Financial disclosure and social environmental responsibility: An empirical study on the Brazilian market

Divulgación financiera y responsabilidad ambiental social: un estudio empírico en el mercado brasileño

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Abstract

The objective of this paper was to analyse the level of disclosure of social and environmental information of the sectors and companies listed on the Corporate Sustainability Index (CSI) of the BM&FBovespa. Based on accounting and finance theories, it was performed a quantitative and qualitative empirical study through the content analysis, according to the participation of companies by sector, sub-sector and business segment on the CSI, totalling 25,948 items from 202 companies observations. The results indicate that (i) there is no standardization in the analysed information; (ii) there are different levels of social and environmental disclosure among companies and industries; (iii) companies say that they are more socially and environmentally responsible than, in fact, they are – which could be considered, to a certain extent, as a form of 'green washing'; (iv) companies have mostly positive and declarative information; (v) improving the level and amount of corporate information may be influenced by the provisions of the regulatory bodies; and (vi) the voluntary disclosure of environmental information is probably not motivated by the search for transparency and good corporate governance practices, but as an attempt to increase credibility and improve corporate image.

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Resumen

El objetivo de este trabajo fue analizar el nivel de divulgación de la información social y ambiental de los sectores y empresas que figuran en el Índice de Sostenibilidad Corporativa (CSI) de la BM&FBovespa. Con base en teorías contables y financieras, se realizó un estudio empírico cuantitativo y cualitativo a través del análisis de contenido, de acuerdo con la participación de empresas por sector, subsector y segmento comercial en el CSI, totalizando 25,948 ítems de 202 empresas de observación. Los resultados indican que (i) no hay estandarización en la información analizada; (ii) existen diferentes niveles de divulgación social y ambiental entre empresas e industrias; (iii) las empresas dicen que son más responsables social y ambientalmente que, de hecho, lo son, lo que podría considerarse, en cierta medida, como una forma de "lavado verde"; (iv) las empresas tienen mayormente información positiva y declarativa; (v) la mejora del nivel y la cantidad de información corporativa puede estar influenciada por las disposiciones de los organismos reguladores; y (vi) la divulgación voluntaria de información ambiental probablemente no esté motivada por la búsqueda de transparencia y buenas prácticas de gobierno corporativo, sino como un intento de aumentar la credibilidad y mejorar la imagen corporativa.

Introduction

Corporate governance (CG). In recent decades, the international literature shows that society, managers, investors, companies and policymakers have increased their   concerns with social environmental questions especially regarding their disclosure (e.g. Diamond and Verrechia, 1991; Frias-Aceituno *et al.*, 2014; Kiliç; 2016; Lopatta *et al.*, 2016), this becoming a theme of growing importance in studies on accounting, management and strategy (Gray *et al.*, 2014). These questions are being turned into a competitive priority for companies (Longoni and Cagliano, 2015). Both the international literature (e.g. Elkington, 1994; Saltaji, 2013; Charlo *et al.* 2015; Lopatta *et al.*, 2017) as also the Brazilian literature (e.g. Rocha *et al.*, 2013) deal with the integration of sustainability, business strategy, environmental management and corporate social responsibility (henceforth CSR), a sustainable company being considered one that is capable of contributing towards sustainable development, in simultaneously generating economic, social and environmental benefits, which, according to Saltaji (2013), are highly correlated issues.

In the extensive debate on the theme, controversy has arisen over the benefits, or otherwise, of the voluntary disclosure of social environmental information in the financial statements (henceforth FSs). The debate occurs from two perspectives. The first relates the corporate declarations on transparency with the good practices of corporate governance (CG). The

second perspective treats the disclosure as a means of exposure to strategic issues. Moreover, Bhattacharyya and Cummings (2015) explain that the information disclosed by various companies differs in terms of content, limit, style and complexity, making their comparison difficult.

The idea that is becoming consolidated, however, is that the financial disclosure should be treated strategically in an attempt to contribute to the credibility of the company (Fernandes, 2012), improve the image of it before society, comply with legislation, minimize environmental impacts and/or collaborate towards the management of sustainability. Nevertheless, there appears to be a disconnect between the discourse and the practice of sustainability, because although the companies state that they are concerned with divulging information transparently there are factors that differentiate the level and quality of the financial disclosure between companies and/or economic industrial sectors. It's especially because there is no standard format for financial disclosure. So, the investigation normally simply reproducing the evidence as it appears in the FSs in the various industrial sectors, stimulating the research of the way in which that information would be published in FSs in different industries. In addition, in the international literature, authors as Charlo *et al.* (2015) state, the results obtained in the majority of the studies on the theme were not conclusive, making necessary further investigations to help understand the phenomena better.

Recognizing and exploiting this investigation gap, the objective of this paper is to analyse the level of disclosure of social and environmental information of the sectors and companies listed on the Corporate Sustainability Index (CSI) of the BM&FBovespa.

This discussion is justified because it helps to reduce the gap in the above mentioned research (Jordão, 2015; Jordão *et al.*, 2017) and widen knowledge of the theme by investigating in what way companies from different economic sectors position themselves (Jordão and Almeida, 2017) in relation to social environmental disclosure. This contributes to the reduction of the asymmetry in investor information (cf. Lopatta *et al.,* 2016) – desirable from the point of view of the shareholders and other stakeholders, as pointed out by Beuren *et al.* (2013), and is related, in the view of Frias-Aceituno *et al.* (2014), to agency and signalling theories. Furthermore, voluntary financial disclosure can be conditioned to CG practices and marketing strategies, or also taken into consideration and dealt with to demonstrate greater transparency in the organization, or better levels of CSR, being related, according to González Esteban (2007), to stakeholder theory, which stresses the importance of the theme and equally justifies the execution of the research.

Although an understanding of how companies from different economic industrial sectors position themselves in relation to social environmental disclosure is very relevant for the general comprehension of the theme, at this stage of the investigation, what specific factors could have motivated the differentiated participation between the sectors is not explored in a more detailed, profound manner. This is a limiting factor incoming to a more comprehensive conclusion on the theme that could be presented in this work.

The present article was structured in five sections in addition to this introduction. In section 2 and 3 the issue of social environmental sustainability aligned with strategy, social environmental responsibility, CG, CSI and empirical aspects of the industrial disclosure are presented and discussed. In section 4 the research protocol is presented. In section 5 the results and their analysis and discussion are presented. In section 6 the conclusions are highlighted, followed by the bibliographic references.

Corporate governance, corporate social responsibility, strategy and social environmental disclosure

CG is a theme that has received much attention in both the academic and the corporate milieu (Jordão, Souza and Teddo Jordão, 2012; Jordão and Colauto, 2013; Cosset *et al.*, 2016; Ntim, 2016; Lauterbach and Pajuste, 2017; Uyar *et al.*, 2017). According to the Brazilian Institute of Corporate Governance (henceforth IBGC), good CG practices have the purpose of increasing the market value of companies, of contributing towards their duration, and ensuring that managers behave in accordance with the expectations of the owners (IBGC, 2017), stimulating them to produce more information and to improve the quality of their accounting practices.

In the international literature, the so-called good CG practices help to reduce information asymmetries between the investors and stimulate the flow of international capital (e.g. Kashmartian *et al.*, 2011; Lauterbach and Pajuste, 2017), having a relationship with strategy, competitiveness, firm value, and business sustainability (Kashmartian *et al.*, 2011; Ribeiro *et al.*, 2014; Cosset *et al.*, 2016; Ntim, 2016).The complexity of the business world has led to growing demands on companies in relation to the information provided by them on financial performance, management, CG and their contribution towards the development of sustainability (Garcıa-Sanchez *et al.*, 2013; Frias-Aceituno *et al.*, 2014; Lauterbach and Pajuste, 2017). Notwithstanding this, strategic business positioning aligned with sustainability would suggest that in such a condition socially responsible companies should provide important information, through their accounting, to shareholders and other stakeholders.

Even though the international debate on CSR began in the 1930s, there is still no consensus on the actual meaning of the theme (Carroll, 1999). Beyond this debate, the importance of the theme involving management and social environmental sustainability is growing in contemporary studies on strategy, accounting and finance (Gray *et al.*, 2014). Different initiatives having arisen on a world scale to provide an incentive for companies to include CSR in their business strategies (Charlo *et al.*, 2015; Longoni and Cagliano, 2015). Nevertheless, these questions have been in the forefront ever since concern with sustainability was brought into the limelight of the strategic debate by authors such as Elkington (1994), and, in the modern world, they have become a competitive priority for companies (Longoni and Cagliano, 2015). In fact, the treatment of corporate sustainability as a strategy produces several benefits for the organization (Kashmartian *et al.*, 2011), especially if it is connected to core business to maximize the potential of its actions (Porter and Kramer, 2002). According to Preston (2001), sustainability should be thought of strategically, and constitutes a fundamental point for the maintenance of the financial feasibility of the business.

As environmental protection has become a crucial factor for attaining sustainable development, the interested organizational parties, including consumers, shareholders, regulators, creditors, fund managers, environmental groups and the general public, are becoming increasingly interested in the environmental performance of companies (Bhattacharyya and Cummings, 2015). In addition, the international literature the voluntary disclosure of social-environmental information (Verrecchia, 2001; Dye, 2001) is seen as a strategic action promoting improvements in the company image, the reduction of potential agency costs and stimulating CG through greater organizational transparency. According to Soler *et al.*, (2009), the accounting reports should provide evidence, among other things, of the organization's

performance with respect to sustainable development.

The international literature points out that some leading companies started to publish integrated reports (e.g. Eccles and Kruz, 2010; Garcıa-Sanchez *et al.*, 2013, Frias-Aceituno *et al.*, 2014), in the form of a document with a coherent summary of this information, thus facilitating participation and decision taking by the different interested parties (Garcıa-Sanchez *et al*., 2013, Frias-Aceituno *et al.*, 2014), constituting, in the words of Eccles and Kruz (2010), integrated reports for a sustainable strategy.

In fact, the production and presentation of an integrated report, generally voluntary, expands the information contained in traditional FSs. Its use can be justified by stakeholder theory, according to which the organisations should create wealth for all participants, in contrast to the traditional financial model based on the creation of value for the main agent or shareholder (González Esteban, 2007). On the other hand, Frias-Aceituno *et al.* (2014) remind us that there are costs borne by the owners in developing voluntarily this new type of business document.

The accounting theory (e.g. Hendriksen and Van Breda, 2012) already postulated that there can be additional costs for there to be an increase in the disclosure of information to the market; so that the choice of the level and manner of disclosure is related to agency and signalling theories (cf. Frias-Aceituno *et al.*, 2014). This is because, according to Jensen and Meckling (1976), whose explanation is based on finance theories, managerial behaviour influences the relations of property and management, leading the proprietors to incur agency costs to reduce the opportunism of managers and information asymmetry. In this sense, Young and Guenther (2003) state that some measures are necessary to reduce information divergence, improve investor analysis capacity and, in consequence, reduce decision-taking risks. According to Jordão *et al*. (2012), good CG practices play a fundamental role in this question, as they generally help to reduce information discrepancy, protecting the interests of investors, increasing international capital flows and harmonizing accounting standards. The disclosure of positive information (omitting unfavourable information) with the purpose of presenting a good image of the company, as observed by authors such as Dye (2001), Verrecchia (2001), Gubiani *et al.* (2012), Coelho *et al.* (2013) and Kiliç (2016). Hendriksen and Van Breda (2012) and Nossa (2002) contribute to the comprehension of the importance of information disclosure by companies to all interested parties, alerting to the need for wide range and amplitude of the accounting disclosure. These authors argue that the standard of information of an environmental nature contributes to investors, shareholders and society being able to undertake a comparison of companies. Beyond these questions and considering that in Brazil there is no requirement to divulge information of a social and/or environmental nature in an exclusive report, the need arises of seeing whether this type of information is being published or not, voluntarily, in the FSs, either in the Administration Reports (ARs) or the Explanatory Notes (ENs).

Contemporary studies on corporate governance, corporate social responsibility and strategic social environmental disclosure

In contemporary international literature, many studies have been done on CG, CSR and social environmental disclosure (e.g. Kashmartian *et al.*, 2011; Cosset *et al.*, 2016; Kiliç, 2016; Ntim, 2016; Lauterbach and Pajuste, 2017; Ioannou and Serafeim, 2017). In particular, the international literature emphasizes the importance of the quality of financial disclosure on CG as a means of guaranteeing the quality, transparency and comparability of information between companies (Ntim, 2016; Cosset *et al.*, 2016; Lauterbach and Pajuste, 2017; Ioannou

and Serafeim, 2017; Uyar *et al.*, 2017), even more in terms of social and environmental aspects (Taplin *et al*. 2006; Kashmartian *et al.*, 2011; Bhattacharyya and Cummings, 2015; Longoni and Cagliano, 2015; Ioannou and Serafeim, 2017; Uyar *et al*., 2017).

Based on an analysis of existing accounting literature, Verrecchia (2001) proposed the taxonomy on financial disclosure, suggesting three distinct categories. The first so-called "association-based disclosure" studies the effect of exogenous disclosure on cumulative change or disruption in individual investor stock, primarily through asset price behaviour and turnover. The second category called "discretionary-based disclosure" examines how managers and companies exercise discretion as to the disclosure of information about which they may have knowledge. The third category called "efficiency-based disclosure" discusses which disclosure mechanisms are preferred in the absence of prior knowledge of the information. Verrecchia (2001) concluded that the disclosure of financial information is related to the asymmetry of information, and the reduction of such asymmetry can be perceived as a vehicle to integrate the efficiency of the choice of disclosure, the incentives for disclosure and the endogeneity of the process of the capital market, involving the interactions between individual and collective investors.

Young and Guenther (2003) examined the relationships between international capital mobility, the specificities of countries and the characteristics of financial reporting. In the authors' view, differences in financial accounting information in all countries may have first-order economic effects, revealing a direct positive relationship between the quality of financial accounting information, economic performance and CG. In addition, empirical results have shown that countries where the best financial accounting environments lead to greater disclosure of relevant accounting information are more likely to have greater international capital mobility and to generate value for investors.

Kashmartian *et al.* (2011) looked at the key-elements of a corporate sustainability strategy based on the individual experience of several businesses, including companies early in the sustainability process, as well as enterprises that are interested in improving or expanding their already established sustainability strategy. These authors noted that a corporate sustainability strategy is a multifaceted issue, but offers multiple benefits for companies that use them. The findings of Kashmartian *et al.* (2011) indicate that elements of a corporate sustainability strategy can be grouped into four categories: (1) establishing strategic direction, (2) improving operational performance, (3) improving value chain performance, and (4) the establishment of an effective relationship with and between internal and external stakeholders.

Frias-Aceituno, Ariga and Garcia-Sánchez (2014), examined the power of explanation of agency and signalling theories about the publication of integrated CSR reports, through a logistic regression applied to panel data on an unbalanced sample of 1590 international companies for the years 2008-2010. The results indicate that there is a negative impact of industry concentration on more pluralistic reporting, while assuming that stakeholders, sustainability and long-term management, as well as issues of responsible investment, business ethics and transparency are influential in this regard. This is because, according to Frias-Aceituno *et al*. (2014), the complexity of the business world has led to growing demands from companies regarding the information provided about their financial performance, CG and their contribution to the development of sustainability. In response, some leading companies began to publish integrated reports in the form of a document presenting a coherent summary of this information, facilitating stakeholder engagement.

More recently, Kiliç (2016) analyzed the factors that affect the disclosure of CSR information through the content analysis of the online reports of 25 banks in Turkey. The results of the study showed that the most publicized dimension on the banks' websites is product and customer information. Aspects such as human resources and community involvement were partially disclosed and in small amounts. In addition, there was a lack of disclosure of environmental and energy items. Taken together, the research findings show that firm size, ownership structure, and multiple exchange listing are significant factors in explaining the level of disclosure of CSR information from these companies.

Villiers and Marques (2015) studied the different CSR disclosure levels of the largest European companies, noting that companies are more likely to disclose more information about CSR in countries with better investor protection, higher levels of democracy, more government services, higher quality regulations, more freedom of the press and commitment to environmental policies converging with the findings of Young and Guenther (2003). The authors' conclusions indicate that higher levels of CSR disclosure are associated with higher stock prices, especially in countries with more democracy, where investors are best placed to voice their concerns and where there are better regulation and more effective implementation of government regulations.

Dias, Rodrigues and Craig (2017), have used stakeholder theory to explore how CG characteristics influence the CSR disclosure in Portugal. The conclusions indicated that in a country characterised by high concentration of ownership, the duality of CEOs has a positive effect on the disclosure of CSR. The results also revealed that a larger council will represent a broader diversity of stakeholders and tend to promote better monitoring, more assertive stakeholder management, greater transparency and increased levels of CSR disclosure. In addition, larger companies and businesses close to consumers are associated with high levels of CSR disclosure, apparently because they are more visible and subject to more monitoring by society, especially during times of financial crisis.

Nazari, Hrazdil and Mahmoudian (2017), analyzed the relationship between the complexity of CSR disclosure and its actual performance. Based on a cross-section of autonomous CSR reports issued by large US companies they used computational linguistics and various measures of disclosure and reading quality to investigate this phenomenon. The observed results indicate that both the more readable CSR reports and the increased disclosure of CSR are associated with better CSR performance. They concluded that increased CSR disclosure increases transparency with respect to corporate social and environmental performance, while the use of less readable language in CSR reports increases the blurring of shareholders, financial analysts and investors to determine the credibility of CSR disclosure. Rahim and Alam (2014) analysed the convergence of CSR and CG, and their influence in corporate accountability mechanisms, comparing the behaviour of organisations from stronger and from weaker economies. They argue that contrary to the incentive for 'corporate self-regulation' that can be found in stronger economies the convergence of CSR, CG and corporate accountability mechanisms has not been visible in the companies of weaker economies, They have also associated the deficiency in the self-regulation of companies in less vigilant environments to the fact that in these less developed economies "civil society groups are unorganized, regulatory agencies are either ineffective or corrupt and the media and non-governmental organisations do not mirror the corporate conscience". From a more general perspective Rahim and Alam (2014) findings coincide with Sethi *et al*. (2017) findings that the quality of corporate social responsibility

reports by some of the world's largest financial institutions may vary significantly depending on the legal factors and CSR environment of the financial institutions' headquarters.

Researching the consequences of mandatory corporate sustainability reporting, Iannou and Serafeim (2017) examine the effect of sustainability disclosure regulations on firms' disclosure practices and valuations. They have explored the implications of regulations mandating the disclosure of environmental, social, and governance information in China, Denmark, Malaysia, and South Africa using either firms from the U.S. or worldwide to form the control groups. They found that treated firms significantly increased disclosure compared to control firms and argued that these firms increased disclosure with efforts to increase the comparability and credibility of the disclosed information assuming that the economic effect of the disclosure regulations appears to be positive.

Finally, more recently and in the international context, the link between corporate environmental and social disclosure and corporate financial performance have been investigated, among others, by Qiu, Shaukat,and Tharyan (2016). Their research results indicate that past profitability drives current social disclosures. They did not find any relation between environmental disclosures and profitability, but argued that it is the social disclosures that matter to investors and have found that firms that make higher social disclosures have also higher market values. Malarvizhi and Matta (2016) on the other hand have argued that empirical studies carried out in developed countries provide mixed results about impact of environmental disclosures on firms' performance and that there is little empirical evidence available on the relationship between environmental disclosure and firm performance in developing countries.

In the Brazilian case, companies listed in the CSI are committed to sustainability and CSR, and are considered references for socially responsible investments (Dani *et al.*, 2013). Beuren *et al.* (2013) observed that Administration Reports (ARs) present a greater volume of environmental disclosure and that companies did not disclose environmental provisions and liabilities and accounting practices involving environmental items.

Nossa (2002) argued that there are divergences in disclosure between companies in relation to their size, the country where they are located and differences between the financial report and the specific environmental report. Luca *et al.* (2012) investigated the level of voluntary disclosure of the social information by publicly traded Brazilian companies, revealing that the regulated sectors tended to disclose more information than the others. Oliveira *et al.* (2012) on the other hand perceive that voluntary or obligatory disclosure of environmental information is a problem faced by companies in Brazil and abroad. They argue that the CSI is an index used as a reference for socially responsible investors and that in Brazil there is no standardization regarding environmental disclosure.

The variables that influence adherence to the CSI were the object of a study by Andrade *et al*. (2013), who perceived that the level of environmental impacts and the size of the company are conditioning factors for listing on the CSI. Business sustainability provided an incentive for Rocha *et al*. (2011) to investigate the evolution of environmental disclosure in the organisations comprising the CSI, arguing that investors are seeking socially responsible companies. The results showed that the companies analysed belong to some level of CG assigned for listed companies in the Brazilian Stock Exchange and are mostly from the electrical power and banking sectors. Oliveira *et al*. (2014) analysed the level of adhesion, and the volume of publications of sustainability reports between 2000 and 2008, contrasting economic sectors and participation in the CSI, finding more publication in Europe and that Brazil leads in Latin

America. These authors found that the banking sector and consumer goods prepared the most complete reports and with a strong correspondence with the shares negotiated in the new market and the composition of the CSI.

Oro *et al*. (2013) analysed the companies listed on the CSI, from 2007 to 2010, finding that the largest participation is in the utilities sector, with 10 power utilities and two from the water and sanitation area, large companies, linked to the important area of engineering and infrastructure, which are obliged to present the Annual Sustainability Report because they operate in regulated sectors.

In summary, contrasting the findings of the international literature with the Brazilian literature, an absence of standardization and uniformity can be perceived in environmental disclosure. Taken together, the results of previous studies show that: (i) almost all information presented is favourable to the companies; (ii) positive disclosure seems to be adopted for the purpose of presenting a good organizational image. Additionally, (iii) there are factors that determine the participation of the companies on the CSI such as compliance with the standards of regulated sectors, in addition to economic size. Moreover, (iv) the level of disclosure is conditioned especially by adherence to good CG practice, improving the level of business transparency.

Research methodology

The research presented in this paper is of a predominantly qualitative nature, with a mixture also of quantitative approaches for the analysis of the problem, as proposed by Jick (1979). It is a descriptive and documentary piece of research, and is initiated by a bibliographical survey, making use of documentary analysis and being characterized as ex-post facto research, according to Cooper and Schindler (2006). The international literature (e.g. Kashmartian *et al*., 2011; Bhattacharyya and Cummings, 2015; Longoni and Cagliano, 2015; Ioannou and Serafeim, 2017; Uyar *et al.*, 2017) considers that this modality allows the comparison between the samples and the confrontation of information contained in the FSs of different companies. In fact, this methodological approach has been suggested as sufficiently sensitive to analyze the level of social and environmental information disclosure of the companies, as well as to understand the relationships between the disclosure of this type of information with CSR and the CG in such companies and sectors. In these sense, the research analysed the participation of companies listed on the BM&FBovespa classified in the CSI by industrial sector – considered an important set for analysis from the perspective of sustainability and social-environmental responsibility.

The research involved the compilation, scrutiny and interrelationship of the most significant theoretical-empirical results available in the literature on the subject. In this opportunity, an extensive research was carried out, based on information from the two main academic databases of the world (Scopus and Web of Science), including research on portals such as B-one, Ebsco, Proquest, Emerald, Science Direct, Google Scholar, OECD, covering the period from 1960 to 2017, prioritizing theoretical empirical studies published in high-level international journals, and strictly related to the research problem. Subsequently the scope was extended to other bases and portals such as Scielo, Redalyc, Capes Journals to understand more closely the reality of Latin American countries. To ensure a high level of rigor, the research was conducted considering a set of selected keywords like CSI, CSR, CG, FS, and financial disclosure, social and environmental information – which were surveyed together from two to five keywords.

The analysis of these studies and their inferences has served in this research as a basis to defend and sustain the proposed research either theoretically or conceptually.

It should be pointed out at this stage that from the companies making up the Corporate Sustainability Index a differentiated level of disclosure of socio-environmental information is expected, as this is an index used as a comparative analytical tool in the performance of companies listed on the BM&FBovespa, singling out the companies or groups that commit to sustainability, quality, equity, transparency and accountability, nature of the product, in addition to business performance in the economic-financial, social, environmental, and climate change dimensions, in line with that proposed by Elkington (1994).

The universe of the research consists of the companies with shares traded on the BM&FBovespa (varying in number between 432 and 557), making up a total of 3,047 observations between 2008 and 2013. The choice of this period took into account the publication of Law 11,638 / 2007 - which advocated the convergence of accounting with international standards (IFRS). From this universe, companies listed on the CSI were selected in accordance with the criteria adopted by the BM&FBovespa (2014) and in a non-probabilistic investigative way (intentional selection).

The population of the study was composed of 209 'participations' (companies that integrated the CSI during the period analysed), of which 202 continued active, as shown in Figure 1 – which presents the list of companies in the CSI from 2008 to 2013. The shortest list occurred in 2009 with 29 companies and the largest in 2013, with 37 'participations', and 22 uninterrupted 'participations', totalling 404 observations in the selected period, resulting from 202 Explanatory Notes (ENs) and 202 ARs analysed.

The search for the terms proposed in this research implied 25,948 results. This expressive result makes possible the analysis from various aspects confronting the information and seeking the perception of the possibility of alignment between the social environmental information contained in the ARs and ENs and that in the economic sectors. In the analysis, the sentences containing terms that have a relation with social and environmental issues and also those inherent to the CSI were identified and selected in a qualitative and in a preliminary way. These sentences were submitted to an analysis of content in accordance with Kiliç (2016) and subsequently dealt with statistically. According to Jordão (2015) and Jordão and Novas (2013), the analysis of the symbolic meaning and content of linguistic communication takes place by means of semantic, syntactic and logic classification and dismemberment operations.

The analysis of content consisted in techniques used to investigate the meaning of messages in linguistic communications, this being considered sufficiently sensitive to analyse the complexity of the problem being approached (Jordão *et al.*, 2014). During this analysis, the procedures of pre-analysis, exploration of material and treatment of the results and interpretation, were followed as proposed by Bardin (2011). The sample appearing in Figure 1 was divided up by sector, sub-sector and economic segment of activity. The classification constituted by the BM&FBovespa into 10 sectors subdivided into 43 subsectors and 95 segments was observed.

In the analysis, the assumptions and evidences provided by the international literature were considered, especially regarding the quality of the financial disclosure and its relations with the CG as a means of stimulating greater quality, transparency and comparability of information between companies. In particular, the analysis were based on the social and environmental aspects as in the works of Taplin, Bent and Aeron-Thomas (2006), Kashmartian, Wells and Keenan (2011), Bhattacharyya and Cummings, (2015), Longoni and Cagliano (2015), Ioannis

and Serafeim (2017), Uyar, Gungormus and Cemil (2017) and Ntim, (2016). Data was collected from the ENs (Explanatory notes) and ARs, the unit of analysis used being those sentences that contained terms such as: economic efficiency; environmental balance; CG; CSI; social justice and corporate sustainability – terms listed for participation in the CSI. In the analysis the terms proposed by Faria and Pereira (2009) were also utilized: environmental; sustainable development; environment; responsibility; social; social environmental and sustainability. Both sets of terms were classified by the nature of the disclosure into positive and negative, as proposed by Fernandes (2012), a neutral classification being added for those situations that were not possible to classify. Table 1 presents the sectoral participation of the companies listed on the CSI (2008 to 2013).

Table 1
Sectoral Participation of the companies listed on the CSI (2008 to 2013)

Industrial Sector/Year	2008	2009	2010	2011	2012	2013
Industrial Goods	Embraer	Embraer	Embraer	Embraer	Embraer	-
	-	-	Inds Romi	Inds Romi	-	-
	Iochp-Maxio	-	-	-	-	-
	Weg	-	-	-	-	Weg
Construction and Transport	CCR Rodovias	-	-	-	-	-
	-	-	-	-	CCR SA	CCR SA
	-	-	-	-	Ecorodovias	Ecorodovias
	-	-	Even	Even	Even	Even
Non-cyclical consumption	-	-	BRF Foods	BRF Foods	BRF Foods	BRF Foods
	Dasa	Dasa	Dasa	-	-	-
	Natura	Natura	Natura	Natura	Natura	Natura
	-	Odontoprev	-	-	-	-
	Perdigão S/A	Perdigão SA	-	-	-	-
	Sadia S/A	-	-	-	-	-
Financial and Others	-	-	-	Bic Banco	Bic Banco	Bic Banco
	Bradesco	Bradesco	Bradesco	Bradesco	Bradesco	Bradesco
	Brasil	Brasil	Brasil	Brasil	Brasil	Brasil
	Itaubanco	Itaubanco	-	-	-	-
	-	-	Itausa	Itausa	Itausa	Itausa
	-	-	Itauunibanco	Itauunibanco	Itauunibanco	Itauunibanco
	-	-	-	Santander	Santander	Santander
	-	-	Sul América	Sul América	Sul América	Sul América
	-	-	-	Ultrapar	Ultrapar	Ultrapar
	-	Unibanco	-	-	-	-
Basic Materials	Aracruz	-	-	-	-	-
	Braskem	Braskem	Braskem	Braskem	Braskem	Braskem
	-	Duratex	Duratex	Duratex	Duratex	Duratex
	-	-	Fibria	Fibria	Fibria	Fibria
	Gerdau	Gerdau	Gerdau	Gerdau	Gerdau	Gerdau
	Gerdau Met	Gerdau Met	Gerdau Met	Gerdau Met	Gerdau Met	Gerdau Met
	Suzano Papel	Suzano	Suzano	Suzano	Suzano	Suzano
	Suzano Petro	-	-	-	-	-
	-	-	Usiminas	-	-	-
	V C P	V C P	-	-	-	-
	-	-	-	Vale	Vale	Vale
Petrol. Gas, Bio Comb.	Petrobras	-	-	-	-	-
Telecommunications	-	-	-	-	-	Telef. Brasil
	-	Telemar	Telemar	Telemar	Telemar	Telemar
	-	Tim PartS/A	Tim PartS/A	Tim PartS/A	Tim PartS/A	Tim PartS/A
	-	-	Vivo	Vivo	-	-
Public Utilit	AES Tietê	AES Tietê	AES Tietê	AES Tietê	AES Tietê	AES Tietê
	-	Celesc	-	-	-	-
	Cemig	Cemig	Cemig	Cemig	Cemig	Cemig
	Cesp	Cesp	Cesp	Cesp	Cesp	Cesp
	Coelce	Coelce	Coelce	Coelce	Coelce	Coelce
	-	-	-	Copasa	Copasa	Copasa
	Copel	-	Copel	Copel	Copel	Copel
	CPFL	CPFL	CPFL	CPFL	CPFL	CPFL
	Eletrobrás	Eletrobrás	Eletrobrás	Eletrobrás	Eletrobrás	Eletrobrás
	Eletropaulo	Eletropaulo	Eletropaulo	Eletropaulo	Eletropaulo	Eletropaulo
	Energias BR	Energias BR	Energias BR	Energias BR	Energias BR	Energias BR
	Light S/A	Light S/A	Light S/A	Light S/A	Light S/A	Light S/A
	Sabesp	Sabesp	Sabesp	Sabesp	Sabesp	Sabesp
	Tractebel	Tractebel	Tractebel	Tractebel	Tractebel	Tractebel

Source: Prepared by the authors based on the research data

Complementing the analysis, the classification of the level of social-environmental disclosure was proposed consonant with the research undertaken by Nossa (2002), who dealt with the type of disclosure, classifying them as: (1) declarative, for descriptive sentences; (2) quantitative non-monetary, for sentences with numbers of a nonfinancial nature; (3) quantitative monetary, for sentences with numbers of a financial nature; (4) quantitative monetary and non-monetary, for sentences with numbers of a financial and nonfinancial nature; and (5) no information, when no information is reproduced. Considered neutral are the sentences, titles of texts, tables, graphs, figures and organizational charts and/or isolated words that did not express a favourable or unfavourable positioning in relation to the company. Together with the qualitative aspects, the number of occurrences of the sentences in quantitative terms was analysed by counting them and registering the percentage participation.

The investigation of these terms was carried out by means of the software *Adobe Reader* that made possible an advanced research (which offers a counting of the terms contained in the file and their presentation in sentences). Subsequently, the data were inserted in a spreadsheet for the calculation of the percentages of occurrences. Two research premises were tested. First, the companies that make up the BM&FBovespa BSI would tend to disclose additional information linked to its selection and classification criteria, to that of the companies that make it up as partners and are environmentally correct and sustainable. Second, the adherence commitment of the companies that make up this index varies in accordance with the economic sector of each company – because the different economic sectors influence the level of disclosure of social and environmental information by companies. In this sense, and in addition to the analysis of the sectoral participation of the companies listed on the CSI, it was sought to carry out a detailed appreciation in each company.

As limitations of the research, the subjectivity should be considered present in the content analysis procedure, the judgment of the researchers and the analysis of specific terms. As a means of circumventing these research limitations the triangulation process was tried (Jick, 1979). This means that whenever possible the results of one source were confronted with the others (Jordão *et al.*, 2014). In particular, the results among companies, years and sectors were confronted to achieve a better view of the social environmental disclosure – used to confirm, complement or contradict the prior theoretical and empirical results, widening the meanings of the findings and providing more solidity to the study's results.

Description and analysis of the results

Four hundred and four (404) demonstrations, of ENs and ARs, were analysed, in which 25,948 sentences were observed. Table 2 presents the total of the results obtained in the analysis carried out between the years 2008 and 2013 in the companies, taking as the criterion the type of disclosure, and it was possible to see from the ENs that the declarative type of disclosure was the most used confirming the results of Coelho *et al.* (2013). These disclosures, however, did not make possible their recognition and measurement, while the monetary and non-monetary quantitative disclosures that do make this possible, were the sentences less in evidence.

Table 2
Results of the type of disclosure in the Companies in the period 2008 to 2013

Type of disclosure	Explanatory Notes		Administration Reports	
	Number of terms	%	Number of terms	%
Declarative	5,733	37.67%	6,101	56.86%
No Information	1,982	13.02%	1,316	12.27%
Quantitative Monetary	5,059	33.24%	2,042	19.03%
Quantitative Monetary and Non-Monetary	1,011	6.64%	391	3.64%
Quantitative Non-Monetary	1,434	9.42%	879	8.19%
Total	15,219	100.00%	10,729	100.00%

Source: Compiled by the authors

Thus, of the 15,219 sentences analysed 5,733 were declarative (37.67%), 5,059 monetary quantitative (33.24%), 1,982 (13.02%) were classified with no information, 1,434 monetary quantitative (9.42%) and 1,011 were understood as monetary and non-monetary quantitative (6.64%). The analysis of the ARs revealed a greater disclosure of declarative terms with a count of 6,101 items (56.86%), confirming Coelho *et al.* (2013). This aspect was considered by Fernandes (2012) as a strategy for demonstrating sustainable practices, contributing to greater company credibility. The other terms, classified by type of information were: monetary quantitative with 2,042 (19.03%); no information with 1,316 (12.27%); non-monetary quantitative with 879 (8.19%); and monetary and non-monetary quantitative which had only 391 terms (3.64%). Table 3 presents the total of the results obtained in the analysis carried out between the years 2008 and 2013 in the companies, taking as the criterion the nature of the disclosure.

Table 3
Results of the Nature of the Information Disclosed in the Companies in the period 2008 to 2013

Type of disclosure	Explanatory Notes		Administration Reports	
	Number of terms	%	Number of terms	%
Negative	1,679	11.03%	647	6.03%
Neutral	4,769	31.34%	1,679	15.65%
Positive	8,771	57.63%	8,403	78.32%
Total	15,219	100.00%	10,729	100.00%

Source: Compiled by the authors

The consolidated analysis of the data from the years 2008 to 2013 appearing in Table 3 shows a larger quantity, as regards the nature of the disclosure, of terms with positive aspects totalling 8,771 (57.63%), neutral with 4,769 items (31.34%) and negative with 1,679 (11.03%). The largest number of positive information terms disclosed by the companies and recognized in the research corroborate the propositions of Dye (2001), Verrecchia (2001), Kronbauer and Silva (2012) as regards the strategy utilized by the companies to present a good image through positive disclosure. These authors demonstrate that there is the utilization of the less formal DCs such as the ENs and ARs to divulge information of interest to stakeholders, using them, strategically, as a means for the companies to present themselves as socially responsible in addition to sustainable, confirming the results.

Little information of a negative nature was found in the ENs analysed, confirming the observations of Gubiani *et al.* (2012), showing that socio-environmental liabilities may be being omitted in the disclosure of the DCs – which compromises the evaluation of investors, generates information asymmetry, and jeopardizes interested parties through the omission of information and the playing down of negative impacts with the presentation of partial and biased discourse in the information analysed. From an analysis of Table 3, the nature of the disclosure in the ARs can be seen. Considering the consolidation of the years, it was possible to perceive the presence of 8,403 positive sentences (78.32%, the most in evidence), followed by neutral sentences with 1,679 (15.65%) and, in lesser number, the negative sentences with 647 (6.03%). The disclosure of positive information, recognized in this research, is in line with the theory of voluntary disclosure, which favours the company in a biased way, with the clear purpose of showing it in a good light. This corroborates the findings of Dye (2001), Verrecchia (2001), Fernandes (2012), where the positive information is strategically disclosed and highlighted, while the negative is less so, or omitted, resulting in an absence of information, or the minimization of the disclosure of environmental liabilities. In addition, from the perspective of socio-environmental strategy, it was found that the low disclosure of negative information was specifically made merely to comply with government regulations, as proposed by Alperstedt *et al.* (2013).

Table 3 presents the results obtained in the total of the presence of terms relative to the CSI and socio-environmental aspects, between the years 2008 to 2013 in the companies. This tests the premise that the companies that make up this index would tend to disclose additional information linked to its selection and classification criteria, of those companies that make it up as partners and being environmentally correct and sustainable. It can be said that the existence of such index, from a market perspective, ends up by creating incentives for more disclosure by the companies as we could expect in more advanced economies and more regulated markets. This would be consistent with Iannou and Serafeim (2017), Rahim and Alam (2014) and Sethi, Martell and Demir (2017) findings, but does not mean that an adequate legal framework for regulation and incentive would be less necessary.

The consolidated analysis of the ENs, regarding the terms inherent to the CSI, however, revealed more publication of aspects related to governance, confirming the importance of CG for company management and its emphasis on the business environment in accordance with that stated by Jordão and Colauto (2013) and also aligned with contemporary international literature on CG, CSR and social environmental disclosure (e.g. Kashmartian *et al*. 2011; Cosset *et al.*, 2016; Kiliç, 2016; Ntim, 2016; Lauterbach and Pajuste, 2017; Ioannou and Serafeim, 2017). Even given the importance achieved in Brazil by this publication, relative to CG information, confirming the observations of Ribeiro *et al.* (2014) and Szabo *et al.* (2014), the low disclosure observed in the results indicated that this premise was negated, as one observed little additional information linked to the selection and classification criteria of the CSI. In general, the results can be summarized as follows: (i) one observed a lack of publication of information concerning social justice and corporate sustainability in the ENs and the rest represent little more than 1% of the information made available by the companies that make up this index. It was therefore possible to classify the terms relative to the CSI in the consolidation of the six years analysed, considering the number of terms identified, in the following sequence: CG 135 (0.89%), economic efficiency 22 (0.14%), ISE 6 (0.04%), environmental balance 1 (0.01%).

Table 4
Results of the Main Terms Disclosed in the Companies in the period 2008 to 2013

	Explanatory Notes		Administration Reports	
BSI Terms	**Number**	**%**	**Number**	**%**
Economic Efficiency	22	0.14%	17	0.16%
Environmental Balance	1	0.01%	7	0.07%
Corporate Governance	135	0.89%	889	8.29%
CSI	6	0.04%	300	2.80%
Social Justice	-	0.00%	8	0.07%
Corporate Sustainability	-	0.00%	13	0.12%
Socio-environmentalterms	**Number**	**%**	**Number**	**%**
Environmental	1,321	8.68%	1,972	18.38%
Sustainable Development	27	0.18%	299	2.79%
Environment	284	1.87%	712	6.64%
Responsibility	1,234	8.11%	823	7.67%
Social	11,876	78.03%	3,411	31.79%
Socio-environemental	133	0.87%	507	4.73%
Sustainability	180	1.18%	1,771	16.51%
Sub-total	**15,219**	**100.00%**	**10,729**	**100.00%**
General Total				**25,948**

Source: Compiled by the authors

As regards the socio-environmental terms, it was seen that they had a significant disclosure especially the social term, which reached 11,876 occurrences (78.03%). The lowest frequency was for sustainable development with only 27 mentions (0.18%). The distribution of the other socio-environmental terms published in the ENs was as follows: socio-environmental 1,321 (8.68%), responsibility 1,234 (8.11%), environment 284 (1.87%), sustainability 180 (1.18%) and socio-environmental 133 (0.87%). It is important to stress that the disclosure of the environmental term, the second most disclosed, did not confirm the positioning that these companies were committed to environmental preservation, in line with the presuppositions of Kronbauer and Silva (2012) and Genuíno and Machado (2014). The analysis revealed that it characterized only a strategic positioning focused simply on compliance with environmental legislation.

In the consolidated analysis of the ARs one detected a greater presence of terms linked to the CSI compared to the ENs. The ARs demonstrated greater disclosure of CG corroborating the thought of Ribeiro *et al.* (2014) and Szabo *et al.* (2014) as regards the strategic alignment drawn up by the companies focused on good CG practices and as regards the importance of the theme for business management, as presented by Jordão and Colauto (2013). Even not being very large in relation to the total (little more than 10%), this result is significant because, not only does it confirm the premise that information linked to the selection and classification criteria of the CSI was voluntarily divulged, but also that there is visible concern of company directors in disclosing their concern with sustainability, CG, transparency and socio-environmental management, for the shareholders and other stakeholders. The publications in the ARs are presented with the following classification: CG .89 (8,29%), CSI 300 (2.80%), economic efficiency 17 (0.16%), corporate sustainability 13 (0,12%), social justice 8 (0.07%) and environmental balance 7 (0.07%).

Regarding the socio-environmental terms published in the ARs, more publication of the term social can be seen and less disclosure of the term sustainable development. The distribution

of this disclosure was as follows: social 3,411 (31.79%), environmental 1,972 (18.38%), sustainability 1,771 (16.51%), responsibility 823 (7.67%), environment 712 (6.64%), socio-environmental 507 (4.73%) and sustainable development 299 (2.79%). This takes us back to the idea of the simple compliance with environmental legislation, without the adoption of strategic positioning of environmental management, corroborating the findings of Kronbauer and Silva (2012) and Genuíno and Machado (2014).The sectoral analysis is presented in the following section.

Analysis and sectoral discussion

The sectoral analysis presented in Table 5 reveals that the public utility companies were those that most participated over the six years analysed, the greatest listing being observed in 2013 (37 companies) and the smallest in 2009 (29 companies). The data confirm the research carried out by Luca *et al*. (2012) with regard to the influence of the regulatory bodies on the level of socio-environmental disclosure and the consequent participation in CSI. The greatest participation occurred in the public utility sector – 75 times (37.13%), followed by basic materials – 41 times (20.30%). The smallest participation is in the petroleum, gas and bio fuel sector (once or 0.50%).

Companies from the cyclical consumption sectors and IT did not participate during the six years analysed. The analysis showed that there is a certain stability in the participation over the years, a recurring permanence in five of the ten sectors investigated having been observed (non-cyclical consumption, industrial goods, financial and others, basic materials, and public utility). In the construction and transport sectors and in telecommunications there was no participation only in one of the years analysed. The petroleum, gas and bio fuel sector participated only in 2008. Table 5 gives a view of the 202 participations in the CSI divided by sub-sector.

Table 5
The 202 'participations' analysed, organized by sector and year

Sector/Year	2008	2009	2010	2011	2012	2013	Total	%
Industrial goods	3	1	2	2	1	1	10	4.95%
Construction and Transport	1	-	1	1	3	3	9	4.46%
Non-cyclical consumption	4	4	3	2	2	2	17	8.42%
Financial and others	3	4	5	8	8	8	36	17.82%
Basic Materials	7	6	7	7	7	7	41	20.30%
Petroleum, Gas and Biofuels	1	-	-	-	-	-	1	0.50%
Telecommunications	-	2	3	3	2	3	13	6.44%
Public Utility	12	12	12	13	13	13	75	37.13%
Total	31	29	33	36	36	37	202	100.00%

Source: Prepared by the authors based on the research data

Perhaps the results above can be better understood if we add to the analysis the perspective of funding needs of each sector. Sethi *et al.* (2017) findings have indicated, as we mentioned before, that the quality of corporate social responsibility reports by some of the world's largest financial institutions may vary significantly depending on the legal factors and CSR environment of the financial institutions' headquarters. But in relation to their clients, financial institutions and in particular Multiral Agencies (MLA's) and development banks that have played a prominent role in developing economies, requirements for this type of disclosure

may be more uniform. Public Utility and basic materials in Brazil have required significant investments. This may be an interesting focus for future research.

The results of Table 6 below indicate the greatest listing in 2013 (37 companies) and the lowest in 2009 (29 companies) with a concentration of the participation in the CSI in 19 sub-sectors of the 43 which it is possible to classify. It is found that electrical power was the most represented sub-sector, which is in harmony with the research of Nossa (2002), Rocha *et al.* (2011), Luca *et al.* (2012), Dani *et al.* (2013), Oro *et al.* (2013), and Oliveira *et al.* (2014), who observed a strong influence of the regulatory bodies on the sustainability practices of companies participating in the CSI.

Table 6
Detailed Participation in the CSI by Subsector from 2008 to 2013

Sector/Year	2008	2009	2010	2011	2012	2013	Total	%
Water and Sanitation	1	1	1	2	2	2	9	4.46%
Processed foodstuffs	2	1	1	1	1	1	7	3.47%
Construction and Engineering	-	-	1	1	1	1	4	1.98%
Electrical Power	11	11	11	11	11	11	66	32.67%
Diversified Holdings	-	-	-	1	1	1	3	1.49%
Financial Intermediaries	3	4	4	6	6	6	29	14.36%
Paper and Timber	4	3	3	3	3	3	19	9.41%
Machinery and Equipment	1		1	1	-	1	4	1.98%
Transport material	2	1	1	1	1	-	6	2.97%
Mining	-	-	-	1	1	1	3	1.49%
Petroleum. Gas and Biofuel	1	-	-	-	-	-	1	0.50%
Welfare and Insurance	-	-	1	1	1	1	4	1.98%
Products personal use and cleaning	1	1	1	1	1	1	6	2.97%
Chemicals	1	1	1	1	1	1	6	2.97%
Health	1	2	1	-	-	-	4	1.98%
Iron, Steel and Metallurgy	2	2	3	2	2	2	13	6.44%
Land line telephones	-	1	2	2	1	2	8	3.96%
Mobile telephones	-	1	1	1	1	1	5	2.48%
Transport	1	-	-	-	2	2	5	2.48%
Total	31	29	33	36	36	37	202	100.00%

Source: Prepared by the authors based on the research data

The sub-sectors that participated with fewer repeats over time, however, were diversified holdings, mining and petroleum, gas and bio fuels, in addition to another 24 sub-sectors that did not participate in the CSI in the period analysed. The large participation of the electrical sector in the CSI and the significant disclosure of social environmental information do not confirm that there was voluntary disclosure of information, because, possibly, this occurred as a result of conforming to the demands of the regulatory body, as has already been mentioned by Luca *et al.* (2012).

The results also demonstrate the constancy in the participation of processed foods, electrical energy, products for personal use and cleaning sub-sectors. One can see also stability in the participation in these sub-sectors and a significant absence in another 24 that did not make up part of the CSI over the 6 years analysed. In Figure4 the results obtained in the classification by segment appear.

In the analysis of the segments proposed by the BM&FBovespa and presented in Table 7 below, the greater listing was found in 2013 (37 companies) and the smallest in 2009 (29 companies) with participation concentrated in certain segments. Of the 95 analysed, there was a

participation of only 23, with a high incidence of electrical power and banks, which corroborates the research of Oliveira *et al.* (2014), regarding the greater preparedness and adequacy of these companies relative to the exigencies of the CSI, as both comply with specific regulations, the banks, according to the authors, preparing complete reports to meet the requirements of the financial sector. In other words, more regulation implies more disclosure as we discussed the item 3 above.

Table 7
Detailed Participation in the CSI by Segment from 2008 to 2013

Segment	2008	2009	2010	2011	2012	2013	Total	%
Water and Sanitation	1	1	1	2	2	2	9	4.46%
Banking	3	4	4	6	6	6	29	14.36%
Meat and derivatives	2	1	1	1	1	1	7	3.47%
Civil Construction	-	-	1	1	1	1	4	1.98%
Electrical Power	11	11	11	11	11	11	66	32.67%
Operation of Highways	1	-	-	-	2	2	5	2.48%
Exploration and/or Refining	1	-	-	-	-	-	1	0.50%
Diversified Holdings	-	-	-	1	1	1	3	1.49%
Timber	1	2	2	2	2	2	11	5.45%
Industrial Machinery & Equipment	-	-	1	1	-	-	2	0.99%
Aviation and Defence Material	1	1	1	1	1	-	5	2.48%
Highway Material	1	-	-	-	-	-	1	0.50%
Metallic Minerals	-	-	-	1	1	1	3	1.49%
Motor Compressors and Others	1	-	-	-	-	1	2	0.99%
Paper and Pulp	3	1	1	1	1	1	8	3.96%
Petrochemicals	1	1	1	1	1	1	6	2.97%
Products for Personal Use	1	1	1	1	1	1	6	2.97%
Insurance	-	-	1	1	1	1	4	1.98%
Hosp. Medical Analysis Diagnoses Sserservices Anál. e Diag.	1	2	1	-	-	-	4	1.98%
Iron and Steel	2	2	3	2	2	2	13	6.44%
Land line telephones	-	1	2	2	1	2	8	3.96%
Mobile telephones	-	1	1	1	1	1	5	2.48%
Total	31	29	33	36	36	37	202	100.00%

Source: Prepared by the authors based on the research data

It can be seen that electrical power was the most listed (66 or 32.67%), followed by banks (29 or14.36%). The smallest participation occurred in the exploration and/or refining segment (1 or 0.50%) and highway material (1 or 0.50%). Constancy can be observed in the participations of the electrical power segments, aviation material and defence, and products for personal use.

An analysis between the years 2008 and 2013 revealed a repeat of participations in the CSI, especially in the public utilities sector (the most stable). This characteristic of the participation complements the results of Nossa (2002) regarding the greater compliance of certain economic sectors with the requirements of socio-environmental issues. This is also in line with Iannou and Serafeim (2017) findings. This reinforces the understanding of the theme, and allows us to see that socio-environmental disclosure and organizational transparency do not arise out of voluntary initiatives on the part of companies, but, on the contrary, out of compliance with the determinations of regulatory bodies– which also generates a fitting adequacy to the criteria of the CSI.

Deepening of the Analysis and Case-by-Case Discussion

The case-by-case analysis deals with specific situations, with points that stand out in the socio-environmental disclosure. Thus, it was seen that, in 2008, Petrobras was the company that most disclosed quantitative monetary information (53) and positive aspects (62 pieces of information), representing the greatest number of terms among those researched (134) in the ENs, considering the set of socio-environmental terms and CSI. In the ARs, the greatest disclosure in 2008by type was that done by Copel, with 246 declarative terms. As for nature, Petrobras published 123 pieces of positive information. In the total of the terms analysed, Copel published the most, with 327 terms. Regarding the terms concerning the CSI and published in the ENs, the greatest number published was on economic efficiency, and was done by Bradesco with seven. As for socio-environmental terms, Petrobras published most, with 131 environmental terms of which 92 transcribed information with the term social. Regarding the ARs, the greater number of terms referring to the CSI was from Bradesco and Banco do Brasil with 24 each. The highlight was Cesp and CPFL Energia, with 13 items of information containing CG. Regarding the environmental terms, Copel was the company that most exhibited terms in this category (111 mentions of the term social content).

In 2009, Cemig was the company that gave most information in the ENs (104). Of these, 50 reproduced quantitative monetary information. Regarding the nature of the information, the greatest disclosure was made by Telemar, with 56 items of neutral information. In the ARs, the largest number of terms analysed was presented by Sabesp, with 143, of which 119 corresponded to information of a declarative nature. Sabesp also had the greatest number of items of information of a positive nature (132). As regards the terms analysed in the ENs, Cemig, Itaú Banco and Unibanco were the companies that most declared information relative to CSI, each with three items. In the analysis of socio-environmental terms, Cemig was the company that had most (101 terms, of which 89 corresponded to the term social). In the ARs, Cesp was the company that most evidenced terms inherent to the CSI, with 16 publications; and Bradesco published 13 items of information containing CG. In the analysis of the socio-environmental terms Sabesp obtained the largest publication.

Considering the FSs of the year 2010, Bradesco and Copel were the companies that most published, with 148 terms each, Copel publishing 74 items of information of the quantitative monetary disclosure type. Regarding the nature of the information, most expressive publication was that of Copel and ItaúUnibanco with 91 items of neutral information. Sabesp was responsible for the greatest publication in ARsof 2010, with 222 terms. And in relation to the nature of the disclosure, Sabesp also stands out, with 199 positive publications. In the analysis of the terms in the ENs, Cemig and ItaúUnibanco obtained the greatest publication of terms referring to the CSI, with three publications each on CG. Regarding the terms of a socio-environmental nature, Bradesco and Copel presented 147 terms each, reflecting the greatest publication of this criterion, Bradesco presented the greatest number of information items containing the term social (135). In the analysis of the terms evidenced in 2010 in the ARs, Sabesp was the company that published most, with 16 terms referenced by the CSI, and Eletrobrás registered the word CG 13 times. Considering those of greater number of social and environmental terms, Sabesp presented the word environmental 86 times.

The analysis of the year 2011 revealed that Copel was the company that published most, with 145 terms in the ENs. Sabesp declared a greater number of terms of the quantitative monetary disclosure type. As regards nature, Sabesp was responsible for the largest amount of

publication with 117 indications of the positive type. In the analysis of the ARs it can be seen that Copel, overall, produced the greatest number of items published (198), and regarding the type of disclosure, 108 items of information that had a quantitative monetary content: regarding the nature of the disclosure, there were 146 items of information of the positive type.

After the analysis of 2011, of the terms inherent to the CSI in the ENs, greater disclosure is seen on the part of Santander, with seven terms, responsible for the greatest publication, presenting seven items of information containing CG. Regarding the environmental terms, Copel published the greater number, 144 terms in general, the term social being most presented by the company Bradesco. In the ARs Ultrapar was the company that most published terms referring to the CSI (15), being responsible for the publication of 14 sentences containing the expression CG. Regarding the environmental terms published in the ARs, Copel was responsible for most of them, with 190 terms and, of these, 62 terms containing the description social.

In the results reached in 2012, in the analysis of the ENs, it is observed that Itaú Unibanco presented a greater disclosure of terms, with 143 publications. The Banco do Brasil and Copel presented greater disclosure of terms of the declarative type, each with 65terms. As regards the analysis of the type of disclosure, Copel was responsible for the presentation of 120 items of information of a positive nature. In 2012, from the ARs of the companies analysed, Sabesp presented 139 terms, also being responsible for the greatest disclosure. Copeland Sabesp declared 71 items of information of the declarative type. In relation to the nature of the disclosure, Copel was responsible for the greatest publication of positive information, representing greatest disclosure in the ARs, with 115 items of information.

The analysis of the terms inherent to the CSI in the ENs allows us to deduce that ItaúUnibanco was responsible for the greatest publication, six in number, which contain CG. As regards the environmental terms, Sabesp as the company that most evidenced in the joint analysis of all the terms (142). Individually, however, ItaúUnibanco was responsible for the evidencing of 119 sentences containing the term social. In the analysis of the ARs of 2012, it is found that in the terms related to the CSI Ultrapar evidenced 17 sentences. Individually, the term CG was most evidenced and also by Ultrapar. Considering the analysis of the environmental terms, Sabesp was responsible for the greatest publication, with 128 terms in the general analysis, and individually Suzano Papel published 58 sentences containing the term social, the greatest number in this modality.

The analysis of the publications of 2013 allowed us to identify the greatest publication by ItauUnibanco in the ENs, with 153 terms. Santander was responsible for the greatest quantity of publication of declarative information (74). Regarding the nature of the disclosure, the greatest publication by Santander with 125 positive publications was repeated. In the ARs, we would stress that Sabesp was responsible for the presentation of the greatest quantity of terms, with 146 publications considering all the terms analysed. Sabesp had, regarding the type of disclosure, the greatest disclosure in number 76 and of the declarative type. As regards the nature of the disclosure, Sabesp was also responsible for the greatest incidence of positive sentences, resulting in 124 analyses with this content.

Considering the analysis of the terms inherent to the CSI, the ENs of the year 2013, ItauUnibanco presented the greatest quantity of disclosure with seven sentences containing CG, exhibiting also the greatest disclosure in the ENs regarding the totality of the social environmental terms (146). Also in the individual analysis ItaúUnibanco presented the greatest

disclosure of the term social. These highlights are characterized by a disclosure loaded with positive points, corroborating the findings of Coelho *et al.* (2013). In the ARs of 2013, the greatest disclosure on the part of Bradesco was found, in the analysis of the set of terms inherent to the CSI, with 13 terms. In the individualized analysis, the term CG was most evidenced, with 10 repeats, on the part of Bradesco and BRF S/A. Regarding the social environmental terms in the ARs, the greatest disclosure was identified in the set realized by Sabesp, with 138 publications, the greatest disclosure by terms being the responsibility of Tim Part. S/A., with 87 occurrences of the term social.

In spite of the small amount of disclosure of the criteria for entry into the CSI and required by the BM&FBovespa, the companies disclosed more clearly aspects related to CG, an item analysed for the composition of the CSI. This confirms the results of Lélis *et al.* (2011) and Kashmartian *et al.* 2011on the relation of the disclosure of financial information, CG, the reduction of informational asymmetry and information transparency, in addition to complementing the research of Ribeiro *et al.* (2014) reader regarding the alignment of the disclosure of financial information with the characteristics of CG.

Altogether, the greater level of disclosure was observed attained by the companies Sabesp, Copel, Cemig and Petrobras– which belong to regulated sectors as a function of their activities with strong environmental impact, confirming the results of the research of Luca *et al.* (2012) who detected a greater disclosure in companies from regulated sectors and that provoke great environmental impact, in relation to the others.

The expressive disclosure of social environmental information of companies such as financial institutions, water and sanitation and electrical power companies puts in check the voluntary nature of the information disclosure presented by Nossa (2002) because of the fact that this can be provoked by legal and regular requirements by the regulator.

The characteristics of the disclosure confirm Gubiani *et al.* (2012) regarding the disclosure of a good image of the company a propos environmental accounting and in relation to the positioning of the same with regard to the exigencies of the current economic and social scenario – with a clear stress on prizes, participations in environmental indexes and certifications.

Finally, it should be stated that the declarative terms made up the majority of the information disclosed, representing direct communication easily understood by the stakeholders, so as to make the actions of the company transparent, confirming the findings of, Coelho *et al.* (2013), regarding the recognition and measuring present in declarative terms.

Discussion of the Results

Socio-environmental information represents an important focus of the research considering its direct and indirect effects on economic variables, on the continuity of the company, on aspects of competitiveness, value generation and in their relation to strategies of communication with the market.

The results indicate that the companies consider the question of disclosing socio-environmental information as a strategic decision of financial disclosure or, in the majority of cases, of their omission, as a clear tendency was observed of presenting information that denotes positive corporate attitudes, which promotes the consolidation of a good image of the company with the stakeholders. These results confirm and expand previous findings on socio-environmental disclosure, as there has been a prevalence of mainly positive information, trying to strengthen the image and increase the credibility of the company with society. In this sense,

financial disclosure has been used as a marketing instrument, in addition to supporting a larger strategy of social communication.

The results also indicate an accentuated tendency towards the disclosure of declarative sentences in the less structured FSs such as the ENs and the ARs, which makes the recognition and measuring of the quality of the disclosed information difficult. It was found that in spite of being listed on the CSI, the companies analysed disclose little information about the system for their choice and on their manner of organization for them to become included on this listing. A fact which does not alter the characteristics of the index maintained by the BM&FBovespa, nor diminish its importance, but which suggests the necessity of understanding the absence of the obligation of presenting information on the selection and maintenance criteria on the CSI. Although it lies beyond the scope of this research, there exists the possibility that companies divulge this information in other sustainability reports, as has already been seen in the case of large companies.

The absence of information on the CSI in the ENs may be understood within the precepts of the organization as a strategic omission of information on socio-environmental behaviour. It can be seen from the analysis involving sustainability and strategy that, in addition to the business strategy focused on value generation, there is also a specific strategy for the disclosure of socio-environmental information. This has the purpose of presenting to stakeholders information which is convenient to be made public and that presents a positive image of the company from the perspective of socio-environmental sustainability, but omits, on the other hand, information that might interfere in the investor's analysis. This may generate information asymmetry and, consequently, affect aspects of CG and transparency. Thus, it was possible to verify that there is no clear alignment between the information evidenced by the companies and the selection criteria for CSI. It was, thus, possible to find that there is no clear alignment, disclosed by the companies following the CSI selection criteria, between them and such criteria, related terms being little disclosed, and sometimes not even mentioned. In general, the results indicate that companies declare them-selves socially and environmentally responsible, but produce little disclosure of socio-environmental sustainability. There were no isolated actions identified that would justify participation in this index because of the low disclosure of terms inherent to the classification criteria of companies in the CSI. In addition, it could be seen that companies frequently omit strategic information of a socio-environmental nature. Nevertheless, it was possible to confirm, partially, the first premise that companies participating in the CSI divulge additional information linked to its selection and classification criteria, showing themselves to be, at least in part, concerned with socio-environmental sustainability questions.

The results showed a concentration of information in the ENs. However, they were presented in a more technical manner and focus on a predominance of social environmental terms, in addition to less relevance being given to terms inherent to the CSI. In the ARs there were less items of information in comparison to the ENs, but they were presented less formally for the purpose of making the reports more readable for the stakeholders. The information most repeated in the ARs and ENs on the CSI referred to the permanence of the company in the index and/or its continued participation, but there were no detailed reports of procedures adopted by the companies for the existence of such a situation. Companies participating in the CSI highlighted in their reports entry or permanence in the index, but said little about the adopted procedures to such end, confirming, partially, the results of Oliveira *et al*. (2012) regarding the lack of transparency and standardization of social environmental information. It was possible

to verify that the companies disclose insufficient information for understanding their true sustainable activity, more discourse than facts involving social environmental responsibility being seen. Thus, it was observed that the disclosure of information by companies contributed to improvements in CG aspects and, in part, to the reduction of their informational asymmetry. The positioning of Nossa (2002) was equally justified regarding the need for improvements in the disclosure to make possible greater transparency for society.

The results obtained reveal that there is no harmony in the information disclosed, especially from the socio-environmental aspect, which confirms the argument proposed by Hendriksen and Van Breda (2012) regarding the level of detailing of the information and the form in which it should be presented. This reflects the fact that there is no consensus about the diverse aspects relative to disclosure, to the beneficiaries of the information, to the level of detail of the information to be presented, and to the best form of presentation, taking into account all the various possibilities of socio-environmental disclosure, including its presentation by other means, such as news broadcasts, articles in periodicals, articles or interviews in magazines, among others.

There is an indication that voluntary disclosure of social environmental information is presented as a strategic action promoting improvements in the company's image, in line with the results of the international literature (*e.g.* Verrecchia, 2001; Dye, 2001; Diamond and Verrechia, 1991) and the Brazilian literature (*e.g.* Gubiani *et al*. 2012; Coelho *et al.* 2013), but not promoting transparency, as a clear tendency has been found of highlighting the positive aspects, and omitting or minimizing the negative ones, according to the taxonomy proposed by Fernandes (2012).

The results of the research seem to explain the descriptive and behavioural forecasts foreseen by agency theory including in terms of whether the agency problem occurs before or after state realizations. In other words, in case there are real social environmental problems related to the companies and sectors analysed, and using Arrow's (1985) terminology, it is possible and even likely that we may have indications of both moral hazard with hidden actions as analysed by Jensen and Meckling (1976) as well as moral hazard with hidden information. The market implications are also significant and tend to be even more relevant in the near future. The main reason is that costly state falsification as defined by Laker and Weinberg (1989), with globalization, technology and access to information tend to predominate over costly state verification as initially analysed by Towsend (1979) and later by others such as Chang (1990) and Bester (1990).

In summary, it was possible to perceive a concentration of disclosure in regulated sectors, allowing the finding that the second premise of the research has been confirmed, as companies belonging to regulated sectors disclosed more information because of the exigency of the regulating bodies. This fact indicates an imposed and obligatory disclosure, but not for the option of presenting themselves in a transparent form to the market and reducing the agency costs borne by the investors – and this does not reflect spontaneity in the disclosure of socio- environmental information. Such a perception is reinforced by the presentation of a larger number of items of declarative information (which facilitates description without quantification and measuring of social and environmental questions), through a disclosure the majority of which is positive, for the purpose of presenting a good image of the company, with possible omission of negative facts and socio-environmental liabilities, and by the low practical commitment of companies to promoting and divulging questions that involve socio-environmental sustainability and CSR

– recognized by the lack of disclosure relative to the elements that characterize the CSI. Our findings are therefore and also very much aligned with the findings of Rahim and Alam (2014) and Sethi *et al.* (2017). Further research will be needed, but it seems that the drive for disclosure has the underlying motivations indicated by Iannou and Serafeim (2017). Finally, besides the importance and impact of regulation or lack of adequate regulation, a broader understanding of the results we have found will most likely require future research for more robust evidences of the possible link between corporate environmental and social disclosure and corporate financial performance as Qiu *et al.* (2017) and Malarvizhi and Matta (2016) have tried.

Conclusions

The theme that involves CG and social environmental responsibility has been highlighted in studies on management, accountancy, engineering infrastructure and law, and as a central theme in the contemporary strategic debate especially with regard to the relationship between environmental management, CSR and the integration of sustainability into business strategy. The literature shows that the company can utilize social environmental initiatives to improve its competitive context, transforming the quality of the business environment in the markets where it operates, leveraging its potentialities in the support of actions of sustainability and social environmental responsibility, contributing with society in a structured manner and one which maximizes the potential of actions, provided these initiatives are directly linked to its core business. Notwithstanding this, society has increased its concern with social environmental questions, requiring greater disclosure of socially responsible and environmentally and economically committed attitudes – which reflects in the FSs and in the company's financial disclosure practices.

The objectives of the research presented in this article consist in analysing (i) the sectoral participation of the companies listed on the Corporate Sustainability Index (CSI) of the BM&FBovespa, and (ii) the level of alignment between the socio-environmental information disclosed, between the years 2008 and 2013, and the criteria adopted for the selection of these companies. It was found that there is no standardization in the information analysed, which makes the comparative analysis of the company and the sectors difficult. Even facing such difficulties, the social environmental information represents an important focus of research considering its direct and indirect impact on economic variables, on the continuity of the company, on aspects of competitiveness, value generation and on those related to market communication strategies.

It could be seen that, even with the low disclosure of additional information, the companies are concerned with sustainability, transparency, better levels of RSC, CG and socio-environmental management because they are already disclosing additional information for the market. This reveals that the strategies focused on socio-environmental sustainability are gaining in importance and that the companies are increasingly concerned to demonstrate that they produce not only economic, but also social and environmental benefits.

In synthesis, our findings are that: (i) socio-environmental information presented by the companies that are listed on the CSI from 2008 to 2013 consisted mainly of declarative positive sentences; (ii) there is relatively little information about the CSI in comparison with the socio-environmental information, (iii) more emphasis was given to questions of governance than to sustainability, in view of the conceptions of the share market relative to adhering to good CG practices (iv) there is no clear alignment disclosed by the companies with the CSI selection

criteria; (v) the terms that comprise the selection criteria of this index were little disclosed and, on the part of some companies, were not even cited. The results also indicate that (vi) the companies declare themselves socially and environmentally responsible, but produce little disclosure of socio-environmental sustainability by the CSI selection criteria; (vii) isolated actions were not identified that justify participation of the companies in this index, especially because of the low disclosure observed; (viii) companies frequently omitted strategic information of a socio-environmental nature; and that (ix), strategically, the companies disclose their information for the purpose of being well-evaluated by their stakeholders. Nevertheless, we could confirm partially the premise that (x) the CSI companies divulge additional information linked to its selection and classification criteria, showing that they are in part concerned with questions of socio-environmental sustainability; (xi) the public utility sectors and basic materials were those that most participated in the CSI in the years analysed, confirming the idea that there are economic sectors that participate in a differentiated manner in the CSI of the BM&FBovespa; (xii) companies of the electricity subsector and financial intermediaries stood out both for the presentation of the terms analysed, and for their participations in the CSI between 2008 and 2013; (xiii) the segments of electrical power and banking were those that most repeated over the years analysed; (xiv) there is a sequential use of the terms environmental, responsibility and sustainability associated positively with company activity; (xv) there is no standardization of the information when compared with companies of the same or distinct sectors; (vi) there is more highlighting of questions of CG than of CSI; (xvii), there is little turnover in the participation in CSI, especially in the public utilities sector. In addition to this, there was (xviii) significant disclosure of positive and declarative terms; (ix) little disclosure of negative and quantitative monetary and non - monetary terms; (xi) low practical commitment of companies in divulging CSR and social environmental sustainability

Recommended for future research is the comparative, multi sectoral, analysis of the companies not listed on the CSI with the companies listed for the purpose of checking if the companies belonging to the CSI present greater disclosure than the others, and trying to confirm if, in fact, it is regulation and not adherence to the index which most impacts on financial disclosure. Further recommended for the continuity of the research is an investigation of specific factors that can have motivated the different participation of the sectors.

Finally, it is important to mention that the provisional results of this stage of the research raise concerns both of marketing and social character, mentioned separately in this last paragraph merely to explain the individual importance of each of the aspects that are necessarily connected. As long as the questions of *ex ante or ex post* information asymmetries are not attenuated the questions related to signalling distortions and the consequences of adverse selection will persist, leading to high social environmental costs for present and future generations.

Taken as a whole, the results allow us to conclude that companies declare themselves socially and environmentally responsible, but do not present detailed reports that prove such assertions. It could be seen that there are differentiated levels of social environmental disclosure between companies that make up part of the regulated sectors and those that do not, and we saw that an improvement in the level and the quantity of information given is apparently influenced by determinations of the regulatory bodies. In addition to this, it was seen that there was concentration of participation in some sectors, subsectors and segments, with an absence in others. It is possible to conclude that (i) the exigencies of certain regulatory bodies can contribute to the adequacy of the company in terms of transparency and social environmental

responsibility, and greater adherence to the CSI; and that (ii) voluntary disclosure of social environmental information has still not been affirmed with transparency and good CG practices, but as an attempt to increase credibility and to improve the company image.

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