0.418	−0.031*	0.292*	1.000		
6. Rule of law	0.112*	−0.098*	−0.018	−0.021	−0.110*	1.000	
7. Stakeholder orientation	0.010	−0.128*	0.001	−0.038*	0.068*	−0.306*	1.000

Table 4. Pearson correlations
*indicates statistical significance at the 5% level.
Table 2 details definitions of the variables.

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Sample	Expected sign	Total sample	Subsample of companies that issued a sustainability report		
				Country orientation	
				Stakeholder-orientation	Shareholder-orientation
		Model 1[1]	Model 2[1]	Model 3	Model 4
CSP score	+	4.228*** (27.72)	2.140*** (10.42)	2.280*** (9.58)	1.724*** (4.17)
Stakeholder orientation	+	1.034* (1.76)	1.302*** (2.73)		
Lnsize	+	.195*** (5.50)	.453*** (12.11)	.441*** (9.72)	.483*** (7.20)
ROA	+/−	.291 (.53)	.177 (.71)	.111 (.59)	.179 (1.47)
Leverage	+/−	−.671*** (−2.83)	−2.310*** (−8.53)	−2.077*** (−6.12)	−2.529*** (−5.47)
Industry	+/−	−.086 (−.85)	−.377** (−3.56)	−.383*** (−3.02)	−.353* (−1.82)
Rule of law	−	−.243 (−.76)	−.085 (−.34)	−.097 (−.39)	−.486 (−.22)
Year dummies		Y	Y	Y	Y
Random country effects		Y	Y	Y	Y
Random firm effects		Y	Y	Y	Y
Intercept		−5.659*** (−6.91)	−6.557*** (−9.34)	−5.380*** (−9.80)	−5.722 (−1.50)
N		4686	3154	2082	1072
Wald -χ^2		994.89***	391.41***	270.67***	122.14***

Table 5. Multilevel logistic regression results with companies' decisions to issue sustainability reports, and whether to employ third parties to provide assurance on sustainability reports as dependent variables

***, ** and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively (two tailed, z-values beneath the regression coefficients in parentheses).

See Table 2 for definitions of the variables.

[1]The models including both the direct effects of CSP and stakeholder orientation, and their interactions are not reported because the interaction effects were positive, but not significant.

the results for the subsamples of the companies headquartered in the more stakeholder and shareholder-oriented countries. Models 2–4 report positive and statistically significant associations between CSP and third-party assurance, after having controlled for variations in the use of third parties that provide assurance related to the other factors specified in the model. Taken together, the results provide strong support for H1.

For those companies whose sustainability reports are assured by a third party, H2 predicts that companies with a superior CSP are more likely to have their sustainability reports assured by a provider from the accounting profession. The results for Model 1 in both Panel A and B of Table 6 do not show statistically significant relations between CSP and the choice of assurance provider. However, the results in Model 2 in both Panel A and B show significantly positive associations between CSP and the likelihood that companies with a superior CSP demand for an assurance provider from the auditing profession among the subsample of the companies headquartered in the shareholder-oriented countries. On the other hand, the significantly negative interaction effect between CSP and stakeholder orientation in Model 2 in Panel A, and the results in Model 1 of Panel B indicate that there is no relation between CSP and the type of assurance provider for the companies headquartered in stakeholder-oriented countries. Collectively, our findings provide support for H2 among the companies headquartered in the more shareholder-oriented countries.

Panels A and B of Table 6 also show the results to test H3, which predicts that companies with a superior CSP are more likely to choose a broader scope of assurance than companies with an inferior CSP. The results for Model 3 in Panel A show a statistically significant and positive association between CSP and the likelihood that companies with a superior CSP demand for a broad scope of assurance, everything else held constant. Moreover, the significantly positive interaction effect between CSP and stakeholder orientation in Model 4 of Panel A and the results in Model 3 of Panel B indicate that there is a relation between CSP and the scope of assurance for the companies headquartered in stakeholder-oriented countries. However, both the results for Model 4 in Panel A and for Model 4 of Panel B do not show a statistically significant association between CSP and the scope of assurance for the

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Panel A. Multilevel logistic regression results for choices related to SA

Dependent variable:	Expected sign	Assurance provider from accounting profession		Scope		Level	
		Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
CSP score	+	.298 (.78)	1.563* (1.92)	.938** (2.41)	−.610 (−.62)	.0524 (.71)	.-1.209 (−.71)
Stakeholder orientation	+	1.487*** (2.70)	1.802*** (3.09)	.406 (.60)	.206 (.40)	−.166 (−.14)	−.626 (−.51)
CSP score x Stakeholder orientation	+		−1.579* (−1.76)		1.767* (1.72)		2.052 (1.11)
Lnsize	+	.292*** (5.03)	.286*** (4.91)	−.034 (−.62)	−.032 (−.58)	.096 (.98)	.092 (.94)
ROA	+/−	−.138 (−1.04)	−.136 (−1.04)	.136 (1.21)	.135 (1.21)	.016 (.03)	.004 (.01)
Leverage	+/−	−.396 (−.91)	−.453 (−1.03)	−.205 (−.48)	−.158 (−.37)	−.744 (−1.04)	−.718 (−1.00)
Industry	+/−	.106 (.61)	.102 (.59)	−.228 (−1.37)	−.225 (−1.35)	.452 (1.62)	.449 (1.60)
Rule of law	−	.589** (1.98)	.610** (2.04)	−.270 (−.78)	−.282 (−.82)	−.604 (−1.01)	−.627 (−1.05)
Year dummies		Y	Y	Y		Y	
Random country effects		Y	Y	Y		Y	
Random firm effects		Y	Y	Y		Y	
Intercept		−3.879*** (−4.06)	−5.340*** (−4.20)	−2.875** (−2.79)	−1.033** (−.70)	−5.665*** (−3.00)	−3.494 (−1.30
N		1514	1514	1514	1514	1514	1514
Wald -χ^2		59.84***	62.23***	65.62***	67.82***	16.62	17.39

Panel B. Multilevel logistic regression results in stakeholder vs. shareholder-oriented countries for choices related to SA.

Dependent variable:	Assurance provider from accounting profession		Scope		Level	
Country orientation:	Stakeholder-oriented	Shareholder-oriented	Stakeholder-oriented	Shareholder-oriented	Stakeholder-oriented	Shareholder-oriented
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
CSP score	−.159 (−.36)	2.046** (2.27)	.1.070** (2.53)	.326 (.27)	.821 (.99)	.644 (.41)
Lnsize	.301*** (4.05)	.285*** (2.84)	−.050 (−.01)	−.209* (−1.70)	.026 (.24)	.303 (.81)
ROA	−.190 (−1.14)	1.464** (2.41)	.193 (1.52)	−1.142** (−2.37)	−.025 (−.29)	−.435 (−.07)
Leverage	.605 (1.02)	−1.325* (−1.88)	.511* (.99)	−2.395*** (−2.76)	.242 (.29)	−3.842 (−1.41)
Industry	−.042 (−.20)	.290 (.98)	−.380** (−1.78)	−.167 (−.04)	.371 (1.11)	.738 (1.06)
Rule of law	.558* (1.93)	8.636*** (3.24)	−.290 (−.81)	3.135 (.67)	−.655 (−1.03)	−14.156** (−2.34)
Country dummies	Y	Y	Y	Y	Y	Y
Year dummies	Y	Y	Y	Y	Y	Y
Intercept	−2.331*** (−2.66)	−19.845*** (−4.09)	−3.928** (−4.51)	−2.745 (−.34)	−8.880** (−3.67)	21.592* (1.81)
N	1151	363	1151	363	1151	363
Wald -χ^2	41.03***	40.64***	81.45***	17.63*	13.09	41.58***

Table 6. Multilevel logistic regression results with companies' choices related to voluntary third-party assurance on sustainability reports (SA) as dependent variables

***, ** and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively (two tailed, z-values beneath the regression coefficients in parentheses).

Table 2 details definitions of the variables.

companies headquartered in shareholder-oriented countries. Together, these results provide support for H3 for the companies headquartered in stakeholder-oriented countries, but do not provide support for H3 for companies headquartered in shareholder-oriented countries.

The Model 5 and 6 of both Panels A and B of Table 6 shows the results of the testing for H4, which predicts that companies with a superior CSP are more likely to choose a higher level of assurance than companies with an inferior CSP. However, contrary to expectations, these results reveal no statistically significant relations between CSP and the level of assurance, i.e., the distinction between reasonable and limited assurance. These results do not support H4.

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Discussion

Interpretation

Our findings provide support for signaling theory, indicating that companies with a superior CSP are more likely to voluntarily employ a third party to provide assurance to differentiate themselves from other companies. Signaling theory explains these findings by suggesting that, although assurance on sustainability reports is a costly signal, SA is beneficial for companies with a good CSP, and in particular for the large companies that receive much public attention and monitoring. The marginal expected benefits of credibly signaling superior CSP, including an increase in stakeholders' confidence in the credibility of the CSP information disclosed and an improved reputation, are likely to outweigh the assurance costs. Additionally, the results also indicate that country-specific characteristics are important for understanding the variation in choices related to voluntary assurance on sustainability reports.

For companies that have their sustainability reports assured, the results indicate that CSP plays a significant role in explaining variation in the choice of the third-party assurance provider for the companies headquartered in shareholder-oriented countries. However, the results do not show a statistically significant relation between CSP and the type of assurance provider for the companies headquartered in stakeholder-oriented countries. Moreover, the descriptive statistics in Tables 1 and 3 indicate that the market for third-party assurance providers in stakeholder-oriented countries is much larger than that in shareholder-oriented countries, which is consistent with previous research that shows that Europe is a forerunner in the third-party assurance market (Mock *et al.*, 2007; Mock et al., 2013; Junior *et al.*, 2014). In addition, and consistent with results in previous studies (Kolk & Perego, 2010; Perego & Kolk, 2012), Models 1 and 2 of Panel A of Table 6 also show significant and positive associations between stakeholder orientation and the demand for an assurance provider from the accounting profession, indicating that for those companies that have their reports assured, companies in stakeholder-oriented countries are more likely to employ a professional accountant (auditor) to provide assurance than companies headquartered in shareholder-oriented countries.

An explanation why the results do not support H2 for the companies headquartered in stakeholder-oriented countries may be that compared to the companies in shareholder-oriented countries, in stakeholder-oriented countries companies with good and poor CSP are both more likely to have assurance providers from the accounting and auditing profession (Hodge *et al.,* 2009; Simnett *et al.,* 2009; Pflugrath *et al.,* 2011; KPMG, 2015). In shareholder-oriented countries, however, the few companies that employ third parties to provide assurance from among the top tier accounting firms are also mainly the companies that have a superior CSP (Perego & Kolk, 2012; Mahoney *et al.,* 2013; Casey & Grenier, 2015). Signaling theory explains these results by suggesting that in shareholder-oriented countries, accounting firms add more value as assurance provider than sustainability consultants for companies with superior sustainability performance. However, in stakeholder-oriented European countries it matters less whether the assurance provider comes from an accountancy or sustainability consultancy firm. The larger assurance market in Europe that includes multiple providers with good reputations (Mock *et al.,* 2007; Mock *et al.*, 2013) may be more competitive, which reduces assurance quality differences (O'Dwyer & Owen, 2005, 2007; Casey & Grenier, 2015).

These results also indicate that for companies headquartered in stakeholder-oriented countries, those with a superior CSP are more likely to choose a broader assurance scope than the companies with an inferior CSP. These results provide support for signaling theory. Signaling theory explains these results by suggesting that a broad assurance scope is difficult for inferior performers to mimic relative to a narrow scope. A broad assurance scope is also more expensive than a narrow scope, but signals more credibility and reliability of the CSP disclosures to investors and other stakeholders than a narrow scope. The results indicate that for managers of companies in stakeholder-oriented countries with a superior CSP the marginal expected benefits of signaling credible CSP information are likely to outweigh the marginal costs of signaling. For the companies headquartered in shareholder-oriented countries, however, the results do not show a statistically significant relation between CSP and the type of assurance scope. An explanation may be that in shareholder-oriented countries, on average, less than 20% of the largest publicly listed companies that have their sustainability reports assured have a broad assurance scope (Panel B in Table 1), indicating that both managers of companies with good and poor CSPs are not likely to pay for broad assurance on their sustainability reports.

Finally, the results do not show statistically significant relations between CSP and the level of assurance. A possible explanation for the lack of statistically significant associations between CSP and the level of assurance is the low number

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of firms that pay for reasonable assurance on their sustainability reports. Panels A and B of Table 1 show that, on average, less than 7% of the large publicly listed companies that have their reports assured use reasonable assurance. The findings indicate that regardless of companies' CSP, the management of companies probably does not expect to benefit from the costly reasonable assurance. An additional explanation may be that firms that provide independent assurance may prefer to provide limited assurance (O'Dwyer and Owen, 2005). They might be less willing to provide reasonable assurance due to a lack of hard, objective, and verifiable reporting standards that may increase their litigation risks.

For the companies that employ third parties to provide assurance, legitimacy theory provides additional explanations for the statistically significant associations between CSP and the choice of the assurance provider for the companies in shareholder-oriented countries, and CSP and the scope of assurance for the companies in the stakeholder-oriented countries. Legitimacy theory suggests that the managers of companies with a poor CSP that are subject to public pressures and legitimacy threats also expect to benefit from SA by selectively choosing limited assurance on specific sections of their sustainability reports. They self-servingly use third-party assurance as a tool to actively manage stakeholders' perceptions of the credibility of the CSP information disclosed, facilitate perceived legitimacy and enhance corporate reputation.

Limitations

Of course, the findings of this study must to be considered in the light of its limitations. These limitations include variety in sustainability reporting and assurance standards, the measurement of CSP, and a potential selection bias. Variety in reporting and assurance standards negatively affects the comparability of the quality of assurance on sustainability reports. A lack of widely accepted definitions for CSP negatively affects CSP measurement as well as the comparability of companies' CSP measurements and reporting (Hrasky, 2011; Hahn *et al.*, 2015). Moreover, in settings in which sustainability reporting and third-party assurance practices are mainly voluntary, companies may signal and emphasize their good CSP, whereas particularly companies with an inferior CSP can mask or do not show a poor CSP (Boiral, 2013; Reimsbach & Hahn, 2015). This raises the issue of a self-selection bias because CSP information is available only to the extent that companies voluntarily report this information. Another limitation, which is also related to data availability, is that the sample firms included in this study were large, publicly listed companies that have resources available to invest in sustainability reporting and third-party assurance. However, smaller companies that publish sustainability reports, with or without third-party assurance, and companies in less developed market economies were not considered. Future research could include an even broader firm sample to increase insight into the external validity of the findings. Further research could also benefit from a future mandatory regulation of sustainability reporting and third-party assurance resulting in improved data reliability, comparability, and verifiability.

Conclusion

This study explored the relation between CSP and the variation in choices related to voluntary third-party assurance on sustainability reports for companies in stakeholder- and shareholder-oriented countries in Europe and North America. For this reason, a distinction was made between companies that issue sustainability reports with and without third-party assurance and for those whose sustainability reports are assured, in the choice of the assurance provider, the scope of assurance and the level of assurance. The results show that companies with better CSP are more likely to employ an independent third party to provide assurance on their sustainability reports than companies with inferior sustainability performance, after having controlled for the other factors specified in the model. Additionally, the results also indicate that country-specific characteristics are important for understanding the variation in choices related to voluntary assurance on sustainability reports. For the companies that employ third parties to provide assurance, we also find that, among the companies headquartered in the more shareholder-oriented countries, CSP plays a significant role in explaining variation in the choice of the assurance provider, while predominantly in the more stakeholder-oriented countries, companies with a good CSP are more likely to choose a broader assurance scope than companies with a poor CSP. Signalling theory explains these findings by suggesting that, in settings in which SA is voluntary, the expected benefits of SA practices will more likely outweigh the assurance costs for

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superior performing companies than for those with poorer CSP. In addition, companies with superior performance are more likely to make SA-related choices that are hard to replicate by companies with inferior CSP. At the same time, legitimacy theory explains that the companies with poor CSP that are subject to public pressures and legitimacy threats may also benefit from SA by choosing for limited assurance on specific sections of their sustainability reports to signal the credibility of their CSP released.

Overall, the findings have important implications for corporate practice, most importantly, the management of CSR reporting firms, as well as for standard-setters and regulators. The results imply that, conditional upon the stakeholder orientation, managers of companies with a superior CSP may voluntarily employ third-parties to provide assurance to signal that the CSP information is fairly presented and free of material misstatements. SA signals the credibility of their CSP disclosures and enhances confidence in accuracy and reliability of the information disclosed. However, due to managerial capture managers of companies with an inferior CSP may also utilize SA as a risk management tool to proactively manage stakeholders' perceptions of the credibility of the CSP information revealed and deflect attention from bad sustainability performance. The findings therefore suggest a need to complement voluntary third-party assurance with mandatory requirements for sustainability reporting and assurance practices comparable with mandatory financial reporting systems.[7] A stricter reporting and assurance regime may urge companies, and in particular the companies with an inferior CSP, to provide more complete and balanced information about their CSP, and increase comparability of companies' performance information in their sustainability reports at the national and international levels. In addition, a stricter application of assurance by independent third parties may reduce managers' opportunistic use of third-party assurance as a tool for reducing legitimacy risks, thus enhancing overall confidence in the credibility of sustainability reporting and assurance practices. This will also help make companies more accountable for their CSP.

Finally, this study explored the role of CSP in explaining the variation in choices related to SA in an international setting. However, the process of third-party assurance may also positively affect corporate accountability on sustainability, while a higher quality of corporate disclosures on CSP may drive the development of sustainable business practices and the creation of sustainable values. Overall, more research is needed on both the drivers and consequences of third-party assurance to advance our understanding of conditions that facilitate or inhibit stakeholder confidence in corporate sustainability disclosures in general and in the credibility of reported CSP information in particular.

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[7]'Globally applied assurance standards for sustainability disclosures have started to be developed in the last years, but these still vary in approach and are not widely used in all regions. One should also consider that only in a few countries and for a few sectors, sustainability reporting and assurance are either required or common practice' (https://www.globalreporting.org/resourcelibrary/GRI-Assurance.pdf). F.i., SA has become mandatory for companies listed at the Johannesburg stock exchange in South Africa, 'albeit on an apply or explain basis' (Ackers & Eccles, 2015: 516).

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