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Belen Fernandez-Feijoo
University of Vigo

Silvia Romero
Montclair State University, romeros@mail.montclair.edu

Silvia Ruiz
University of Vigo

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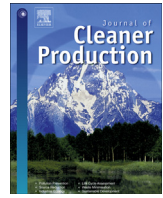


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Commitment to Corporate social responsibility measured through global reporting initiative reporting: factors affecting the behavior of companies



Belen Fernandez-Feijoo ^{a,*}, Silvia Romero ^{b,1}, Silvia Ruiz ^{a,2}

^a Department of Finance and Accounting, University of Vigo, Lagoas Marcosende s/n, 36310 Vigo, Spain

^b Department of Accounting, Law and Taxation, Montclair State University, 1 Normal Av, Montclair, NJ 08540, USA

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ABSTRACT

The increasing importance of Corporate social responsibility to entrepreneurial policies has made it a leading topic in the literature. The strategic integration of Corporate social responsibility in the business core implies the communication between a company and its stakeholders. Sustainability reports are recognized worldwide as a tool that companies use to communicate their socially responsible behavior. The way companies communicate through their reports indicates their level of commitment to Corporate social responsibility. The objective of this paper is to analyze companies' behavior towards Corporate social responsibility based on their disclosure practices. We define four possible types of behavior: Novice, Cautious, Chattering and Leading. These types are the result of the combination of two variables that measure the disclosure and credibility of Corporate social responsibility information. Our results indicate that companies listed in the stock market disclose more Corporate social responsibility information than private ones but with less credibility. European countries are leading the rankings in Corporate social responsibility information and tend to have a Cautious or Leading attitude. Finally, we report differences among industries.

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1. Introduction

The increasing importance of Corporate Social Responsibility (CSR) to entrepreneurial policies has made it a leading topic in the literature (Mair and Martí, 2006; Marshall, 2011; Short et al., 2008). The strategic integration of CSR in the business core, as defended by Ballou et al. (2012), implies the communication between a company and its stakeholders. Although many means of communication are possible, sustainability reports (SR) are the tool most used by companies to present their economic, environmental and social impact. The levels of SR disclosure and its credibility are linked to the reasons underlying the CSR policies adopted. Graafland and Smid (2004) argue that greater communication about social behavior is necessary to improve companies' reputation, and they state the importance of governmental initiatives to promote CSR

attitudes. Nielsen and Thomsen (2007) affirm that, from a managerial perspective, non-financial reporting looks for transparency in social behavior when communicating corporate activities with social and environmental effects. Cornelissen (2004) posits that a firm's future depends on how the key stakeholders perceive the firm's behavior. Thus, SR can be considered as the public expression of socially responsible behavior. Communicating CSR attitudes is inexorably linked to the existence of a responsible behavior or, at least, to having some social responsibility facts to communicate. Actually, SR is a way to connect with stakeholders, to show what and how companies are doing, and even to be a positive example to others (European Commission, 2005).

Even though no full agreement was reached in terms of format, the discussion on CSR resulted in a worldwide recognition of SR as the basic tool for its communication and the recognition of the need to develop standards to increase its quality. In fact, Joseph (2012) highlights the importance of having sustainability that is well-grounded in rules and principles, which contributes to standardization. O'Connor and Spangenberg (2008) emphasize the need to model CSR reporting and develop a proposal based on stakeholders' dialog. Dubbink et al. (2008) identify procedural standards for

* Corresponding author. +34 986 812471.

E-mail addresses: belen@uvigo.es (B. Fernandez-Feijoo), romeros@mail.montclair.edu (S. Romero), sblanco@uvigo.es (S. Ruiz).

¹ +1 973 655 5339.

² +34 986 812455.

measuring transparency in social reports. [Dando and Swift \(2003\)](#) note the importance of developing standards to fulfill the need for transparent and trustworthy information, coinciding with [Christensen \(2002\)](#).

Up to date, the Global Reporting Initiative (GRI) is widely recognized as the most trustworthy framework for disclosing sustainable information ([Brown et al., 2009](#); [Kaye, 2011](#); [KPMG, 2011](#)), [Manetti and Becatti, 2009](#); [Nikolaeva and Bicho, 2011](#)). GRI has developed the leading standard or guidelines for CSR reporting ([KPMG, 2008](#)). The guidelines require disclosures in the following categories: economic, environmental, social performance/labor practices, social performance/human rights, social performance/society and social performance/product responsibility. The first set of guidelines, G1, was released in 2000, with 44 companies presenting the reports. G2, the second set of guidelines, was issued in 2002. In 2006, the G3 set of guidelines was released. G3 was developed with the participation of more than 3000 experts, who had a multi-stakeholder and multidisciplinary approach. It provides a universal set of rules for reporting sustainability performance. G3.1 was released on March 2011 as an advance of the expected changes for G4, which was being developed at the same time. It increases reporting in terms of gender, community and human rights. Finally, in 2013, a new set of guidelines, G4, was released. Among other features, G4 enhances the disclosures on governance, ethics and integrity, the supply chain, anti-corruption and GHG emissions. Although there is no requirement, a large number of companies have the reports attested by an independent party, which is an independent professional service that reduces the information risk. If companies choose to do so, the assurance providers must prepare an assurance statement (AS) with their opinions about the disclosed information. The use of GRI guidelines is continually growing ([Roca and Searcy, 2012](#)).

On the other hand, socially responsible behavior is recognized as an attitude that results from internal and external pressure on companies, which is linked to corporate image and reputation. Some companies use opportunistic tactics to improve the image of the firm ([Prado-Lorenzo et al., 2008](#)) or to win public acceptance and legitimacy, although their day-to-day activities show dubious practices ([Jahdi and Acikdiilli, 2009](#)). This type of attitude questions managers' ethical behavior and social responsibility ([Fray, 2007](#)). The increase in positive consumer image motivated by the adoption of social responsibility practices is also reported in different marketing studies (e.g., [Battacharya and Sen, 2004](#); [Becker et al., 2006](#); [Klein and Dawar, 2004](#); [Mohr et al., 2001](#); [Sen et al., 2006](#); [Sen and Battacharya, 2001](#)). Although sustainability reporting guidelines continue to follow a compartmental perspective ([Lozano, 2013](#)), reporting practices in CSR are considered as a proxy for sustainability behavior ([Bassu and Palazzo, 2005](#); [Galbreath, 2010](#); [Nielsen and Thomsen, 2007](#)). Complete or incomplete, balanced or unbalanced, SR shows off what a company is doing in terms of CSR ([European Commission, 2005](#)). Hence, the levels of SR disclosure and its credibility are linked to CSR behavior. To analyze the performance of the CSR of a firm, SR is essential.

In sum, CSR reports are the tool extensively used to communicate companies' social behavior. Although managers' motivation for this attitude is not disclosed, we believe that this motivation is conveyed in the way companies communicate through their reports. Thus, the objective of this paper is to analyze companies' behavior towards CSR based on their disclosure practices to assess their level of commitment. We classify the firms considering their ownership structure, size, country and industry. The results of this study provide a definition of the characteristics of companies with a truthful profile towards CSR. Therefore, this study may be useful to different users of sustainability reports (e.g., investors, customers and regulators) to understand the managers' real commitment to CSR reporting.

The paper continues with a discussion on socially responsible behavior, proposing a four-group classification followed by a literature review focused on the variables used in the paper. The subsequent chapters include the research methodology and the results, ending with the conclusions and the limitations of our study.

2. Socially responsible behavior of companies: hypotheses development

Organizations all over the world recognize the need for socially responsible behavior. In fact, sustainable business behavior and business activity should reflect the ethical conception of a firm ([Svensson et al., 2010](#)). The ISO 26000 standard outlines seven principles of socially responsible behavior: accountability, transparency, ethical behavior, respect for stakeholder interests, fulfillment of the rule of law, respect for international norms of behavior, and respect for human rights. This concept can be approached from the point of view of companies as well as from the point of view of stakeholders, with consumers representing one of the groups most often discussed in literature.

[McWilliams and Siegel \(2001\)](#) outline a supply and demand model of CSR. They conclude that there exists an ideal level of CSR, which is based on a cost-benefit analysis. The authors discuss different determinants of consumer demand for CSR, which include the prices of the goods and the role of CSR as a differentiation tool, advertising, consumer income, consumer taste, demographics and the price of substitutes. From the supply perspective, [Campbell \(2007\)](#) presents eight propositions to explain why companies behave in a socially responsible way. The first two propositions state that companies will be less likely to act in a socially responsible way under bad economic conditions (1) or if there is either too much or too little competition (2). Propositions three to eight state that firms will be more likely to act in a socially responsible way in the presence of the following factors: legal regulation (3); industrial self-regulation (4); external pressure from stakeholders (5); a link between managers and educational institutions that promote responsible behavior (6); if the firm belongs to associations that promote this type of behavior (7); and if the firm is involved in institutionalized dialogue with stakeholders (8). Similarly, [Haigh and Jones \(2006\)](#) establish four sources of pressure to explain companies' social behavior: internal and competitive pressure, external pressure from investors and consumers, regulatory pressure and pressure from popular mobilization. [Frias-Aceituno et al. \(2013\)](#) highlight that the relevant behavior should be carefully documented in the companies' annual reports.

[Graafland and Smid \(2004\)](#) analyze the role of government and self-regulatory reputation mechanisms in socially responsible behavior. They find that CSR policies aim to build reputation and that this effect is more important for large companies than for smaller ones. Hence, from this point of view, CSR does not involve a real managerial commitment but a marketing strategy by offering an artificial positive image of the firm. [Williamson et al. \(2006\)](#) identify three values and attitudes underpinning behavior: cost savings and responding to cost pressures, responding to the supply chain, and responding to regulation. They conclude that small- and medium-sized enterprises will adopt socially responsible behavior forced by the aforementioned values and attitudes, and not voluntarily. Using a sample of Spanish companies, [Godos-Díez and Fernández-Gago \(2011\)](#) study how socially responsible management is perceived by top managers. They find two groups of managers: those who give importance to CSR itself and those that value CSR because of its contribution to the companies' productivity. They also find an influence of size, industry, the age of the company and financial performance, among others.

It can be concluded that there are external factors that affect companies' socially responsible behavior. The literature recognizes stakeholders' pressure and shareholders' expectations as drivers of demanding a more social attitude from companies. Both drivers have a very different conceptual origin. The first one, stakeholder pressure, values CSR and socially responsible behavior on its own, while shareholder expectation values them for the economic performance effect they have. The final result is that both drivers have a positive effect on socially responsible behavior.

The literature also highlights different managerial attitudes towards CSR, which depend on managerial strategies. Freeman (1984) posits that to establish the foundation of enterprise-level strategy, different factors such as stakeholders, values and societal issues have to be analyzed. He indicates that the distinguishing feature of CSR is that it applies “the stakeholder concept to non-traditional stakeholder groups usually thought as having an adversarial relationship with the firm,” and that “less emphasis is put on satisfying owners and comparatively more emphasis is put on the public or the community or the employees” (p.38).

Basu and Palazzo (2005) identify four types of CSR practices. The first one, “Robber Barons,” groups firms that seek to increase their wealth at any cost and regard local laws as their limits. They ignore ethical aspects, especially in international activity. “Robin Hoods,” the second group, are linked to philanthropy and a sense of moral duty. Executives in this group exclude CSR from their business strategy, and “They make a strict distinction between making a profit and using the profit” (p.2). “Book-keepers” have a strategic approach to CSR. They understand the impacts of stakeholders' actions, and use CSR as a tool to manage their risks. The last group, “Statesmen,” includes real believers and appliers of CSR, understanding the link between economic and social objectives. The authors conclude that the impacts of this typology of CSR behavior on ideology, legitimacy, language and leadership are features linked to CSR. These authors also identify differences in the language used to communicate CSR depending on the type of CSR behavior. Nielsen and Thomsen (2007) find that annual reports are dissimilar and that companies have different interests stemming from different affiliations, such as governments and NGOs. Galbreath (2010) conducts a survey among CEOs to explore differences in CSR reporting. He finds differences between the strategy types of managers. Prospectors and defenders presented higher levels of disclosure than analyzers, while reactors demonstrated the lowest levels. KPMG (2011) analyzes the quality of communications and the level of process maturity, using these two elements as grouping criteria, defining four categories. The first one, ‘Leading the pack’, groups mature companies with high quality in their CSR communication. The second group is ‘Starting behind’ and is made up of companies characterized by a limited quality of communications and narrow growing maturity perspective. ‘Getting it right’ is the third group. It is described as groping companies that take a conservative avenue to becoming leading-the-pack members. The last group, ‘Scratching the surface’, groups companies that are more worried about communication but less concerned about their level of CSR maturity.

Based on the literature reviewed, our proposal identifies four types of behavior according to the companies' reporting characteristics. These four behaviors are built on both quantitative (disclosure) and qualitative (credibility) characteristics of CSR reporting. They are related to transparency (Fernandez-Feijoo et al., 2014). **Novice** behavior includes companies with low commitment to CSR reporting. These companies disclose the minimum amount of information and do not provide assurance with the report, reducing its credibility. **Cautious** behavior includes companies that do not disclose in depth, but that show a commitment to CSR by including credibility tools. It may include companies that are implementing CSR strategies. **Chattering** behavior includes

companies that use SR as a marketing strategy. They disclose a high amount of information, but they do not add elements that would be used to evaluate its quality or credibility. Finally, **Leading** behavior includes companies with high levels of disclosure and credibility.

Given that the objective of this paper is to identify the links between companies' profile and commitment to CSR, we propose four hypotheses. The hypotheses take into consideration the firms' characteristics identified in literature as affecting CSR disclosure; namely, ownership, size, country and industry.

Nielsen and Thomsen (2007) argue that the company's behavior in terms of CSR reporting depends on the expectation of their stakeholders. Regarding the ownership structure, investors are a significant interested party.

Stock market-listed and -non-listed companies differ in the liquidity of their investors and the control relationships between owners and managers (Boot et al., 2006). Fama and Jensen (1983) state that in companies with broadly held ownership, the potential principal and agent conflict is greater than in closely held companies. As a result, information disclosure will be greater in the first group to help monitoring.

In agreement with this theory, previous research found listed companies to have higher levels of disclosure (e.g., Eng and Mak, 2003; Meek et al., 1995; Singhvi and Desai, 1971; Chau and Gray, 2002). Eng and Mak (2003) find that the structure of ownership determines the level of monitoring, and hence, the level of disclosure. They posit that when managerial ownership is low, there is an increased need for monitoring. They also relate this effect to diffused ownership (less than 5%). These two characteristics, low levels of managerial ownership and diffused ownership, are associated with listed companies. The authors find lower managerial ownership associated with increased voluntary disclosure, and no effect of diffused ownership.

Assurance of SR, on the other hand, is not mandatory. Previous research, which almost exclusively involves companies listed in the stock market, recognizes a lack of precision in the external verification of SR (Gillet, 2012).

Based on the existing literature and the principal–agent relationship, we expect listed companies to have higher levels of disclosure than non-listed ones. With regards to assurance, given that AS is not considered an appropriate tool to add credibility or help with the principal-agent relationship, we expect to find no difference between listed and non-listed companies. Thus, our first hypothesis is stated as follows:

H1. Companies listed in the stock market are more likely to have a Chattering or a Leading behavior, while non-listed companies are more likely to have a Novice or Cautious behavior.

Company size, similar to ownership structure, is linked to the level of pressure from stakeholders (Agudo Valiente et al., 2012). Large companies have more viewers, meaning that they are more controlled, and their behavior is constantly analyzed. To manage the risk of their great visibility, large companies are more likely to disclose higher levels of CSR information (Chen and Bouvain, 2009; Simnett et al., 2009). Of the companies with revenues of more than US\$50 billion, 92% present SR, while 48% of the companies with revenues under US\$1 billion report their CR activities (KPMG, 2011). It is also expected that large companies will report more CSR information because they have more available resources (Perrini et al., 2007).

Simnett et al. (2009) find that large companies are more likely to produce stand-alone SR and that large companies are significantly more likely to have their SR assured, compared to smaller companies. Similar results are found for Spain (Sierra et al., 2012); Portugal (Monteiro and Aibar-Guzman, 2010; Branco and Rodrigues, 2008); Germany (Gamerschlag et al., 2011); the UK (Brammer

and Pavelin, 2006) or Scandinavian countries (Cerin, 2002). On the contrary, Kolk and Perego (2010) find no correlation between company size and the decision to have SR assured among Fortune Global 250 (FG-250) companies. In terms of quality, Vormedal and Ruud (2009) do not find evidence of a relationship between size and high scores used to measure the quality of the sustainability disclosures in Norwegian companies.

Most of the reviewed research studies companies listed in the stock market, which results in the comparison between large and larger companies, rather than between small and large companies. Holder-Webb et al. (2009) use a size-stratified sample of 50 US listed companies and find that frequency of disclosure is different for the largest companies, but they do not find any pattern of behavior within the remainder of the sample. This evidence suggests that the effect of companies' size on the measure of disclosure in terms of frequency and credibility remains to be evaluated. Perrini et al. (2007) analyze the differences in CSR strategies between large and small and medium companies. Through interviews, they collect data from 3680 Italian companies and find that large companies are more likely to develop formal tools to control and report CSR (ethical codes, social reports and SA8000).

The existing literature is inconclusive on the effect of real small and large companies, but it is expected that different-sized companies will present different patterns of behavior in CSR reporting. Although a small company analysis is not sufficiently developed in literature, we expect that large companies are more likely to behave as listed owned companies and small companies as non-listed companies. Our second hypothesis is stated as follows:

H2. Large companies are more likely to have a Chattering or a Leading behavior, while small companies are more likely to have a Novice or a Cautious behavior.

Culture and traditions, legislation, and social and economic context, among others, are elements that define the differences among countries. These factors affect CSR attitudes and reporting as well. The triennial surveys issued by KPMG International (2005, 2008, 2011) show significant differences in the rate of CSR reporting among countries as well as in the assurance of SR. Kolk (2008) finds that 90% of the European companies in the FG-250 present some type of SR and 83% of the Japanese companies present some type of SR, while only 35% of US companies do. Kolk highlights the relevance of external verification in European companies. The highest score is for the UK, the Netherlands, Switzerland, Spain and Italy, while German companies score lowest. Of Japanese companies, 24.3% present external verification, and only 2.9% of the US companies have SR assured by a third party (Kolk, 2008). Hartman et al. (2007) explore the differences in CSR reporting in the US and European Union. They select a sample of the 8 most selective communicators in both regions, and find that companies in the UK present more SR with third-party assurance than their counterparts in the USA do. Van der Laan Smith et al. (2005) find higher levels of reporting in Scandinavian countries, considered stakeholder-oriented countries, than in USA companies, considered a shareholder-oriented country. Regarding the assurance of SR, Kolk and Perego (2010) use a panel of companies with SR in 1999, 2002 and 2005 from the FG-250 in the USA, Japan, Germany, France and the UK. Their result shows that companies located in stakeholder-oriented countries are more likely to have their SR assured compared with those in shareholder-oriented countries. The same conclusion is presented by Simnett et al. (2009), who look at the reports of 2113 companies from 31 countries and analyze the factors that determine the decision to assure the reports.

Hence, according to the existing literature, we expect that different countries will present different patterns of behavior in CSR reporting. Our third hypothesis is stated as follows:

H3. There are differences in CSR reporting behavior associated with different countries.

Industry is a variable used to analyze the differences in content and the extent of CSR reporting. The literature on this topic is extensive, especially that related to environmental information (Campell, 2003; Deegan and Gordon, 1996; Hackston and Milne, 1996). The industry is also used to identify differences in CSR reporting, measured as the compliance with generally accepted guidelines and standards for the preparation of SR (Fernandez-Feijoo et al., 2012; Morhardt, 2010; Reverte, 2009). In terms of frequency in publishing environmental reports, Kolk et al. (2001) and Kolk (2003) use companies from the FG-250 and find that those in chemical and pharmaceutical industries lead the rankings. Palazzo and Richter (2005) analyze the inherent limitations in the tobacco industry and how these circumstances affect their CSR communication strategy. Oil companies and those associated with environmental damage were found to provide higher levels of disclosure (Alali and Romero, 2012; Deegan and Gordon, 1996; Simnett et al., 2009; KPMG, 2011). Similar results are reported by Jenkins and Yakovleva (2006) for the mining sector.

With respect to the assurance of SR, Zorio et al. (2012) find that the industry determines the decision to assure the SR. Based on this literature, we expect that the industry will influence the behavior in CSR reporting related to frequency and assurance. Thus, our fourth hypothesis is:

H4. There are differences in CSR behavior associated with industries.

These four hypotheses provide information about the companies' characteristics, describing their behavior towards CSR, based on their disclosure practices. The results may give some managerial implications for strategic decisions related to CSR.

3. Research method

3.1. Sample and data collected

We use the GRI database as our main data source. Although there are critics of this source, its comparability and the conceptual approach used (Sherman, 2009; Skouloudis et al., 2009) makes the GRI database extensible when used for research (Brown et al., 2009; Alonso-Almeida et al., 2013; Sierra et al., 2013).

Data collected for our study refer to companies that issue CSR reports registered in the GRI between 2008 and 2010 (data available on August, 24th 2011). During this period, the guidelines used by companies were G2 (residual) and G3. The total number of CSR reports registered in GRI for this period is presented in Table 1.

Our sample includes companies from 11 countries in North America (United States), Europe (Sweden, Denmark, Norway, Finland, Spain, Portugal, Germany), South America (Brazil) and Asia (Japan, China). The intention is to work with the countries that have a higher number of companies presenting SR. We also want to

Table 1
Total number of companies with CSR reports registered in GRI.

	2008		2009		2010	
	Firms	%	Firms	%	Firms	%
Africa	51	4.56%	56	3.69%	54	2.90%
Asia	187	16.73%	308	20.32%	370	19.87%
Europe	512	45.80%	687	45.32%	839	45.06%
Latin America	142	12.70%	191	12.60%	266	14.29%
North America	154	13.77%	183	12.07%	250	13.43%
Oceania	72	6.44%	91	6.00%	83	4.46%
Total	1118	100.00%	1516	100.00%	1862	100.00%

achieve a similar percentage of representation of the four geographical areas more representative in the GRI database, from countries with and without mandatory CSR reporting, in developed and developing economies and with varying degrees of experience in CSR reporting. Each observation of our sample is a company that has registered its SR in GRI at least once for the three-year period. Thus, we will have one observation for firm, independently of the number of SR in GRI in the period 2008–2010. The number of firms included in our sample is 1122.

The data collected from the GRI database is: Level of application, Reporting frequency, Declaration of the level and Existence of an assurance statement.

“Level of application” defines the extent of reporting according to the GRI. G3, the standard most often used in the period analyzed, defines three levels: A (more extensive), B (medium) and C (less extensive). G2, the standard occasionally used, also establishes three levels of application: In Accordance (high level); Content Index (medium) and Reference Only (low level). Given the definition of these variables, it can be asserted that companies reporting the highest levels of application (IA and A) provide more information than the ones reporting on the other two levels. We compute the proportion of times in the three year period the company reported in the higher level.

“Reporting frequency” measures the proportion of times each company presented a report within the three periods of analysis.

“Declaration of the level” identifies if the level of application is certified by a third party, checked by GRI, or self-declared. The first two categories imply an external and independent verification of the level, adding credibility to the report. We compute the proportion of times the company externally certified the level of application within the three years period.

Finally, “Existence of an assurance statement” indicates if the proportion of times in the three year period the SR was assured.

We also collected other information from GRI database: Size, Country and Industry.

3.2. Parameter definition

We define two groups of parameters. The first group, “positional factors”, includes a measure of the level of disclosure and its credibility. It is used to position the participating companies in the space of disclosure, represented in a double-axe graphic. The second group, “target variables”, presents the characteristics (ownership, size, country and industry) of the companies that are positioned spatially according to their levels and quality of disclosure. Table 2 shows the two groups of parameters.

3.2.1. Positional factors

In order to test our hypotheses we identify the companies' behavior classified as Novice (low disclosure, low credibility), Cautious (low disclosure, high credibility), Chattering (high disclosure, low credibility) and Leading (high disclosure, high credibility), depending on the level of disclosure and credibility. Each firm is by these means positioned on the double-axe graphic. The two positional factors are Disclosure, which represents the attitude of the organization regarding the information they want to communicate to their stakeholders, and Credibility, which represents the confidence given to the information disclosure.

Disclosure cannot be measured directly, because it depends on different factors. Level of application and Reporting frequency, are proxy variables for public disclosure and disclosure intensity (Bushman et al., 2004; Dubbink et al., 2008) and can be considered as true determinants of the Disclosure factor (Perrini, 2005). Thus, Level of application and Reporting frequency are the manifest

Table 2
Parameter definitions.

Parameter	Factors	Variables	Source
Positional factors	Disclosure	Level of application Reporting frequency	Calculated based on GRI database Calculated based on GRI database
	Credibility	Declaration of the level Existence of AS for the SR	Calculated based on GRI database Calculated based on GRI database
Target variables		Ownership Size Country Industry	Each company and the national stock commissions GRI database GRI database GRI database

variables of Disclosure. The values of the manifest variables range within 0 and 1. To group both variables into the represented Disclosure construct, a factor analysis is carried out (Frias-Aceituno et al., 2013; Jolliffe, 2002). The variable reduction proves to be satisfactory (Cronbach's Alpha coefficient, 0.742; Kaiser-Meyer, 0.500; Barlett (sig.), 88.525 (0.000)).

The second construct, Credibility, is measured using the same procedure as Disclosure. The existence of AS and external certifications is considered a mechanism of credibility (Dando and Swift, 2003; Kaptein and Van Tulder, 2003; Williams, 2005). Thus, Declaration of the level and the Existence of an Assurance statement are the manifest variables for Credibility. The result of a factor analysis reduction is satisfactory (Cronbach's Alpha coefficient, 0.795; Kaiser-Meyer, 0.500; Barlett (sig.), 649.743 (0.000)). In sum, both Disclosure and Credibility, are calculated for each company. The first one reflects a quantitative aspect, the amount of information reported; the second one represents a qualitative aspect, the credibility or accuracy of the information disclosed. The combination of both factors shows the commitment of the company to CSR.

3.2.2. Target variables

The four target variables are Ownership, Size, Country and Industry, based on Fernandez-Feijoo et al. (2012). The first variable was obtained by a search of each company in the stock exchanges of the different countries, while the last three variables were collected from the GRI database, as mentioned in the previous section.

Ownership indicates if the company is listed in the stock market or not (Monteiro and Aibar, 2010). This variable adopts a value of 0 if the company is not listed and 1 if it is. Of the companies of our sample, 13.10% are private companies and 86.89% are stock market-listed firms.

Size is based on the GRI classification, which ranges companies in three categories: 1, small- and medium-sized; 2, large-sized; and 3, multinational. In this paper, we transformed the variable into a dichotomist one, which assumes a value of 1 if the company is a large or multinational company and 0 otherwise. In our sample, 48.66% of the companies are small- and medium-sized, and 51.34% are large or multinational.

Country represents a set of characteristics, such as culture, economy, enforcement or existence of regulation on CSR reporting, that influence both the disclosure and the credibility of the reporting. We work with 11 countries covering a wide global geographical area (Table 3).

Industry is a variable extensively recognized as a sensitive variable for CSR reporting Morhardt et al., 2010; Simnett et al., 2009). We used the GRI classification that defines 38 industries.

Table 3
Sample description. Countries and number of companies per country.

Country	Area	N
United States of America	North America	242
Denmark	Europe	15
Finland	Europe	36
Germany	Europe	88
Norway	Europe	19
Portugal	Europe	40
Spain	Europe	229
Sweden	Europe	92
Brazil	South America	160
Japan	Asia	126
China	Asia	75
Total		1122

3.3. Methodology

For each target variable, namely Ownership, Size, Country and Industry, we calculate the mean value of the Disclosure and Credibility factors for each category. For example, for Ownership, given that it assumes two values (0 if the company is not listed and 1 if it is), we calculate the mean Disclosure and Credibility for companies listed and not listed. These results are positioned in a double-axe graph (Disclosure in the Y-axis and Credibility in the X-axis) to represent the CSR reporting behavior (Novice, Cautious, Chattering and Leading) for each group. We repeat the same procedure for Size, Country and Industry.

The test of hypotheses is developed in two steps. In the first one we confirm the validity of using the mean values. In the second one, we conduct four positional analyses. In each of these analyses we test the different groups of the target variables (Ownership, Size, Country and Industry), to evaluate the companies' level of commitment to CSR. In order to graph the representation of the two positional factors, Disclosure and Credibility, we identify two levels of the variable, high and low. This setting defines the four possible behaviors in our model: Novice, Cautious, Chattering and Leading. In order to identify any underlying relationship among the four target variables, we conduct an exploratory analysis using crosstabs and hierarchical loglinear tests (Garson, 2012). The outcome of this analysis shows the possible associations among the target variables and helps in the interpretation of the results.

4. Results

We start by running several tests to validate the use of the means for the inference of our results. For this purpose, the data collected are grouped based on the four target variables used: Ownership, Size, Country and Industry. We conduct nonparametric tests because the Kolmogorov–Smirnov and Shapiro–Wilk tests indicate a lack of normality of the data and usual mathematical transformations such as logarithms do not deal Normal distribution samples. The results presented in Table 4 show that there are statistically significant differences between groups except for size in terms of credibility.

We then use hierarchical log-linear analysis for exploratory model to analyze the associations of each of the values of a target variable in relation to the values of the other target variable. The results identify interactions of order 2 and the main effects that are significant (p -values 0.000). We find significant associations in Country and Ownership, Country and Size, Industry and Ownership and Ownership and Size (Asymp. Sig. 2-sided = 0.000). Country and Industry as well as Industry and Size cannot be explained because more than 20% of the cells have an expected count less than 5. The Chi-Square goodness of fit test indicates that our model is adequate

Table 4
Analysis of the means.

Dependent variables	Independent variables	Means
Disclosure	Ownership	Mann Whitney
		Asymp. Sig. (2-Tailed)
		0.000
Credibility	Size	0.000
		Ownership
		0.000
Dependent variables	Independent variables	Size
		Kruskal–Wallis test
		Asymp. Sig.
Disclosure	Country	0.000
		Industry
		0.000
Credibility	Country	0.000
		Industry
		0.000

(p -value = 0.000). The value of the estimated parameters and their significance show that non-listed companies are more likely in Sweden, Spain (significant at the 99% confidence level), Portugal and Brazil (significant at the 95% level); SMEs are more likely in Spain (significant at the 95% level); and SMEs size and private ownership are fully associated. Regarding industry, listed companies are more likely to belong to the following industries: Automotive, Aviation, Chemicals, Computers, Consumer Durables, Energy, Energy Utilities, Healthcare Products, Household and Personal Products, Metals Products, Technology Hardware and Telecommunications. All industries have a significant association at the 99% confidence level, except for aviation, Computers and Metal Products, which have an association at the 95% level. Results are interpreted taking into account these associations.

Finally, to tests the hypotheses we represent graphically each target variable on the aforementioned four-quadrant diagram.

Hypothesis 1. Ownership

Fig. 1 presents the position of the target variable Ownership in a double-axis chart. Values are presented in Annex 1.

Companies listed in the stock market disclose more information than non-listed companies. This effect can be related to its public visibility, which is consistent with previous research on corporate governance, and it may also be related to requirements of the respective exchange commissions. However, companies listed in the stock market present their reports with a lower level of credibility than private ones. This is an interesting and novel result because most of the research on the topic is based exclusively on data from listed companies. Stock market-listed ownership seems to be associated with a Chattering attitude towards CSR, while non-listed ownership seems to be linked to a Cautious behavior in CSR. Our findings support Hypothesis 1.

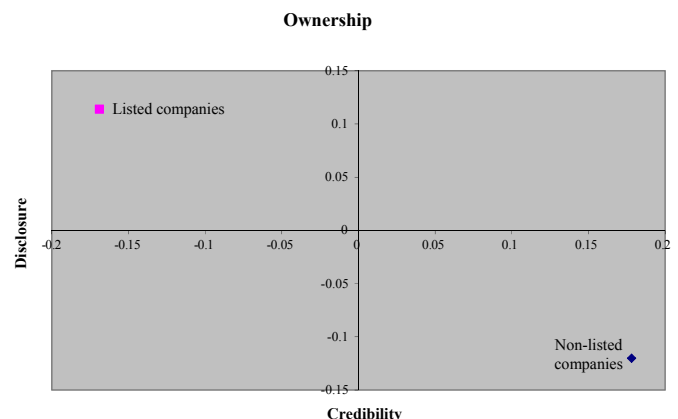


Fig. 1. Ownership variable.

Hypothesis 2. Size

Following our analysis with the second target variable, Fig. 2 presents the position of Size in a double-axis chart. The mean values are presented in Annex 2.

Similar to the results of companies listed in the stock market reported by Simnett et al. (2009), small- and medium-sized enterprises disclose less than large and multinational companies do. Regarding credibility, our sample shows that small- and medium-sized companies add more credibility to their reports than large and multinational companies do. The comparison indicates that the behavior of small companies is similar to that of non-listed ones, which is reasonable given that small companies are usually non-listed. Large companies, on the contrary, present lower levels of disclosure than stock market-listed ones. It seems that there is an increase in reporting by large companies produced by the requirements of the exchange commissions or the external investors. Large companies also present higher levels of credibility than listed companies. Hypothesis 2 is also supported.

Hypothesis 3. Country

The third target variable, Country, is represented in Fig. 3, and its values are shown in Annex 3.

Countries are identified with three of the four defined behaviors, excluding the Chattering behavior. Our results identify a group of countries with high levels of disclosure and credibility (Leading), represented by Spain and Portugal. The group with the lowest level of reporting and credibility (Novice) is represented by Japan, China, the United States and Brazil. Finally, there is an intermediate group represented by northern European countries (Denmark, Sweden, Finland, Norway and Germany) with similar positional variables (Cautious). Although Denmark is marginally included in the higher-level group, cultural characteristics align it more closely with northern European countries. Countries from the European Union (EU) have a more responsible behavior, which can be linked to the European policy on CSR. Hypothesis 3 is supported.

Hypothesis 4. Industry

Target variable four, Industry, is presented in Fig. 4, and its mean values are presented in Annex 4. There are differences in CSR behavior associated with industry that support Hypothesis 4.

The industries presented in Fig. 4 are included in Table 5. The low-level reporting and credibility group (Novice) has the largest number of participating industries (15), representing 37% of the companies. The high-level reporting and credibility group (Leading) includes 10 industries (32% of the companies). The Chattering group is the smallest one, both in number of industries, 6, and percentage, 15%. Finally, the Cautious group has 7 industries, representing a 16% of the companies.

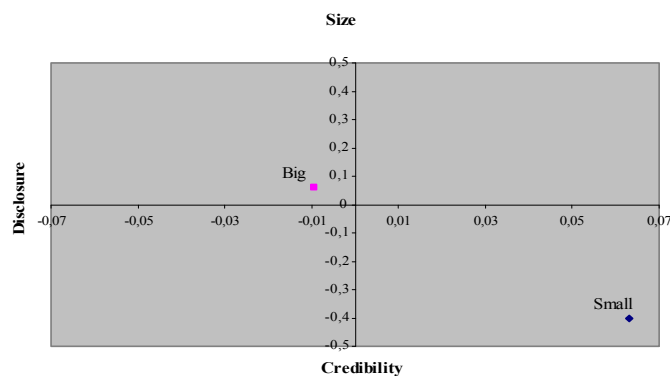


Fig. 2. Size variable.

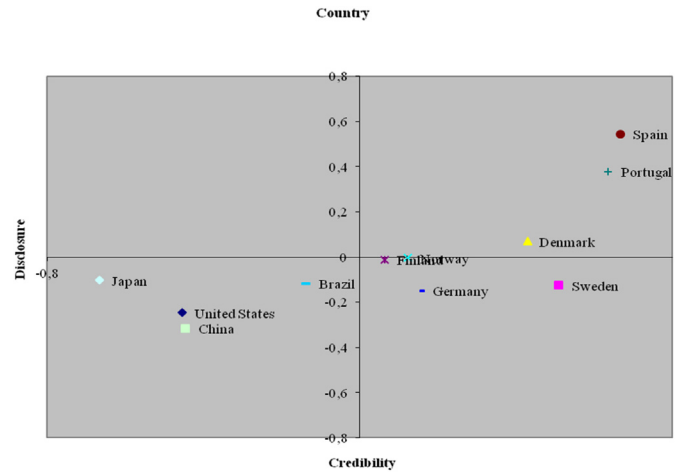


Fig. 3. Country variable.

There is quite a significant concentration around the axes' crossing point. Thus, the evolution of these industries over time is expected and should be analyzed. Most of the industries in the Leading group are generally recognized to be committed with CSR, such as Water utilities or Energy industries (Araya, 2006; Alali and Romero, 2012; Gamerschlag et al., 2011), while the Novice group includes industries that are not referenced by the literature, such as the Tobacco industry, according to Palazzo and Richter (2005).

Table 5 summarizes the results of the level of commitment to CSR of the companies in our sample.

5. Discussion and conclusions

In this paper, we analyzed behavior towards CSR based on companies' CSR reporting. We defined four categories of behavior based on two reporting variables, Disclosure and Credibility, and studied the effect of Ownership, Size, Country and Industry on CSR behavior. This analysis allowed us to assess the level of commitment of those groups in terms of CSR.

The proposed hypotheses are supported, while at the same time, they allow us to draw some interesting conclusions. Regarding the target variable Ownership, most of the previous literature addresses companies listed in the stock market due to data

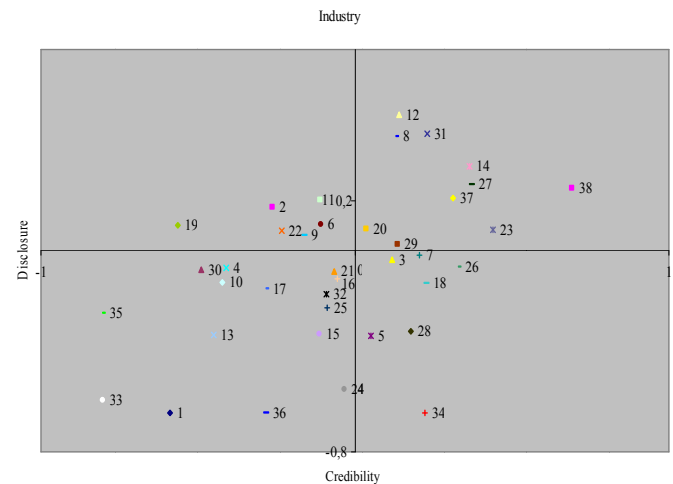


Fig. 4. Industry variable.

Table 5
Results.

Value Variable	Novice Low credibility Low disclosure	Chattering Low credibility High disclosure	Cautious High credibility Low disclosure	Leading High credibility High disclosure
Ownership		Stock market-listed firms	Not stock market-listed firms	
Size		Large and multinational	Small and medium	
Countries	Brazil, China, Japan, the United States		Germany, Sweden, (Finland) (Norway)	Denmark, Portugal, Spain
Industries	Agriculture, Chemicals, Consumer Durables, Equipment, Food and Beverage Products, Forest and Paper Products, Healthcare Products, Media, Non-Profit/Services, Other (*), Technology Hardware, Textiles and Apparel, Tobacco, Toys, Universities	Automotive, Computers, Construction Materials, Energy, Household/Personal Products, Metal Products	Aviation, Commercial Services, Conglomerates (*), Healthcare Services, Public Agencies (*), Real Estate, Tourism/Leisure	Construction, Energy Utilities, Financial Services, Logistics, Mining, Railroad, Retailers, Telecommunications, Waste Management, Water Utilities

Other, Conglomerates and Public Agencies, marked with an (*), are a set of companies grouped without a sectorial criterion and are therefore excluded from the analysis.

availability. Our results show that listed companies disclose more CSR information but with less credibility than private companies do. It seems that owner-managed companies disclose less CSR information than those managed by professionals (Chau and Gray, 2002; Eng and Mak, 2003). To the best of our knowledge, this result is an original contribution to literature. Because owners participate more in the management of private companies, less managerial-owner control is required, which allows owners to focus on non-investor stakeholders, such as the community or their employees. These non-investor stakeholders need additional guaranties to trust SR. On the contrary, listed firms have investors as their main stakeholders, who are given trust in terms of the companies' financial disclosures. In sum, stock market-listed firms are more likely to have a Chattering behavior, while non-listed firms are more likely to have a Cautious attitude.

Regarding Size, our results confirm previous research findings that the larger the firm, the more it discloses (Brammer and Pavelin, 2006; Simnett et al., 2009). Additionally, in our sample, small companies add more credibility to their reports. This result is linked to the definition of Small- and medium-sized companies given that most of the literature on this topic is based on empirical analysis performed with listed companies. In many cases, the classification of a company as small or large is actually a classification between large and larger companies, with all of them being large or multinational companies. In this paper, we work with a sample of 147 real small- and medium-sized companies. We observe that large or multinational firms are more likely to have a Chattering behavior, while small- and medium-sized firms are more likely to have a Cautious one. The agreement in the behavior between stock market-listed and large companies and private and small companies is supported and coherent.

The effects of both Ownership and Size have to be interpreted considering the association between both variables. These variables are highly associated and, as it is above mentioned, Ownership and Size offer similar results. What it is interesting in our results is that we analyze real small-and-medium sized companies and conclude on their less but more reliable disclosing, meaning that a cautious behavior towards CSR.

Similar to those of Van der Lann Smith et al. (2005) and Kolk and Perego (2010), our results confirm that companies in stakeholder-oriented countries (Spain, Portugal or Denmark) disclose more CSR information and are more likely to present assurance of SR than companies in shareholder-oriented countries such as the USA. European countries lead the rankings in the disclosure of CSR information, and they tend to possess a Cautious or Leading attitude. The results reflect the last two decades of efforts by the European Union, which has driven the development of regulations among member states, resulting in different models of CSR reporting. Our study shows similar behavior for central and

northern European countries and southern European countries, namely Portugal and Spain, where the latter offer a more responsible pattern. Estimated association parameters show that non-listed companies are more likely in Sweden, Spain, Portugal and Brazil. SMEs are more likely in Spain. Regarding Portugal and Spain, as firms are more likely to be non-listed and SME, Credibility may be promoted by Ownership or Size variable, in some extent. The association between Ownership and Brazil seems to be not strong enough to influence the behavior of companies in this country. Sweden follows the non-listed expected behavior. All of the countries classified in the Novice behavior group are non-European. This group represents important worldwide economies without a common link. Similar results are reported by Kolk (2008) and Hartman et al. (2007). Cultural differences or public policies may explain this classification, which opens an investigation route for future research.

Our results offer a proposal to classify industry behavior. The group of industries that show a behavior categorized as Leading more or less coincides with industries found to have higher levels of disclosure and more environmental sensitivity. The effect of environmental legislation must also be considered (Barratt, 2006). In the Novice behavior group, we identify two groups of industries. The first one has a close proximity to consumers (Consumer Durables, Equipment, Food and Beverage Products, Healthcare Products, Media, Textiles and Apparel, Tobacco, Toys, Universities, Non-Profit/Services, Technology Hardware). The second one includes three industries that can be considered to be environmentally sensitive (Agriculture, Chemicals, Forest and Paper Products). Chattering behavior is followed by industries with an industrial profile. Finally, Cautious behavior is recognized in a set of industries for which we have not found a common link. Results for industry have to consider possible associations with the other target variables. In fact, listed companies are more likely to belong to the following industries: Automotive, Aviation, Chemicals, Computers, Consumer Durables, Energy, Energy Utilities, Healthcare Products, Household and Personal Products, Metals Products, Technology Hardware and Telecommunications. 5 over 12 associations correspond to industries classified as chattering (Automotive, Computers, Energy, Household and Personal Products and Metals Products), the same as for listed companies. Interactions between these industries and Ownership variable may influence and tend these sectors to lower values of credibility. On the other hand, only one industry (Aviation) is classified as cautious, the same as non-listed companies. Thus, we can conclude on the strength of this classification.

Based on our results, we can recommend to large companies to give more credibility to their SR as a way to found solid communication with their stakeholders. A similar recommendation can be made for companies listed in the stock market. These two groups

have more financial resources for sustainability reporting, but they lack credibility and should give more confidence to their stakeholders through AS. On the other hand, the effect of cultural factors on a country's behavior is observed. To some extent, country legislation could be a tool with which to compensate differences among countries. Regarding Industry, our results can offer a well-based classification criterion due the difficulty of defining consistent groups for this variable.

The never-ending debate over mandatory reporting can also be enriched by our contribution. It is not only the obligation to elaborate and present SR but also its necessity that could be legally supported to give credibility to reports by means of AS. In our opinion, the debate should be extended by considering the need for an external assurance of SR, as it is for financial reporting.

In sum, our outcomes offer some interesting contributions to literature regarding non-listed companies and their reporting behavior and confirm previous research about the effect of the country on disclosing attitudes. We also present a new classification for the variable Industry, based on their reporting profile. We complete our contribution with some recommendations to the managers of national and multinational companies when preparing corporate social disclosure by providing practical thinking about their communication tool with stakeholders.

We are aware of the limitations of our paper due analysis performed, even though we have included the possible associations among the target variables as a complementary explanation of our results. The use of the GRI as our only data source can be considered as an additional limitation, as [Marimon et al. \(2012\)](#) indicate. [Delmas et al. \(2013\)](#) suggest that for environmental and social performance, more than one information provider should be considered. The analysis of only eleven countries can also be regarded as a limitation. Future research should focus on the application of the methodology to a wider sample using additional information sources. It would also be interesting to analyze the time trend of the position of each target variable, namely, Ownership, Size, Country and Industry. For example, in Industry, there is an important concentration around axes, and it would be interesting to observe the evolution to date and the direction of the future changes in strategy if they exist.

Annex 1

Ownership means	Credibility	Disclosure
0 – Non-listed ownership	0.178129853	–0.120126044
1 – Stock market listed ownership	–0.168844219	0.113868108
Average	0.000004127	–0.000000704

Annex 2

Size means	Credibility	Disclosure
0 – Small and medium	0.063201293	–0.401839388
1 – Large and multinational	–0.009524062	0.060584205
Average	0.000004127	–0.000000704

Annex 3

Country means	Credibility	Disclosure
1 – United States	–0.454179959	–0.246950826
2 – Sweden	0.509154891	–0.125811522
3 – Denmark	0.428408000	0.068828000
4 – Norway	0.122393158	–0.004052632
5 – Finland	0.063015556	–0.011850278
6 – Spain	0.666790480	0.543656725
7 – Portugal	0.635751250	0.376092500
8 – Germany	0.154651250	–0.149760795
9 – Brazil	–0.138944375	–0.117255625
10 – Japan	–0.666653175	–0.103470952
11 – China	–0.446016000	–0.316756533
Average	0.000004127	–0.000000704

Annex 4

Industry means	Credibility	Disclosure
1 – Agriculture	–0.588825455	–0.643688182
2 – Automotive	–0.261603158	0.173888421
3 – Aviation	0.119274762	–0.035680000
4 – Chemicals	–0.408650625	–0.068711250
5 – Commercial services	0.050679355	–0.340031290
6 – Computers	–0.109388571	0.105271429
7 – Conglomerates	0.205799091	–0.017108182
8 – Construction	0.130865000	0.454047500
9 – Construction materials	–0.160960000	0.059581053
10 – Consumer durables	–0.422711935	–0.127326774
11 – Energy	–0.112047600	0.203585867
12 – Energy utilities	0.140224444	0.539564603
13 – Equipment	–0.449926364	–0.333586818
14 – Financial services	0.363890000	0.336380000
15 – Food and beverage products	–0.113177302	–0.331511111
16 – Forest and paper products	–0.055297273	–0.110263939
17 – Healthcare products	–0.283807037	–0.152782222
18 – Healthcare services	0.227001667	–0.131512778
19 – Household and personal products	–0.564587059	0.100473529
20 – Logistics	0.036922667	0.084874333
21 – Media	–0.065453333	–0.082379167
22 – Metal products	–0.233382963	0.078497037
23 – Mining	0.439288235	0.084535294
24 – Non-profit/Services	–0.034407500	–0.551555000
25 – Other	–0.089071000	–0.228361000
26 – Public agencies	0.330700000	–0.065213200
27 – Railroad	0.371680000	0.261680000
28 – Real Estate	0.178963200	–0.319562400
29 – Retailers	0.136825000	0.026280455
30 – Technology hardware	–0.488287714	–0.075896000
31 – Telecommunications	0.230107200	0.465160800
32 – Textiles and apparel	–0.091649375	–0.173245000
33 – Tobacco	–0.804240000	–0.594735000
34 – Tourism/Leisure	0.222363333	–0.625376667
35 – Toys	–0.804240000	–0.248810000
36 – Universities	–0.283780769	–0.643563077
37 – Waste management	0.311998000	0.208391000
38 – Water utilities	0.691653571	0.247925714
Average	0.000004127	–0.000000704

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