Voluntary compliance with sustainability reporting guidelines: a legitimising tool to enhance credibility?

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Abstract:

The study explored the effect of corporate social responsibility performance (CSRP), listing status and stakeholder-orientation in relation to voluntary compliance with sustainability reporting guidelines (SRG) and subsequently external assurance. Compliance and assurance should increase stakeholders' confidence in credibility of the sustainability information provided. Probit analysis was used to test a sample of 1472 firms from 35 European countries that disclosed sustainability reports in 2016. In comparison to companies with superior CSRP, firms with inferior CSRP have a significant higher chance to comply with SRG to cover and manage bad CSRP. However, firms with inferior CSRP are not likely to assure their sustainability reports. Third-party assurance contains the risk of exposing inferior CSRP. The analysis supports that listing status has no significant influence on compliance with SRG and external assurance. Compliance with SRG is not mandatory and this implies that public firms are not required to adopt more extensive sustainability disclosure requirements than private firms. This study also indicates that firms located in stakeholder-orientated countries are more likely to comply with SRG than firms located in shareholder-oriented countries as part of strategically managing stakeholder relationships. This thesis discusses these findings and their implications.

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1. Introduction

There is an increasing awareness of the role that firms play in climate change and their involvement with various environmental and social scandals (Amran & Ooi, 2014). Therefore, investors and other stakeholders increasingly push firms to be more responsible and accountable for impacts their corporate decisions and activities have on environment and society (Braam & Peeters, 2017). To reduce information asymmetry and to create transparency towards stakeholders, firms disclose sustainability reports. However, the reliability of these reports is questionable. Firms try to protect their social legitimacy by disclosing misleading sustainability information as disclosure is still voluntary (Luo & Tang, 2014). Driven by the desire to improve credibility of reports, firms comply with sustainability reporting guidelines (SRG). This should increase stakeholders' confidence in credibility of the sustainability information provided, as reporting guidelines are standardized and compliance substantiates the corporate social responsibility performance (CSRP) claims (Moratis & Widjaja, 2014). Compliance with SRG also enhances corporate reputation and enhances confidence in accuracy and reliability of information disclosed (Simnett, Vanstraelen, & Chua, 2009). However, due to absence of mandatory regulations for compliance and sustainability reporting, firms voluntarily decide whether or not to comply with SRG. As a result, there is lack of consensus on how compliance with SRG should be undertaken (Farooq & de Villiers, 2017). Moreover, the level of compliance with SRG varies considerably, because firms have different incentives to comply with SRG.

Firms with superior CSRP voluntarily comply with SRG to signal that sustainability information is fairly presented in their reports. Voluntary compliance with SRG may also be beneficial for companies with inferior CSRP that are subject to public pressures and legitimacy threats. Firms strategically use their control and discretion to not only define what CSRP information to disclose, but also whether to comply with SRG. Compliance is then used as a tool to proactively manage investors' and other stakeholders' perceptions of the credibility of information revealed in the sustainability report (Braam & Peeters, 2017). In this respect, CSRP is a business approach that considers how firm activities have a relative impact on society. Influencing perception becomes a key issue in the process of CSR assessment, since return on CSRP investments (e.g., reduction of capital costs and customer loyalty) is linked to public recognition of firm social responsible behaviour (Laan van der - Smith, Adhikari, & Tondkar, 2005). Stakeholder orientation mitigates irresponsible sustainability behaviour of firms, because environmental and social scandals in stakeholder-oriented countries are extra harmful for perceived CSRP, as stakeholders pay more attention and have more influence in comparison to stakeholders in shareholder-oriented countries (Costa & Menichini, 2013). Firms in stakeholder-oriented countries are more likely to comply with SRG, as part of strategically managing stakeholder relationships. Firms in shareholder-oriented countries prefer maximizing shareholder value, instead of focusing on social and environmental impact. CSRP is seen as diverting firm resources away from what belongs to shareholders. Hence, compliance with SRG is more likely to occur in stakeholder-oriented countries. This effect is reinforced by listing status, because it is easier for managers to engage in sustainability

issues with other people's money as managers are less risk averse in comparison to owners (Goergen, Chahine, Wood, & Brewster, 2017). Listing status indicates if a firm is either publicly traded on the stock market or privately held if shares are not traded on exchanges. Listed firms are not required to adopt more extensive sustainability disclosure requirements than non-listed firms, but they receive more attention from the general public and are subject to more extensive media coverage (Branco, Delgado, Gomes, & Eugénio, 2014). Performance of listed firms is continuously monitored and evaluated by multiple stakeholders, such as investors, financial analysts and media (Mishra & Suar, 2010). Private firms have no external shareholders and there is reliance on internal financing. Listing status creates different agency problems, and as a consequence public and private firms have different incentives to comply with SRG (Perrini, Russo, Tencati, & Vurro, 2011).

Sustainability is about actions to create environmental or social good. This value creation could be internal or external to the firm. External indicates the extent to which the firm engages in socially responsible behaviour towards society, and internally towards above all, employees (Goergen et al., 2017). Although both dimensions of sustainability are important, it could be argued that it is harder to measure the outcomes of broad community orientated initiatives than internal actions. External sustainability is overlooked in literature, as most studies focus on internal factors like corporate governance and employee well-being (i.e., Gamerschlag, Möller, & Verbeeten, 2011; Hickman, 2018). Hence, this thesis examines not only the internal dimension CSRP, but also the external factors listing status and stakeholder-orientation in relation to compliance with SRG.

Some firms have their sustainability reports independently assured. This study subsequently examines third-party assurance to understand this emerging market and, in particular, the role of assurance in reinforcing corporate credibility that results from compliance with SRG. Assurance could induce firms to improve their risk management and accounting information systems to produce and disclose more reliable and accurate sustainability information, and strengthen firms' commitment to sustainability (Braam & Peeters, 2017). A high level of compliance with SRG indicates superior CSRP of firms, but only external assurance can prove this, as compliance with SRG is voluntary and therefore ambiguous.

This study aims to contribute to the understanding of variation in compliance with SRG by exploring the effects of CSRP, listing status and stakeholder orientation. It is examined to what extent CSRP and listing status affect compliance with SRG in the European setting. Companies that disclose sustainability reports are analysed, because only these firms have to decide whether to comply with SRG. Furthermore, this thesis analyses the choice of firms to assure the sustainability reports, under the assumption that voluntary external assurance reinforces the credibility of compliance with SRG. A sample of public and private firms in 2016 is used, which comprises 1472 observations with CSRP and 540 observations without CSRP. The European countries involved are distinguished in shareholder- and stakeholder-oriented countries, consistent with prior literature (Simnett et al., 2009). The results obtained indicate that inferior CSRP leads to more compliance with SRG but external assurance does not show significant results. This implies that inferior sustainability performers want to mask bad performance, but

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assurance might expose worse performance. Furthermore, firms in stakeholder-oriented countries have a significantly higher chance to comply with SRG than firms in shareholder-oriented countries. Moreover, listing status individually has no significant effect on compliance with SRG, but listing status in interactions with CSRP and stakeholder-orientation significantly changes the effect on compliance with SRG. These findings support the expectation that these firm- and country specific characteristics are important variables for explaining variation in voluntarily compliance with SRG.

This study contributes to literature in the following manners. Firstly, literature focused on factors influencing disclosure quality of sustainability reports (e.g., Rezaee & Tuo, 2017). The reported results are inconclusive. Different determinants and effects exist in relation to sustainability reporting quality. For example, profitability was found to be significantly and negatively related to voluntary disclosure quality by Monday & Nancy (2016), while Ong (2016) found significantly positive correlations between sustainability disclosure quality and profitability. Rather than examining the quality of sustainability reports, this thesis focuses on how firms can be held accountable for their actual sustainability performance by examining compliance with SRG. Compliance enables firms to report sustainability information in a way that is similar to financial reporting (Vazakidis, Stavropoulos, & Galani, 2013). This study examines the effectiveness of sustainability standards, because compliance entails a greater accountability in comparison to reporting quality (Gilbert & Rasche, 2008).

Secondly, sustainability research focused primarily on public firms and on the challenge of aligning insider performance goals with those of outside investors (Hahn & Kühnen, 2013; Schulze, Lubatkin & Dino, 2003). However, according to Burgstahler et al. (2006), it is important to obtain a holistic view, by making a distinction between public and private firms, because both types of firms face differing agency problems. Private firms are overlooked in literature, but show deviations in sustainability reporting, due to different levels of information asymmetry (Hickman, 2018). The underlying reason to comply with SRG might also differ. This thesis includes a diverse sample including both private and public firms to gather insight into sustainability issues and to increase external validity, as suggested by Braam & Peeters (2017).

Thirdly, literature shows that country specific characteristics are important for understanding the variation in choices related to sustainability assurance (Braam & Peeters, 2017; Dhaliwal, Li, Tsang, & Yang, 2014; Simnett et al., 2009). The study reported here complements literature by testing whether these country specific factors (i.e. stakeholder oriented vs. shareholder oriented) also relate to compliance with SRG. Previous literature on sustainability issues reports only about US firms (e.g., Hickman, 2018) or a single country (e.g. Saudi-Arabia, Omair Alotaibi & Hussainey, 2016). This study adds empirical evidence about contrasting institutional contexts, like Eastern Europe and Scandinavia, by examining public and private firms in 35 European countries.

The remainder of this thesis is structured as follows: chapter two overviews current literature and presents hypotheses. Chapter three describes the research method chosen and results are reported in chapter four. Finally, chapter five comprises the discussion and chapter six summarizes the conclusions.

2. Theoretical Background and Development of Hypotheses

The firms in this study comply voluntarily with SRG for a variety of reasons, including informing stakeholders, showing superior performance or hiding inferior performance to society and reducing information asymmetry between firm and market. The effectiveness of achieving these goals relies on the credibility of information provided (Simnett et al., 2009).

Compliance with SRG may just be a legitimation device and firms may decouple their practices from what they pretend in their sustainability reports (Goergen et al., 2017). Signaling theory and legitimacy theory both explain why firms voluntarily comply with SRG, as compliance is a costly process. However, both theories provide competing arguments why contrasting levels of CSRP lead to different incentives to comply with SRG. Signaling theory suggests that firms will comply to show their superior performance, whereas legitimacy theory points toward hiding inferior performance (Hummel & Schlick, 2016).

According to signaling theory, firms voluntary disclose information in order to signal their favourable results to society (Hassanein & Hussainey, 2015). In turn, this disclosure enhances their image in the market (Sun, Salama, Hussainey, & Habbash, 2010) and increases the financial value of the firm involved (Zijl van, Wostmann, & Maroun, 2017). Firms also provide additional information to signal to outsiders that they pursue good performance and to reduce information asymmetry. Voluntary compliance with SRG is a way of signaling to investors and other stakeholders that the company is actively taking part in CSRP and it helps to establish a good reputation for reliability and credibility in capital markets (Omair Alotaibi & Hussainey, 2016).

An alternative theory is legitimacy theory. This theory proposes that voluntary sustainability disclosure aims to legitimise the behaviour of the firm through information provision (Omair Alotaibi & Hussainey, 2016). This provision intends to affect stakeholders' and society's perception about the firms involved (Hooghiemstra, 2000; Omair Alotaibi & Hussainey, 2016). Legitimacy theory argues that firms benefit from exhibiting behaviour that conforms to the accepted norms within their socio-economic environments (DiMaggio & Powell, 1983). As a result, firms with inferior CSRP may also comply with SRG to mask bad performance and pretend to have good CSRP.

Compliance with SRG enhances reputation and attracts more stakeholders, such as capital investors. Hughes, Sander, & Reier (2000) reported that good performers disclose extra information to show their excellent financial performance, but no differences were found in voluntary sustainability disclosures if firms had excellent sustainability performance. Expanding this argument, this observation suggests that signaling theory does not explain why firms voluntary comply with SRG. This is supported by Cho & Patten (2007), who conclude that firms disclose additional information to signal good financial performance, while firms disclose sustainability reports to hide inferior sustainability performance.

When firms have nothing to hide they have little concern about their sustainability image and there will be less voluntary disclosures (Deegan, Rankin, & Tobin, 2002). The need to comply with SRG will be low for firms with superior CSRP, because compliance is very costly and benefits do not always

outweigh costs. Firms with inferior CSRP may be exposed to more social and political pressures and they may feel urged to disclose sustainability reports. Firms with inferior sustainability performance provide more disclosures in an attempt to address the increased threats to their legitimacy (Cho & Patten, 2007). Firms with inferior sustainability performance are expected to have more compliance with SRG to enhance the credibility of sustainability reports. By means of compliance with SRG, inferior performers try to influence public perceptions and expectations regarding their sustainability performance (Hummel & Schlick, 2016). Hence, compliance with SRG is used as a legitimation tactic as it may deflect attention of the poor sustainability performance. Based on legitimacy theory, this study posits a negative association between a firm's CSRP and compliance with SRG. The hypothesis is as follows:

H$_{1:}$ Firms with inferior CSRP are more likely to comply with SRG than firms with superior CSRP.

Agency theory explains why public and private firms differentiate in compliance with SRG. Shareholders of privately held, non-listed firms face differing demands for information in comparison to shareholders of publicly traded, listed firms. Arm's length shareholders of public firms do not have private access to corporate information and rely heavily on public information (Burgstahler et al., 2006). Agency issues are most likely to arise in listed firms, given the separation of ownership from operational control (Goergen et al., 2017; Jensen & Meckling, 1976). Agency theory underlines the problem of moral hazard and adverse selection that stems from information asymmetry in public firms (Morris, 1987). As a result, available information in public firms may not reach all levels, a phenomenon called hidden information (Omair Alotaibi & Hussainey, 2016). Compliance with SRG should increase transparency, because it shows how sustainable a firm is. This improved transparency reduces agency costs, as better information flows from firm to shareholders, which in turn decreases information asymmetry and shareholders' uncertainty (Hope, Thomas, & Vyas, 2013). The close relations in private firms reduce the need to comply with SRG, because sustainability information is supplied through internal channels and capital providers have insider access to information (Chen, Hope, Li, & Wang, 2011). This is supported by Hickman (2018), who demonstrated that public firms follow the Global Reporting Initiative guidelines at a higher rate than private firms.

Investors may exercise greater pressure on listed companies and push them to comply voluntarily with SRG. External financing in public firms creates a demand for information that is useful in evaluating and monitoring a firm. Compliance represents a formal obligation and is a voluntary statement that firms commit to specific beliefs, values, and actions, and it shows appropriate ethical behaviour (Goergen et al., 2017). In order to attract and retain investors, listed firms will have more incentives to comply with SRG to present their sustainable condition, policies and strategies, in comparison to non-listed firms.

Moreover, public firms have more media attention than private firms. Hahn & Kühnen (2013) show that firm visibility is positively related to sustainability disclosure. Public firms are vulnerable to political actions, because they attract more attention from stakeholders than private firms (Gamerschlag et al.,

2011). Consequently, public firms are more affected by social constraints and pressures than private firms because these are less visible to the public. Public firms potentially have higher political and/or societal costs, because of their exposed position in the media (Gamerschlag et al., 2011). Highly visible firms are assumed to comply more with SRG to reduce potential political costs than less visible firms. This thesis assumes that public firms will comply more with SRG to show to the general public that they have superior sustainability performance.

The expectation is that listed firms will have more compliance with SRG than non-listed firms. This is reflected in the following hypothesis:

H$_{2:}$ Listed firms are more likely to comply with SRG than non-listed firms.

Institutional environment, legal enforcement and culture of a nation, and specifically whether a country is stakeholder- or shareholder-oriented, influences a firms' choices related to sustainability issues (Braam & Peeters, 2017; Dhaliwal et al., 2014; La Porta, 2000; Laan van der - Smith et al., 2005; Simnett et al., 2009). Two opposing theories exist regarding stakeholder-orientation.

Shareholder theory assumes profit maximization as the primary goal of firms and CSRP is only limited compatible with this objective (Punit & Ravi, 2011). According to shareholder theory, firms should only engage in activities and use resources that increase profits. The theory only takes into account shareholders, because they are the owners of the firm. Being socially responsible is accomplished through profit maximization and social welfare is maximized when all firms in an economy have maximum total firm value (Laguir, Staglianò, & Elbaz, 2015). CSRP is difficult to reconcile with the classic principle of profit maximization as main objective for companies (García-de-madariaga & Rodríguez-de-rivera-cremades, 2010). However, opponents of this theory argue that in these times of globalization and network economies it is no longer sufficient to only represent the interests of the shareholders. This argument is supported by stakeholder theory.

Based on stakeholder theory, stakeholders such as customers, suppliers and employees in stakeholder-oriented countries have a legitimate interest in corporate activities. Therefore, they have a significant influence on companies' business operations in comparison to stakeholders in shareholder-oriented countries (Braam & Peeters, 2017; Freeman, 1984). These stakeholders have less legitimacy than shareholders and therefore have less influence on corporate activities (Simnett et al., 2009). In stakeholder-oriented countries, firms are more likely to be managed in the interests of all stakeholders who can affect and/or are affected by the achievement of an organization's objectives (Alshammari, 2015; Freeman, 1984).

In shareholder-oriented countries firms act in the interest of shareholders with a focus on creating shareholder value (Laplume, Sonpar, & Litz, 2008), while in stakeholder-oriented countries there is an emphasis on sustainable value creation and a greater need to increase confidence of stakeholders by enhancing the credibility of sustainability reports (Braam & Peeters, 2017; Laan van der - Smith et al., 2005). In stakeholder-oriented countries, shareholders are seen as just one among a number of

stakeholders and owner rights are mediated by those of other stakeholders, in turn making for a systemically embedded impact on what the firm does (Goergen et al., 2017). Within stakeholder-oriented countries, investors tend to be patient and they are more likely to value the potential long-term benefits for a firm accruing from being socially responsible, even if it is costly (Goergen et al., 2017). Hence, investors in stakeholder-orientated countries are more likely to encourage firms to comply with SRG. As a result, firms in stakeholder-oriented countries will have more incentives to comply with SRG than firms in shareholder-oriented countries. For this reason, the expectation is that a country's stakeholder orientation influences compliance with SRG, i.e., SRG compliance will be more effective in stakeholder-oriented countries than in shareholder-oriented countries. This leads to the following hypothesis:

H_3: Firms in stakeholder-oriented countries are more likely to comply with SRG than firms in shareholder-oriented countries.

The hypotheses discussed above expect variation in compliance with SRG for a single explanatory variable. However, CSRP, listing status and stakeholder-orientation are also expected to have interactions in relation to compliance with SRG. First, firms with superior and inferior CSRP cannot neglect the importance of awareness of a firm's sustainability commitment, since return on CSRP investments is strictly linked to acknowledgement of a firm's social responsible behaviour (Costa & Menichini, 2013). Compliance with SRG represents a significant cost for a firm and the main incentive for standards adoption is public recognition of a firm's superior CSRP by all stakeholders (Khanna, 2008). Compliance with SRG alone cannot grant recognition of CSRP, but stakeholder orientation offers additional insight in understanding CSRP by recognizing the influence of stakeholder perception in sustainability issues (Costa & Menichini, 2013). Second, listed firms get more media attention and are more in the public eye (see hypothesis H_2 for explanations). Therefore they get more pressure from stakeholders to act in a responsible manner in comparison to non-listed firms (Gamerschlag et al., 2011), especially in stakeholder-oriented countries. Third, superior CSRP is associated with lower capital constraints. Sustainable firms are more transparent and have closer ties to stakeholders (Goergen et al., 2017). This makes it very attractive to investors, so public firms are expected to have more compliance with SRG than private firms if the CSRP is high and the firm is headquartered in a stakeholder-oriented country.

This is reflected in the following hypothesis:

H_4: CSRP, listing status and stakeholder-orientation are expected to have interactions in relation to the likelihood that firms will comply with SRG.

3. Research Method

3.1 Sample

A dataset of 1687 public and private firms is used to test the hypotheses. All firms disclosed a sustainability report in 2016, but with differing levels of compliance with SRG and reports are not always assured by an external party. Data on dependent and independent variables (except for CSRP) were retrieved from the Sustainability Disclosure Database from the Global Reporting Initiative (GRI) (http://database.globalreporting.org). Data on CSRP was retrieved from Thomson Reuters ASSET4, and subsequently incorporated in Eikon. The ASSET4 database is specialized in providing objective, verifiable and comparable sustainability data with global coverage. Data on control variables were retrieved from Orbis. This database contains financial and non-financial data for both private and public firms. These three databases are combined in order to get sufficient data regarding all variables.

The sample contains cross-section data for the year 2016. Report registration is an on-going process and GRI is still collecting reports published in 2017. As a result, analysis of data obtained from 2017 would be incomplete and biased. Moreover, in 2016 there was no legislation on voluntary disclosure of sustainability reports in Europe. The new EU directive on disclosure of non-financial and diversity information (2014/95/EU) requires large public interest entities to disclose relevant CSR information in their management report starting from the financial year 2017 (The European Parliament and the Council of the European Union, 2014). This new legislation would influence the results, if this time frame were included in the sample chosen for analysis in this thesis.

The sample consists of public and private firms established in 35 European countries. Europe remains a heterogeneous entity when it comes to economic conditions, business activities, and even cultural legacies (Gainet, 2010). Holding these factors constant enables to specifically test determinants that lead to different levels of compliance with SRG.

For inclusion in the sample, data on all variables had to be available, except for CSRP (see section 3.2.2). After omitting missing observations, the unbalanced sample includes data for 1472 firms with 540 observations on CSRP. Table 1 presents the sample selection in Panel A, company statistics for listing status, stakeholder orientation, assurance and industry-sensitivity in Panel B and company characteristics across country in Panel C. The table shows that firms in multiple countries and different industries comply with SRG, whether they are listed or non-listed and stakeholder-oriented or shareholder-oriented. Panel B indicates that firms included in the sample are mostly listed, public firms that operate in a sensitive industry. This indicates that firms with susceptible activities have more incentives to disclose a sustainability report in comparison with firms that have insensible operations. Panel C shows that firms in West-European countries disclose more sustainability reports than firms in East-European countries, probably due to higher levels of supervision by government and society. Moreover, firms in East-European countries operate more often in sensitive industries than firms in West-European countries. East-European countries are largely oriented towards production while West-

European countries are more knowledge-based. Most countries are stakeholder-oriented, because the origin of law that developed over time is similar for continental European countries.

Table 1

Summary statistics of sample companies

Panel A: Sample selection	
European Firms that complied with SRG in 2016	1687
Less: observations with insufficient data on total assets (see section 3.2.3)	-175
Less: observations with insufficient data on return on assets (see section 3.2.3)	-36
Less: observations with insufficient data on return on leverage (see section 3.2.3)	-4
Final sample model 1 (excluding CSRP)	*1472*
Less: observations with insufficient data on CSRP (see section 3.2.2)	-932
Final sample model 2 (including CSRP)	*540*

Panel B: Company statistics

	Total N	Subsample	N	%	Subsample	N	%
Stakeholder orientation	1472	Stakeholder-oriented	1264	86%	Shareholder-oriented	208	14%
Listing status	1472	Listed	1028	70%	Non-listed	444	30%
Assurance	1472	Assurance: yes	401	27%	Assurance: no	1071	73%
Industry sensitivity	1472	Sensitive industry	809	55%	Non-sensitive industry	663	45%

Panel C: Company characteristics across country

Country	Observations		Stakeholder orientation[1]	Listed	% of firms that are publicly-traded	Assurance	% of firms that have their sustainability reports assured	Sensitive industry[2]	% of firms operating in sensitive industries
	N	%		N	%	N	%	N	%
Austria	41	2,79%	Stakeholder	27	66%	19	46%	25	61%
Belarus	1	0,07%	Stakeholder	0	0%	0	0%	1	100%
Belgium	37	2,51%	Stakeholder	19	51%	7	19%	23	62%
Bulgaria	1	0,07%	Stakeholder	0	0%	0	0%	1	100%
Croatia	13	0,88%	Stakeholder	5	38%	0	0%	10	77%
Czech Republic	13	0,88%	Stakeholder	6	46%	0	0%	10	77%
Denmark	54	3,67%	Stakeholder	44	81%	3	6%	24	44%
Estonia	4	0,27%	Stakeholder	3	75%	1	25%	2	50%
Finland	96	6,52%	Stakeholder	52	54%	29	30%	49	51%
France	176	11,96%	Stakeholder	165	94%	25	14%	88	50%
Germany	136	9,24%	Stakeholder	85	63%	44	32%	78	57%
Greece	37	2,51%	Stakeholder	24	65%	16	43%	20	54%
Hungary	4	0,27%	Stakeholder	1	25%	0	0%	0	0%
Iceland	2	0,14%	Stakeholder	2	100%	0	0%	1	50%
Ireland	6	0,41%	Shareholder	4	67%	2	33%	5	83%
Italy	81	5,50%	Stakeholder	51	63%	43	53%	56	69%
Jersey	1	0,07%	Stakeholder	1	100%	0	0%	1	100%
Latvia	2	0,14%	Stakeholder	2	100%	0	0%	2	100%
Lithuania	2	0,14%	Stakeholder	2	100%	0	0%	1	50%
Luxembourg	12	0,82%	Stakeholder	9	75%	2	17%	8	67%
Malta	1	0,07%	Shareholder	1	100%	1	100%	1	100%
Netherlands	83	5,64%	Stakeholder	46	55%	41	49%	42	51%
Norway	68	4,62%	Stakeholder	34	50%	9	13%	34	50%
Poland	26	1,77%	Stakeholder	12	46%	10	38%	17	65%
Portugal	26	1,77%	Stakeholder	16	62%	11	42%	12	46%
Romania	3	0,20%	Stakeholder	1	33%	0	0%	2	67%
Russian Federation	27	1,83%	Stakeholder	20	74%	5	19%	25	93%
Serbia	1	0,07%	Stakeholder	0	0%	1	100%	0	0%
Slovak Republic	2	0,14%	Stakeholder	0	0%	1	50%	1	50%
Slovenia	8	0,54%	Stakeholder	6	75%	0	0%	4	50%
Spain	104	7,07%	Stakeholder	64	62%	55	53%	58	56%
Sweden	113	7,68%	Stakeholder	89	79%	23	20%	50	44%
Switzerland	86	5,84%	Stakeholder	67	78%	16	19%	54	63%
Ukraine	4	0,27%	Stakeholder	2	50%	0	0%	4	100%
United Kingdom	201	13,65%	Shareholder	168	84%	37	18%	100	50%
Total	1472	100%		1028		401		809	

1 The UK, Ireland and Malta are classified as shareholder-oriented countries; the other European countries are classified as stakeholder-oriented countries. This distinction is based on the origin of law of the country involved (see section 3.2.2.).

2 To control for sector-specific effects, this thesis distinguishes between firms that were or were not classified as environmentally or socially sensitive industries, in line with Simnett et al. (2009).

3.2 Variables

3.2.1 Dependent Variable

Compliance with SRG is the dependent variable. Consistent with Rezaee & Tuo (2017), a dummy variable is created to measure the compliance level with GRI standards of the firms included in the sample. GRI provides metrics and methods for measuring compliance with SRG and evaluates whether the sustainability reports follow the GRI guidelines, which is the most commonly used reporting standard globally. GRI classifies the sustainability reports according to three categories (Global Reporting Initiatives, 2018) and this thesis follows this classification. The first compliance category is GRI reports, which are sustainability/integrated reports based on the GRI Standards or previously existing Sustainability Reporting Frameworks for which there is a GRI Content Index available. Sustainability reports from this type have a high level of compliance and are labelled number 3. The second compliance category is citing-GRI, which indicates sustainability/integrated reports that make explicit reference to being based on GRI guidelines, but for which there is no GRI Content Index. Reports in this category have lower levels of compliance than GRI reports. Sustainability reports in this category are labelled number 2. The last category involves sustainability reports that do not satisfy the requirements of the GRI-standards report type (i.e., no compliance with SRG). These reports are referred to as non-GRI and are labelled number 1.

As an additional analysis, it is evaluated whether sustainability reports that are GRI reports or citing-GRI were accompanied by an assurance report provided by external assurance providers. External assurance should enhance the credibility of compliance with SRG and sustainability information provided (Braam & Peeters, 2017; Reimsbach, Hahn, & Gürtürk, 2018). To measure assurance, a dummy is created, which takes a value of 1 if firms do obtain external assurance on their CSR reports and a value of 0 if they did not.

3.2.2 Independent Variables

First, to assess a firms' level of CSRP, 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 is used. This is in line with Braam & Peeters (2017). Following previous studies (Braam & Peeters, 2017; Hummel & Schlick, 2016), the ASSET4 environmental and social scores are used to construct a composite CSRP score for each firm. Environmental performance measures the resource & emission reduction and product innovation. Social performance measures employment quality, health & safety, training & development and human rights. For each sample firm, the CSRP score is the sum of the performance scores for environmental and social dimension divided by two, thus assigning equal importance to each pillar (Waddock & Graves, 1997), leading to a continuous scale. The lowest indicator value possible is 0; the highest value possible is 100. A higher CSRP score indicates a better corporate sustainability performance, and suggests that a company is more likely to accept greater responsibility for sustainable development. The scores are relative measures of performance that are calculated by equally weighing and z-scoring all underlying indicators. Data on CSRP is only available for 540

observations, mostly listed firms, because data on non-listed firms is often non-existent. To overcome biases and to include private firms, the regression model tests the relationships with and without CSRP to include more observations in the model.

Second, in line with Burgstahler et al. (2006), a dummy variable is created to measure listing status. The value of this variable is 1 if the corresponding firm is listed and thus a public firm. The value equals 0 if the firm involved is a non-listed, private firm. Listing status classifies whether firms are listed on a (public trading) stock exchange (Global Reporting Initiatives, 2018). Private firms have their stock not offered on stock market exchanges.

Third, in line with Simnett et al. (2009) a dummy variable for civil law and common law is used as a proxy for stakeholder orientation. Consistent with La Porta (2000), firms domiciled in civil law countries are considered to have a more shareholder-orientated model and those in common law countries to have a more stakeholder-orientated model. Stakeholder orientation is coded as 1 if a firm is headquartered in a shareholder-oriented country, and 0 if a firm is headquartered in a stakeholder-oriented country. Panel B of Table 1 reports the orientation per country.

3.2.3 Control Variables

Consistent with prior investigations (Dam & Scholtens, 2013; Hickman, 2018), this thesis includes variables to control for industry, ownership concentration, financial performance, leverage and size.

Industry is a dummy variable that divides industries in two categories: sensitive industries and non-sensitive industries. Consistent with Simnett et al. (2009), this thesis considers firms operating in the mining, production, utilities, and finance industries to have more exposure to environmental and social risks. Firms in these industries have high incentives to increase user confidence in the credibility of their reported operations (Simnett et al., 2009). Industry is coded 0 if the firm is in a sensitive industry, and 1 otherwise.

Dispersed shareholders must rely upon voluntary disclosures for information concerning the firm's social responsibility performance. The expectation is that firms with dispersed ownership have stronger incentives to comply with SRG, as this enhances the credibility of the disclosed sustainability reports (Oliveira, Lima Rodrigues, & Craig, 2006). In line with financial accounting literature (Claessens & Tzioumis, 2006), ownership concentration is divided in three categories. A firm falls in the first category if it has a shareholder with total or direct ownership of larger than 50%. The second category contains firms with at least one shareholder with total or direct ownership of more than 20%, but with no shareholder with total or direct ownership of over 50 per cent (significant influence). The last category comprises firms with no shareholder with total or direct ownership of over 20% (insignificant influence). Two dummy variables are created to measure ownership concentration appropriately. Own_Con1 is coded 1 if total or direct ownership does not exceed 20% and Own_Con2 is coded 1 if total or direct ownership is in between 20 - 50% and zero otherwise. Ownership over 50% is the reference category for this dummy variable, as most firms fall in this category (see Panel F of Table 3).

Return on assets (ROA) is expected to have a positive effect on compliance with SRG. An increase in financial performance means that a firm has more funds available for sustainability investments (Dam & Scholtens, 2013). ROA is measured by dividing net income by total assets.

Leverage shows the level of risk a company is willing to take (Barnea & Rubin, 2010). Leverage is expected to have a positive effect on compliance with SRG, because a higher leverage will mean more influence for the banks that demand compliance with SRG to have more and better sustainability disclosures (Dam & Scholtens, 2013). Leverage is measured as the firm's total non-current debt divided by the total equity.

Size, measured by the natural logarithm of total assets, is another relevant control variable, as small firms were shown to be less concerned with sustainability issues than larger ones (Waddock & Graves, 1997). Size is expected to have a positive effect on compliance with SRG, because larger companies have to deal with significant media attention that force companies to be sustainable (Hickman, 2018).

Table 2 summarizes the definitions of the dependent, independent and control variables employed in the analysis.

Table 2

Variable definitions

Variable	Abbreviation in the model	Definition	Data source
Compliance with SRG	CSRG	A dummy variable is created to measure the compliance level with GRI standards of the firms included in the sample. The first compliance category is GRI reports, which are sustainability/integrated reports based on the GRI Standards or previously existing Sustainability Reporting Frameworks for which there is a GRI Content Index available. Sustainability reports from this type have a high level of compliance and are labelled number 3. The second compliance category is citing-GRI, which indicates sustainability/integrated reports that make explicit reference to being based on GRI guidelines, but for which there is no GRI Content Index. Reports in this category have lower levels of compliance than GRI reports. Sustainability reports in this category are labelled number 2. The last category involves reports that do not satisfy the database requirements of the GRI-standards report type. These reports are referred to as non-GRI and are labelled number 1.	GRI Sustainability Disclosure Database (SDD), Rezaee & Tuo (2017)
Assurance	ASS	Assurance is a dummy variable that takes the value of 1 if firms do obtain external assurance on their CSR reports and a value of 0 if they do not.	GRI SDD, Braam & Peeters (2017)
CSRP	CSRP	A company's CSRP score is calculated as the sum of the environmental and social performance scores provided by Thomson Reuters ASSET4's ESG database divided by two. Higher ratios indicate a better sustainability performance.	Thomson Reuters ASSET4 ESG Database, Hummel & Schlick (2016)
Listing Status	List_Status	For List_Status, a dummy variable is created, which takes the value of 1 if the firm is listed, public firm and a value of 0 if the firm is a non-listed, private firm.	GRI SDD, Burgstahler et al. (2006)
Stakeholder orientation	Stake_Share	A dummy variable that is equal to 1 if a company is headquartered in a more shareholder-oriented country, and 0 if a company is headquartered in a more stakeholder-oriented country. The distinction between stakeholder or shareholder orientation is based on the origin of law. The UK, Ireland and Malta are classified as more shareholder-oriented countries; all other European countries are classified as more stakeholder-oriented countries.	GRI SDD, Simnett et al. (2009), Braam & Peeters (2017), (La Porta, 2000)
Industry sensitivity	Industry	Industry is a dummy variable that is equal to 0 if companies are classified as environmentally or socially sensitive industries, and 1 otherwise.	GRI SDD, Simnett et al. (2009), Braam & Peeters (2017)
Ownership concentration	Own_Con1 Own_Con2	Two dummy variables are created to measure ownership concentration appropriately. Own_Con1 is coded 1 if the total or direct ownership does not exceed 20% and Own_Con2 is coded 1 if the total or direct ownership is in between 20% - 50%. Ownership over 50% is the reference category for this dummy variable, as most firms fall in this category (see Panel F of Table 3).	Orbis, Claessens & Tzioumis (2006)
ROA	ROA	ROA is measured by dividing net income by total assets.	Orbis, Dam & Scholtens (2013)
Leverage	Leverage	Leverage is measured as the firm's total non-current debt divided by the total equity.	Orbis, Dam & Scholtens (2013)
Total Assets	LN_TA	LN_TA is measured by the natural logarithm of total assets.	Orbis, Dam & Scholtens (2013)

3.3 Econometric Model

The method that is used to test the hypotheses is a probit regression, which models the likelihood of a firm complying with SRG while including characteristics that are hypothesized to influence the decision of whether or not to comply with SRG. The following regression model[3] will be used to examine the relationship between compliance with SRG and both the independent variables and control variables (in Stata 13):

Compliance with SRG (CSRG) =

$$\beta_0 + \beta_1 CSRP_i + \beta_2 List\_Status_i + \beta_3 Stake\_Share_i + \beta_4 List\_Status*Stake\_Share_i + \beta_5 List\_Status*CSRP_i + \beta_6 CSRP*Stake\_Share_i + \beta_7 List\_Status*CSRP*Stake\_Share_i + \beta_8 Industry_{control,\ i} + \beta_9 Own\_Con1\text{-}2_{control,\ i} + \beta_{10} ROA_{control,\ i} + \beta_{11} Leverage_{control,\ i} + \beta_{12} LN\_TA_{control,\ i} + \varepsilon_i$$

where the dependent variables reflect the choices related to compliance with SRG as described above. The independent variables and the control variables are the factors that explain variation in compliance with SRG. To address the fact that the independent variables may affect each other, this thesis also analyses the interaction effects between CSRP, listing status and stakeholder-orientation. For this reason, the models are estimated including both direct effects and their interactions. To compute the interaction terms, centered versions of CSRP were used and the main effects therefore can be interpreted as average effects (Braam & Peeters, 2017).

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[3] The model is tested on the one hand including the variables in blue and on the other hand excluding the variables in blue, due to data availability on CSRP. See section 3.2.2.

4. Results

4.1 Descriptive Statistics

Table 3 presents the summary statistics of the categorical variables included in the regression. Panel A shows that all firms included in the sample disclose a sustainability report, but the level of compliance with GRI standards varies from zero compliance to full compliance. Panel B indicates that most sustainability reports are not assured by an external party and Panel C presents that most firms in the sample are listed on the stock market. As discussed in section 3.1, the sample in general consists of firms operating in stakeholder-oriented countries (Panel D) and sensitive industries (Panel E). Ownership concentration is divided in three categories (see section 3.2.3), Panel F indicates that more than half of all sampled firms have a shareholder with interest of 50% or more in the firm.

Table 3

Summary statistics of categorical variables included in the regression model

Panel A:	N	%
Compliance with SRG, divided in three categories:	1472	
– 1 = the company publishes a sustainability report, but the report is not GRI referenced (i.e., no compliance with SRG)	508	34.51%
– 2 = the company publishes a sustainability report and the report is citing GRI standards	179	12.16%
– 3 = the company publishes a sustainability report that is in accordance with GRI standards	785	53.13%

Panel B:	N	%
Assurance on reports by external providers, divided in two categories:	1472	
– 0 = the report is not assured by a third party	1071	72.76%
– 1 = the report is assured by a third party	401	27.24%

Panel C:	N	%
Listing status, divided in two categories:	1472	
– 0 = the firm is a non-listed, private company	444	30.16%
– 1 = the firm is a listed, public company	1028	69.84%

Panel D:	N	%
Stakeholder orientation, divided in two categories:	1472	
– 0 = the firm is headquartered in a stakeholder-oriented country	1264	85.87%
– 1 = the firm is headquartered in a shareholder oriented country	208	14.13%

Panel E:	N	%
Industry sensitivity, divided in two categories:	1472	
– 0 = the firm is active in a sensitive industry	809	54.96%
– 1 = the firm is active in a non-sensitive industry	663	45.04%

Panel F:	N	%
Ownership concentration, divided in three categories:	1472	
– 1 = the largest shareholder participates in the firm between 0% and < 20%	311	21.13%
– 2 = the largest shareholder participates in the firm in between 20% and 50%	329	22.35%
– 3 = the largest shareholder participates in the firm for 50% or more	832	56.52%

Table 4 reports summary statistics for the dependent, independent and control variables employed in the analysis. It shows that public and private firms do not have major differences in the mean and standard deviation for the dependent variable compliance with SRG. For assurance, listed firms have a higher mean and thus more assurance in comparison to non-listed firms. Moreover, the average of CSRP for listed firms is 12.0271 higher than the mean for non-listed firms, indicating that listed firms have a higher level of compliance with SRG. Only 18 privately held, non-listed firms have data available on CSRP. To include all 444 private firms in the analyses, the regressions are run with and without the variable CSRP. The mean of listing status is 0.6984, indicating that most firms in the sample are listed. This is supported in the subsample, 1028 out of 1472 firms in the sample are listed firms. Most firms are stakeholder-oriented, as the mean of stakeholder-orientation is close to 0. This is in line with Panel D of table 3. Industry sensitivity indicates that of all sample firms, most firms operate in a sensitive industry, because the mean of this variable is 0.4505. The table indicates that listed and non-listed firms both operate in sensitive industries, because the mean between these groups is very similar. Non-listed firms show a higher mean of ownership concentration in comparison to listed firms, 2.7027 respectively 2.2033. This implies that private firms have more often a shareholder that participates in the firm for 50% or more. Moreover, non-listed firms have a higher mean for the variables ROA and leverage. This indicates that private firms have higher financial performance and are more bank-financed in comparison to public firms. Listed firms show a higher mean on total assets in comparison to non-listed firms. The implication is that public firms are bigger in size in comparison to private firms.

Table 4

Summary statistics

| | Total sample | | | Subsamples | | | | | |
| | | | | Listed firms | | | Non-listed firms | | |
Variable	N	Mean	Std. dev.	N	Mean	Std. dev.	N	Mean	Std. dev.
Compliance with SRG	1472	2.1882	0.9184	1028	2.1819	0.9167	444	2.2027	0.9234
Assurance	1472	0.2724	0.4454	1028	0.2996	0.4583	444	0.2094	0.4074
CSRP	540	82.5117	16.3815	522	82.9126	16.0389	18	70.8855	21.8289
Listing Status	1472	0.6984	0.4591	1028	1	0	444	0	0
Stakeholder orientation	1472	0.1413	0.3485	1028	0.1682	0.3743	444	0.0788	0.2698
Industry sensitivity	1472	0.4505	0.4977	1028	0.4601	0.4986	444	0.4279	0.4953
Ownership concentration	1472	2.3539	0.8073	1028	2.2033	0.8422	444	2.7027	0.5872
ROA	1472	6.2072	10.9510	1028	5.8322	10.7160	444	7.0752	11.4420
Leverage	1472	40.1626	25.3161	1028	39.6402	24.4046	444	41.3719	27.3004
Total Assets	1472	13.4752	3.4521	1028	14.2653	3.1034	444	11.6457	3.5269

See table 2 for definitions of variables.

The assumptions underlying the regression model were tested for multicollinearity. Table 5 reports Pearson correlations between all independent and control variables included in the regression. All correlations are well below the established standards of 0.6 (Field, 2013). The highest correlation exists between listing status and total assets and takes the value of 0.3484, which is a moderate degree. Overall, table 5 indicates absence of multicollinearity. In addition, in an analysis of the residuals, normality and homoscedasticity were not rejected.

Table 5

Pearson correlations

	1.	2.	3.	4.	5.	6.	7.	8.
1. CSRP	1.0000							
2. List_Status	0.1319[*]	1.0000						
3. Stake_Share	-0.0862[*]	0.1179[*]	1.0000					
4. Industry	0.0169	-0.0297	-0.0326	1.0000				
5. Own_Con	0.0424	-0.2840[*]	-0.2553[*]	0.0214	1.0000			
6. ROA	-0.0686	-0.0521[*]	0.0247	-0.0755[*]	0.0695[*]	1.0000		
7. Leverage	-0.1159[*]	-0.0314	-0.0283	-0.0157	0.0492	0.2337[*]	1.0000	
8. LN_TA	0.2256[*]	0.3484[*]	0.1375[*]	0.0989[*]	-0.3012[*]	-0.1871[*]	-0.2915[*]	1.0000

[*] Indicates statistical significance at the 5% level.

See table 2 for definitions of variables.

4.2 Tests of Hypotheses

Table 6 presents the results of the regression analysis, which examines the effect of CSRP, listing status and stakeholder orientation in relation to compliance with SRG. Model 1 and 2 depict the results for all sample firms that have issued a sustainability report and includes CSRP as independent variable, while Model 3 and 4 show the sample firms leaving out CSRP.

CSRP is significant and has a negative effect on compliance with SRG (model 1: -0.2433, $p = < 0.01$, model 2: -0.8817, $p < 0.1$). Hypothesis H_1, which assumes that firms with inferior CSRP are more likely to comply with SRG than firms with superior CSRP, can be accepted.

All models show that listing status is insignificant and has no effect on compliance with SRG (model 1: 0.2819, $p = 0.422$, model 2: 0.4615, $p = 0.303$, model 3: -0.0028, $p = 0.971$, model 4: -0.0359, $p = 0.652$). Hypothesis H_2, which assumes that listed firms are more likely to comply with SRG than non-listed firms, has to be rejected.

The predictor variable stakeholder orientation is consistently found to have a significantly negative effect on compliance with SRG (model 1: -1.1141, $p < 0.01$, model 2: -4.5338, $p < 0.01$, model 3: -0.9103, $p < 0.01$, model 4: -1.2581, $p < 0.01$). Firms in stakeholder-oriented (shareholder-oriented) countries have a significant higher (lower) chance for compliance with SRG. This provides strong support for hypothesis H_3, which assumes that firms in stakeholder-oriented countries are more likely to comply with SRG than firms in shareholder-oriented countries.

The interaction between CSRP and stakeholder orientation is significant (Model 2: 7.6909, $p = < 0.01$), thus firms in shareholder-oriented countries with high CSRP have significant higher chance for compliance with SRG. Moreover, the interaction effect between listing status, CSRP and stakeholder orientation is also significant (Model 2: -7.4335, $p = < 0.01$), thus listed companies with a high CSRP in a shareholder-oriented country have a lower chance for compliance with SRG. Listed firms in shareholder-oriented countries show a significant higher chance for compliance with SRG in model 2, but the result is insignificant in model 4 (model 2: 3.4000, $p < 0.01$, model 4: 0.4214, $p = 0.123$). The interaction effect between listing status and CSRP is significant (model 2: 1.0993, $p < 0.05$), implying that listed firms with a high CSRP are likely to comply with SRG. The results show that listing status changes the coefficient in interactions and reverses the effect in relation to compliance with SRG. The findings provide support for hypothesis H_4, which assumes that CSRP, listing status and stakeholder orientation interact in relation to the likelihood that firms will comply with SRG.

Only total assets show a significant positive relation towards compliance with SRG in the models excluding CSRP (model 3: 0.0319, $p < 0.01$, model 4: 0.0320, $p < 0.01$). This indicates that if private firms are included in the regression, an increase in size leads to a higher chance of compliance with SRG. The other control variables have no significant influence on compliance with SRG. Compliance with SRG does not depend on industry sensitivity, ownership concentration, financial performance or leverage.

Table 6

Regression results with compliance with SRG as dependent variable.

Variables	Model (1) Including CSRP	Model (2) Including CSRP	Model (3) Excluding CSRP	Model (4) Excluding CSRP
CSRP	-0.2433***	-0.8817*		
	(0.0604)	(0.4682)		
List_Status	0.2819	0.4615	-0.0028	-0.0359
	(0.3514)	(0.4482)	(0.0766)	(0.0797)
Stake_Share	-1.1141***	-4.5338***	-0.9103***	-1.2581***
	(0.1376)	(0.5161)	(0.0995)	(0.2533)
List_Status*Stake_Share		3.4000***		0.4214
		(0.5230)		(0.2734)
List_Status*CSRP		1.0993**		
		(0.4748)		
CSRP*Stake_Share		7.6909***		
		(1.5456)		
List_Status*CSRP*Stake_Share		-7.4535***		
		(1.5528)		
Industry	0.0256	0.0131	-0.0869	-0.0907
	(0.1112)	(0.1128)	(0.0644)	(0.0644)
Own_Con1	0.0598	0.0896	-0.1030	-0.1176
	(0.1441)	(0.1451)	(0.0895)	(0.0895)
Own_Con2	-0.0440	-0.0311	-0.0621	-0.0582
	(0.1445)	(0.1451)	(0.0826)	(0.0829)
ROA	-0.0093	-0.0092	0.0040	0.0042
	(0.0073)	(0.0073)	(0.0031)	(0.0031)
Leverage	0.0021	0.0024	-0.0012	-0.0013
	(0.0026)	(0.0027)	(0.0013)	(0.0013)
LN_TA	0.0413	0.0422	0.0319***	0.0320***
	(0.0259)	(0.0263)	(0.0108)	(0.0109)
Constant	0.2357	0.4356	-0.3033	-0.3367
	(0.5478)	(0.6256)	(0.1851)	(0.1863)
Observations	540	540	1472	1472
R-squared	0.1113	0.1216	0.0383	0.0392

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

See table 2 for definitions of variables.

R-squared with CSRP included in the model is 0.1113 respectively 0.1216 and R-squared without CSRP as an independent variable is 0.0383 respectively 0.0392. The models with CSRP included explain more variance in compliance with SRG. However, if only the models with CSRP are tested, merely 18 private firms are included, due to data availability of CSRP for private firms (see Table 4). This thesis explores the hypothesized effects for both listed and non-listed firms and only including 18 non-listed firms in the sample would bias the results and undermines its contribution. Therefore, this thesis includes both econometric models on compliance with SRG, even though R-squared differentiates between the models.

4.3 Additional Analysis

The analysis is divided in subsamples, to test if third-party assurance reinforces the credibility that firms obtain in compliance with SRG. All firms in the sample have disclosed a sustainability report; some firms comply with SRG, while others do not. Firms that do not comply with SRG are left out of the analysis, because it explicitly tests the reinforcing effect of assurance in relation to compliance with SRG. Only 4 of 508 firms with zero compliance have external assurance on their sustainability reports. Including this group in the regressions will bias the results, because then the effect of the firms that do comply with SRG but without third-party assurance is not directly visible.

The decision tree in Figure 1 shows that of 964 firms that voluntary comply with SRG, only 397 firms have their reports assured by a third party. The numbers between the brackets indicate the observations in the models including the independent variable CSRP. This distinction is made due to data availability on CSRP for private firms (as explained in section 4.2).

Figure 1

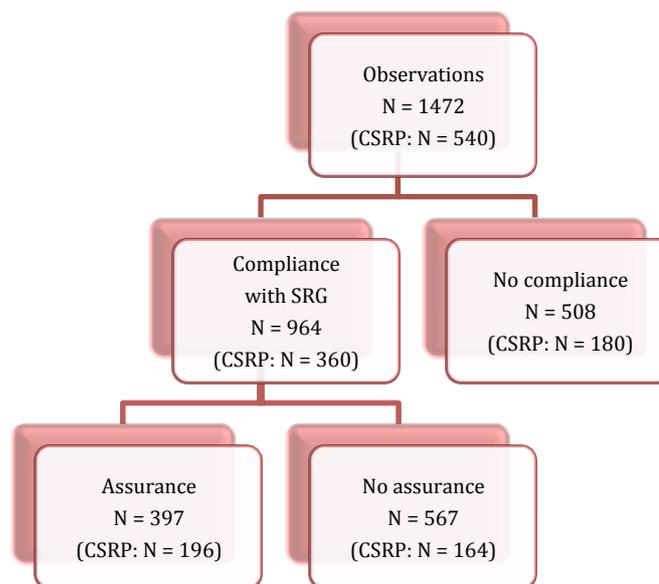Decision tree showing the number of observations for additional analysis

Table 7 presents the results of the regression analysis that examined the effect of CSRP, listing status and stakeholder orientation in relation to compliance with SRG. Panel A depicts the results for all sample firms that comply with SRG and includes CSRP as independent variable, whereas Panel B shows the sample firms that comply with SRG and leaves out CSRP.

Model 4 in Panel A shows a marginally negative significant effect for CSRP in relation to compliance with SRG (model 4: -0.9731, $p < 0.1$). This indicates that firms with inferior CSRP are more likely to comply with SRG, this further assists the support of hypothesis H_1, and additionally inferior performers do not assure their sustainability reports.

Models 1-8 show that listing status is insignificant and has no effect on compliance with SRG. This indicates that listing status does not explain why firms have different levels of compliance with SRG and why firms assure their sustainability reports or not. This supports rejection of hypothesis H_2, as

already concluded in the previous section.

The predictor variable stakeholder orientation is found to have a significantly negative effect on compliance with SRG in models 1, 3, 4 and 7, thus firms in stakeholder-oriented (shareholder-oriented) countries have a significantly higher (lower) chance for compliance with SRG. This provides strong support for accepting hypothesis H_3 in the previous section, which assumes that firms in stakeholder-oriented countries are more likely to comply with SRG. The choice to assure sustainability reports is not affected by stakeholder-orientation, as the significant results appear for both models testing if there is third-party assurance and if there is no assurance.

The only interaction that shows significant effect is listing status in relation to stakeholder-orientation in model 2 (-1.1137, $p < 0.1$). This indicates that listed firms in shareholder-oriented countries are more likely to comply with SRG and to have their reports assured by a third party. However, this is only the case in the model that includes CSRP. Therefore mostly public firms are examined, so the real effect is contestable, as it is not consistently found in other regressions.

Firms in a sensitive (non-sensitive) industry have a significant higher (lower) chance for a high level of compliance with SRG and to have their reports assured (model 6: -4.6183, $p < 0.01$). This indicates that assurance is more important for firms with sensitive activities in comparison to firms with insensible operations. An explanation is that firms in sensitive industries have more emission and waste in comparison to firms in non-sensitive industries. Assurance shows to society that the firm is acting in a responsible manner and it improves its image.

The dummy variable ownership concentration shows a significant positive effect for the second category (Own_Con2) towards compliance with SRG, if a third party assures the sustainability report (model 5: 4.3780, $p < 0.01$, model 6: 4.3615, $p < 0.01$). Ownership over 50% is chosen as the reference category in this analysis. The implication is that if the largest shareholder has ownership between 20% - 50%, a firm has a significant higher chance for a high level of compliance with SRG and to have their reports assured in comparison to firms with ownership over 50% that have their reports assured. An explanation is that if ownership is between 20-50%, more owners have significant influence in comparison to firms where one owner controls 50% or more. As a result, more shareholders can use their vote to make sure that the firm will comply with SRG and to have the reports assured.

The natural logarithm of total assets has a negatively significant effect in relation to compliance with SRG if there is no assurance on sustainability reports (model 7: -0.0483, $p < 0.05$, model 8: -0.0482, $p < 0.05$). This implies that if the size of a firm decreases, the level of compliance increases. However, assurance is very costly and the firm will not have enough resources left to have their sustainability reports assured. All other control variables have an insignificant effect on compliance with SRG when subsequently testing for assurance. This is in line with the analysis performed in section 4.2.

Table 7

Regression results with compliance with SRG as dependent variable, divided in subsamples for external assurance.

Panel A: including CSRP as dependent variable

Variables	Model (1) Including CSRP Assurance: yes	Model (2) Including CSRP Assurance: yes	Model (3) Including CSRP Assurance: no	Model (4) Including CSRP Assurance: no
CSRP	-0.0059	0.0762	0.0828	-0.9731*
	(0.1062)	(0.3120)	(0.0691)	(0.5341)
List_Status	-0.4319	-0.0972	0.3893	0.6073
	(0.4640)	(0.3106)	(0.4227)	(0.6529)
Stake_Share	-1.3243***	-0.3706	-1.1752***	-1.2395*
	(0.2185)	(0.7225)	(0.1673)	(0.7394)
List_Status*Stake_Share		-1.1137*		0.0937
		0.6732		(0.7522)
List_Status*CSRP		-0.1417		1.0358
		(0.3459)		(0.5418)
CSRP*Stake_Share		0.4473		0.9695
		(0.3204)		(0.5603)
List_Status*CSRP*Stake_Share		-0.6928		-0.8188
		(0.1486)		(0.5740)
Industry	-0.4170	-0.4238	-0.1877	-0.1765
	(0.3315)	(0.3361)	(0.1350)	(0.1352)
Own_Con1	-0.3708	-0.3747	0.1179	0.1427
	(0.3992)	(0.4153)	(0.1729)	(0.1731)
Own_Con2	0.0301	0.0296	-0.0511	-0.0276
	(0.2388)	(0.2625)	(0.1722)	(0.1729)
ROA	-0.0181	-0.0193	-0.0098	-0.0088
	(0.0137)	(0.0136)	(0.0081)	(0.0082)
Leverage	-0.0016	-0.0005	-0.0012	-0.0008
	(0.0051)	(0.0057)	(0.0032)	(0.0033)
LN_TA	-0.0365	0.0411	-0.0227	-0.0233
	(0.0511)	(0.0541)	(0.0307)	(0.0310)
Constant	-3.7001	-3.3007	-0.6762	-0.4112
	(0.9036)	(1.0170)	(0.6413)	(0.8037)
Observations	196	196	164	164
R-squared	0.2623	0.2668	0.1072	0.1025

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

See table 2 for definitions of variables.

Panel B: excluding CSRP as dependent variable

Variables	Model (5) Excluding CSRP Assurance: yes	Model (6) Excluding CSRP Assurance: yes	Model (7) Excluding CSRP Assurance: no	Model (8) Excluding CSRP Assurance: no
List_Status	0.2772	0.2772	-0.2318	-0.2090
	(0.5497)	(0.5497)	(0.1284)	(0.1302)
Stake_Share	-0.7053	-0.3587	-0.4831**	0.1369
	(0.6097)	(0.4593)	(0.2226)	(0.6433)
List_Status*Stake_Share		-0.3465		-0.7160
		(0.6182)		(0.6881)
Industry	-4.6179	-4.6183***	-0.0680	-0.0603
	(0.8954)	(0.8964)	(0.1133)	(0.1135)
Own_Con1	-0.1474	-0.1474	0.1410	0.1601
	(0.5366)	(0.5366)	(0.1630)	(0.1649)
Own_Con2	4.3780***	4.3615***	0.1191	0.1167
	(0.5448)	(0.5898)	(0.1470)	(0.1470)
ROA	-0.0242	-0.0242	-0.0029	-0.0030
	(0.0169)	(0.0169)	(0.0052)	(0.0052)
Leverage	0.0033	0.0033	-0.0012	-0.0011
	(0.0024)	(0.0024)	(0.0022)	(0.0022)
LN_TA	0.0309	0.0309	-0.0483**	-0.0482**
	(0.0335)	(0.0335)	(0.0194)	(0.0194)
Constant	-10.9509	-10.9518	-1.4433	-1.4104
	(1.5907)	(1.5921)	(0.3295)	(0.3311)
Observations	397	397	567	567
R-squared	0.2727	0.2727	0.0301	0.0317

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

See table 2 for definitions of variables.

5. Discussion

5.1 Interpretation

CSRP has a significant negative effect in relation to compliance with SRG, thus the first hypothesis (H_1) is supported. The results provide support for legitimacy theory. Firms with inferior CSRP are more likely to comply with SRG in comparison to firms with superior CSRP. However, inferior performers are not likely to have their sustainability reports assured. A reason could be that third-party assurance is time consuming and costly. Moreover, it is unsure if inferior performance can be hidden for the external party. Assurance is a risk for inferior performers, because shareholders and other stakeholders may detect that the CSRP is inferior. This reduces the company's legitimacy and stakeholder trust, it harms the firm's reputation and increases the likelihood of outside intervention. Regulators should develop mandatory sustainability standards and guidelines for compliance to stimulate firms to engage with sustainability issues. With voluntary compliance firms still pretend to be socially responsible, while the performance is inferior. In addition, accountants become increasingly engaged in assessing and assuring sustainability reports. Knowing the characteristics of firms who comply with SRG can help an accountant to meet the needs of their clients and effectively market their sustainability-related activities.

Listing status itself has no effect on compliance with SRG and external assurance. This leads to rejection of the second hypothesis (H_2). An explanation could be that private firms face the same sustainability standards as public firms. Compliance with SRG is not mandatory, and thus both type of firms react similarly towards compliance with SRG and external assurance. Furthermore, the personal preference of directors and managers is also important. A shareholder who wants a high return on equity will make different decisions towards compliance with SRG and external assurance, in comparison to a shareholder that cares about the environment and society. On the one hand, a private firm with one director can have the same level of compliance and assurance as a public firm with thousands of shareholders, as long as the personal beliefs are congruent. On the other hand, two firms that are very comparable in size, industry, location etc. can differ enormously in level of compliance and assurance. A solution is that compliance with SRG should be mandatory. This obliges all firms to be sustainable and responsible, even though the shareholder wants a high return on the investment.

Focusing on stakeholder orientation, the results indicate that firms in stakeholder-oriented (shareholder-oriented) countries have more (less) compliance with SRG than firms in shareholder-oriented (stakeholder-oriented) countries. This supports the third hypothesis (H_3). The findings consistently support stakeholder theory, which assumes that firms have obligations towards all stakeholders, not just owners. Compliance with SRG shows towards society that a firm meets its obligations and is aware of its environmental impact. Stakeholders want to assess a firm's commitment to a standard and compare it with other companies' activities. As a result, firms in stakeholder-oriented countries have increased compliance with SRG (Gilbert & Rasche, 2008). In contrast, firms in shareholder-oriented countries focus on maximizing shareholder wealth. Since compliance with SRG is costly and time-consuming, firms in shareholder-oriented countries comply less than firms in

stakeholder-oriented countries. Stakeholder-orientation does not influence the choice to assure the sustainability report. The results show significant effects for both models, firms with and without external assurance on sustainability reports. This implicates that for some firms stakeholders have more pressure to force the firm to have external assurance in addition to compliance with SRG, while other firms are more independent to decide whether to assure the sustainability reports. Stakeholder-orientation in this thesis is measured as a dummy to indicate whether a country is either stakeholder- or shareholder-oriented. Such aggregation has the risk of masking individual dimensions of specific stakeholder groups (Mishra & Suar, 2010) and leaves the issue of other stakeholders fully or partially unattended. Analysing the influence of such a skewed measure of stakeholder-orientation on compliance with SRG may not reflect a proper relation between two constructs. Future research could examine the influence of several stakeholder groups.

The results obtained show that CSRP in interaction with listing status and/or stakeholder orientation has a significant influence on compliance with SRG. Also listing status and stakeholder-orientation interact in relation to compliance with SRG, thus the fourth hypothesis (H_4) is supported. The individual interactions are discussed below.

CSRP has a positive effect in combination with listing status, indicating that a listed firm with superior CSRP has a high chance for compliance with SRG. In listed firms, managers have some independence to direct organizational resources away from shareholders to activities that enhance their standing and are therefore more likely to have superior CSRP (Goergen et al., 2017). Many investors may view CSRP favourably, because potential customers are more positively inclined to the firm and it signals a commitment to placing the business on a more sustainable footing. Moreover, listed firms are more in the public eye of society and this visibility causes superior CSRP. Firms may improve their CSRP and increase the depths of the compliance with SRG in order to mitigate reputational risks of bad press and exploit possible benefits of good press.

CSRP has a positive effect in combination with stakeholder orientation, indicating that superior CSRP in shareholder-oriented countries influences the level of compliance with SRG. Firms in shareholder-oriented countries deal with shareholders at arm's length and as a result there is an increased demand for information (Simnett et al., 2009). Firms need to enhance credibility of their sustainability reports in order to provide high quality information to attract investors, thus the incidence of compliance with SRG of sustainability reports is higher. However, compliance is very costly and according to economics-based theory, firms will trade-off relative costs and benefits (Braam & Peeters, 2017). Inferior CSRP has a risk for firms of not surviving the assurance process without consequences and is more costly and time consuming in comparison to firms with superior CSRP. Moreover, it is difficult to hide inferior performance and to comply with SRG. As a result, it is more beneficial for firms to invest in sustainability and to have superior CSRP if it is required for information provision for shareholders and other investors in shareholder-oriented countries.

CSRP has a negative effect in interaction with stakeholder orientation and listing status, indicating that a listed firm with superior CSRP in a shareholder-oriented country has a low chance for

compliance with SRG. The previous paragraph mentions that superior CSRP and shareholder-orientation have a positive effect on both compliance with SRG and external assurance. If listing status is added as a third interaction variable, this effect becomes negative. Listed firms have more mandatory financial regulations and standards to comply with compared to non-listed firms. Compliance with SRG is still voluntary and is also very costly, public firms might focus on compliance with mandatory financial regulations and leave voluntary compliance behind.

The results show that listed firms in shareholder-oriented countries have a significant higher chance for sustainability compliance and external assurance. Listed firms have to be more transparent than non-listed firms because they must voluntarily disclose more information to reassure creditors and obtain better financing conditions (Achek & Gallali, 2015), especially in shareholder-oriented countries due to arm's length principles (see paragraph 5). Overall, the results indicate that listing status changes the coefficient in interactions and reverses the effect in interactions in relation to compliance with SRG.

5.2 Limitations & Future Research

The findings of this thesis are considered in perspective of its limitations. The first limitation is related to data availability: only 540 of 1472 firms in the sample used have data available for CSRP and of those firms only 18 are non-listed, private firms. To solve this problem, the analyses are performed with and without the independent variable CSRP. Hence, the sample used in this thesis is unbalanced and future research is required to test the hypothesized relationships using a balanced or larger sample.

CSRP shows significant results in relation to compliance with SRG. In this thesis, CSRP is only measured as a centered ratio, obtained from Eikon ASSET4. The robustness of the results is not tested and hence represents a limitation. Future research could compute a dummy variable for CSRP, dividing in superior CSRP and inferior CSRP, taking the industry mean as a reference.

Compliance with SRG and external assurance on sustainability reports is still voluntary. Therefore firms choose the level of compliance and what kind of information to disclose. Some firms try to hide their real performance, while others accentuate their excellent sustainability performance. This is called self-selection bias (Braam & Peeters, 2017), because motifs to comply with SRG or to have external assurance on sustainability reports differ among firms and this biases results. A practical solution will be to make compliance with SRG mandatory.

More research is needed concerning drivers and consequences of compliance with SRG and external assurance to advance the understanding of conditions that facilitate or inhibit compliance with SRG and credibility of sustainability reports. The models presented in this thesis have been tested with probit analysis. Future research could examine the hypothesized effects in a multilevel-analysis to specify the variables in more detail. Moreover, this thesis focuses on a single year (i.e., 2016), future research could examine the hypothesized relationships in a panel data regression analysis over multiple years.

6. Conclusion

The study explored the effect of CSRP, stakeholder orientation and listing status in relation to compliance with sustainability reporting guidelines (SRG) and subsequently external assurance. Both should increase stakeholders' confidence in credibility of the sustainability information provided and it enhances corporate reputation. Probit analysis was used to test the significance of the hypothesized model. A sample of 1472 companies from 35 European countries that complied with SRG in 2016 was used to identify the factors associated with the decision to voluntarily comply with SRG.

The results show that CSRP plays a significant role in explaining variation of compliance with SRG and external assurance. The results do support legitimacy theory. Firms with inferior CSRP are more likely to comply with SRG than firms with superior CSRP. This indicates that firms comply with SRG to mask bad performance and signal good CSRP. Firms with inferior CSRP are less likely to have external assurance on sustainability reports. Assurance makes it more difficult to manage and cover bad CSRP and the risk of exposure of the inferior CSRP is high. Listing status has not a significant influence on compliance with SRG and assurance. An explanation could be that listed firms are not required to adopt more extensive sustainability disclosure requirements than non-listed firms, because compliance with SRG is not mandatory. Furthermore, positive associations between compliance and explanatory variable stakeholder-orientation suggest that firms in stakeholder-oriented countries comply more with SRG and disclose more reliable sustainability information compared to firms in shareholder-oriented countries. The findings obtained support stakeholder theory. Stakeholder-oriented countries focus on sustainable value creation and firms increase confidence of stakeholders by enhancing credibility of sustainability reports. Finally, listing status influences the explanatory variables CSRP and stakeholder-orientation. It changes the coefficient in interactions and reverses the effect in interactions in relation to compliance with SRG. Listed firms tend to be more transparent than unlisted firms, because, on the one hand, they must meet regulatory (financial) requirements, and on the other hand, they must voluntarily disclose more information than unlisted firms to reassure creditors and thereby obtain better financing conditions. This is strengthened by CSRP and stakeholder-orientation.

The results imply that firms under certain political and social pressures are more likely to comply with SRG, rather than directly improving their underlying sustainability performance. This indicates that increasing pressure by investors and other stakeholders on firms to become more accountable for sustainability concerns does not lead to superior sustainability performance and compliance with SRG is used as a legitimising tool. Firms should be held accountable for their actual sustainability performance instead of for their claimed sustainability. This may be accomplished by complementing voluntary sustainability reporting with mandatory requirements for compliance with SRG and by implementation of disclosure regulation. This study shows that there is a difference between pretending to be responsible and actually being responsible. For many firms profit maximization and corporate identity are the most important goals, even if this is at the expense of creating a just, honest, sustainable and open society.

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