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Determinants of Voluntary Social Information Disclosure: Empirical Evidence in Brazil

Abstract

Corporate social responsibility refers to social concerns related to the environment, human resources and engagement in the community. The voluntary disclosure of social information is heterogeneous and some companies choose to show a greater amount of information and in greater detail. With that in mind, this research aimed to identify the determinants of voluntary disclosure of social information of Brazilian companies in the period from 2010 to 2012. Based on the theories (stakeholders and voluntary disclosure) and previous studies, six hypotheses were raised about the possible determinants of voluntary social disclosure (size, ownership concentration, profitability, leverage, regulated sector and reputation). The universe of this research were the public companies listed on BM & FBOVESPA in the period from 2010 to 2012. The sample was composed of 100 companies listed on BM & FBovespa with more shares traded during the 12 months of 2012. As for the econometric models, a panel was used with random effects estimated by OLS, being the dependent variable social disclosure index and the independent variables, the probable determinants. The results suggested that the size of the company, profitability, reputation and the regulated sector were considered social determinants of voluntary disclosure. The stakeholders, the government and society can influence the voluntary social disclosure. The variable "profitability" shows that the less profitable companies released more voluntary social information, which may indicate an attempt by the company to divert the attention of the stakeholders from the financial performance.

Key words: Determinants, Voluntary Social Disclosure, Brazilian Companies.

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1.Introduction

For a long time, companies were considered as economic entities whose sole purpose was to produce financial results that satisfied the stockholders by remunerating their capital. But this traditional view does not apply to the contemporary world, in which the companies do not limit themselves to the remuneration of invested capital as, without the natural resources, direct or indirectly, and without the human capital, no wealth is produced. A company's corporate social accountability policy identifies the social concerns related to the environment, human resources, community engagement and product safety (Roberts, 1992).

According to Oliveira (2005), social accountability refers to the way the companies act, how they influence and relate with the environment and its stakeholders. It is a concept according to which the organizations, in making decisions, take into account the needs of all stakeholders, including: clients, employees, suppliers, stockholders, community, environmentalists and the government (Reverte, 2009, Deegan, Rankin & Tobin, 2012).

The disclosure of corporate information and recognition of economic information are but a part of the corporate mission, and this needs to be at least complemented by the recognition of social and environmental practices. In Brazil, the disclosure of social and environmental aspects still happens voluntarily. In this sense, CSR refers to a company's voluntary contribution to sustainable development, which goes beyond the legal requirements (Gamerschlag, Möller & Verbeeten, 2011).

Disclosure may occur within two perspectives: mandatory and voluntary. The mandatory disclosure comes from some regulation that specifies the minimum considered acceptable for information disclosure (Dahlsrud, 2008), while voluntary disclosure refers to items the company publishes electively by the company and therefore go beyond the level of disclosure regulated by any governmental entity. Due to the discretionary nature of the disclosure, many questions have been raised about the characteristics (factors - quantitative and qualitative characteristics) of companies that could explain the behavior or concern to develop and hence disclose social responsibility practices.

Associated with this, voluntary social disclosure does not occur evenly, and some companies choose to show a greater amount of information and in greater detail. Therefore, this study asked: **What are the determinants of voluntary social information disclosure**?

This research had the overall goal of identifying the determinants of voluntary disclosure of social information of Brazilian companies in the period 2010-2012.

Social responsibility has been the subject of disclosure and accounting cannot remain at the sidelines of this process (Eugene, 2010). In this context, this research is an attempt to increase the understanding of practices and voluntary disclosure of social information in the annual reports and the like, and the expansion of knowledge on the factors that explain such social disclosure. Managers need to understand and actively participate in the structural changes taking place in the social area. This is a relevant issue, because understanding the factors influencing the voluntary disclosure may facilitate the understanding of how social responsibility is envisaged, understood or used in companies. In addition to the above, this study discusses the relation between profitability and voluntary social disclosure, since the ratios observed in previous studies show a two-dimensional nature and may be positive or negative.

This article is structured into seven chapters: Introduction; Stakeholder theory; Theory of Voluntary Disclosure; Formulation of research hypotheses; Method; Presentation and analysis of results; and Final considerations.

2. Stakeholder Theory

Stakeholder theory relates to ethical organizational management (Phillips, Freeman & Wicks, 2003), which does not merely describe existing situations or predict cause-effect relations, but also recommends planned attitudes and practices that together constitute the management of stakeholders. The management of stakeholders requires, as its main attribute, simultaneous attention to the legitimate interests of all stakeholders, both in the establishment of organizational and political structures and in decision making.

About this, Clarkson (1995) states that the survival and continued success of a company depend on the ability of its managers to create wealth, value and satisfaction to stakeholder groups, so that each group continues to be part of the company's system. In this sense, the theory, in an overview, recognizes the importance of making management decisions based on the interests of the parties that may affect or be affected by the implementation of the objective of the company.

The managerial view of the stakeholder theory involves attention that goes beyond maximizing shareholder wealth, but is concerned with the acceptance of other groups that can direct or indirectly help or hinder the achievement of company goals (Phillips, Freeman & Wicks, 2003). Companies need to consider the needs of stakeholders when drawing up corporate strategies. Otherwise, the stakeholders may withdraw their support of company activities (Huang & Kung, 2010).

Stakeholders tend to identify with the companies when they realize that their own values match the corporate attributes. In this context, the integration of principles of social and corporate environmental accountability within the organizational culture can help companies to strengthen relationships with stakeholders. This theory seeks to explain the direct effects that stakeholders have on management decisions and company activities.

In addition, the stakeholder theory, among other issues, discusses the company's ability to balance the conflicting demands of different stakeholders in the company. The balance or imbalance can be the result of business planning and the political business model. Thus, the company is morally responsible for organizing social activities in order to find a balance between the conflicting demands of stakeholders (Huang & Kung, 2010).

The stakeholder theory rests its arguments on the existence of power or the ability stakeholders have to enforce the decisions of managers. In this case, it refers to the decision to develop and disseminate information about voluntary social aspects. The theory provides a direction that integrates the assumption about the corporate social accountability activities and the disclosure model of corporate social responsibility and is a feasible approach to explain and predict the management behavior (Roberts, 1992).

This theory clearly considers the impact of the expectations of the different stakeholder groups within society on the corporate disclosure policy. About the management context of the theory, corporate disclosure is a management tool to manage the information needs of the various stakeholder groups (employees, shareholders, investors, consumers, public authorities, non-governmental organizations, among others) (Reverte, 2009).

Due to the influence that stakeholders can have on the company, organizations should consider the need to modify their activities in order to minimize the conflict of interests between individuals or group of individuals who affect or are affected by the implementation of activities. In this sense, social disclosure is perceived as a tool that companies can use to respond to the needs of the different stakeholders and is therefore a means of communication between companies and their stakeholders (Huang & Kung, 2010).

Stakeholder theory provides an important substrate for the existence of social accountability in business and, consequently, the adoption of disclosure practices of its social and environmental activities (Nascimento Santos, Salotti & Murcia, 2009). From the perspective of the theory, the disclosure of voluntary social and environmental information is seen as a strategy the company uses to manage the perception of the various interest groups that relate to the company, either directly or indirectly. About this, Ceretta, Beard, Kruel and Milani (2009) argue that this theory argues that managers have to make decisions that take into account the interests of all company stakeholders.

In this research, the stakeholder theory was used to explain how the companies manage the stakeholders and their conflicting interests, through the disclosure of social and environmental accountability. Disclosure is seen as part of the dialogue between companies and their stakeholders. Therefore, stakeholder theory provides support to explain the dissemination of the social aspects of managing the company, since the influence of shareholders, customers, government, society and donors was tested as a possible determinant of social information disclosure.

3. Theory of Voluntary Disclosure

The theory of Voluntary Disclosure argues that companies with "good news" have incentives towards disclosure, in order to avoid the adverse selection problem. In Brazil, the main empirical studies using the theory of disclosure as the theoretical basis were: Cunha and Ribeiro (2008); Braga, Oliveira and Salotti (2009); Murcia and Santos (2009); Rover, Borba and Murcia (2009); Rover, Tomazzia, Murcia and Borba (2012); Silva and Pinheiro (2012).

The disclosure, according to Verrecchia (2001), can be association-based, efficiency-based or discretionary-based. The first examines the effects of disclosure on the cumulative actions of individuals as investor agents at the time of disclosure. The second discusses the preferred modalities of disclosure in the absence of prior knowledge of the information, i.e. the unconditional preferences. And lastly, the trial-based publication analyzes the discretion of the information that managers practice with regard to disclosure decisions.

The process of disclosure becomes the characteristic that distinguishes the category "association" from the category "judgment." In the first, the company's motives are not discussed, that is, the process of disclosure is exogenous, but, in the second, these reasons are now considered (endogenous process) and, therefore, it is inquired why the firm discloses or not certain information (Salotti & Yamamoto, 2005).

Disclosure based on discretion comprises research identifying the reasons for disclosure, i.e. seeking to examine how managers and/or companies decide to disclose certain information. In this regard, disclosure is an endogenous process, considering the incentives that managers and/or companies have to disclose information (Salotti & Yamamoto, 2005).

In the dissemination of corporate information, generally, recognition of economic information is only part of the corporate mission, and this needs to be at least complemented by the recognition of social and environmental practices. The social report, the sustainability report or the annual report are statements in an unregulated environment that permit, among other things, the disclosure of social and environmental investments. Magness (2006) mentions that the annual reports can and should be used to disseminate social information, aiming to legitimize the activities.

4. Formulation of Research Hypotheses

Based on earlier studies by Hackston and Milne (1996), Choi (1999), Jennifer Ho and Taylor (2007), White and Roberts (2008), Cunha and Ribeiro (2008), Gamerschlag, Möller and Verbeeten (2011), Lu and Abeysekera (2014) and the multitheoretical perspective, the assumptions were built that are associated with the qualitative and quantitative characteristics of the companies that can explain the level of disclosure of voluntary social information.

The interaction of large companies with society tends to be more frequent and of greater economic importance, providing high visibility to the public. Obviously, the larger the company, the greater its commitment to the environment or at least the greater its concern to demonstrate this commitment (Costa & Marion, 2007). In addition, the costs associated with disclosure in general may be less representative for large companies (Jennifer Ho & Taylor, 2007). In this sense, the central premise of voluntary disclosure, according to Dye (2001), considers that disclosure only occurs when the benefits outweigh the costs of disclosure.

The association between firm size and the voluntary social disclosure level was demonstrated in some empirical studies. The results of the research by Hackston and Milne (1996), Jennifer and Taylor (2007), Cunha and Ribeiro (2008) and Lu and Abeysekera (2014) showed that the size of the company was consistently associated with the level of voluntary social disclosure.

To operate the hypothesis, the natural logarithm of the total assets of the respective periods investigated was used as a measure. Thus, it formulated the following research hypothesis is formulated:

Hypothesis 1 - larger companies disclose more voluntary social information than smaller companies.

Evidence suggests that the dispersion of share ownership among many investors, some of whom may have significant concerns about the environmental impacts of the company, can increase the level of disclosure (Cullen & Christophor, 2002). In addition, when the property is relatively widespread, the absence of disclosure increases the information asymmetry between the organization and its shareholders (Brammer & Pavelin, 2008). In contrast, companies with a concentrated ownership structure are less motivated to disclose additional information about their social accountability, because shareholders can obtain information directly from the company.

The hypothesis ownership concentration (ownership structure) was operated using the same proxy as in the study by Lu and Abeysekera (2014): the percentage of share ownership, with voting rights, of the main company shareholder. Thus, we have the following research hypothesis:

Hypothesis 2 – companies with lesser ownership concentration disclose more voluntary social information than companies with greater ownership concentration.

Studies mainly based on stakeholder theory assume a positive relationship between the social disclosure policy and corporate profitability. The findings, however, showed that the association between social disclosure and the company's profitability produced mixed results. The study by Ameer and Othman (2012) argues that there is a two-way relationship between corporate social accountability practices and corporate profitability. In contrast, the research by O'Dwyer (2003) found evidence of a trend for managers to interpret corporate social accountability as something very consistent with the objectives of Irish companies, which is the maximization of shareholder wealth. Nevertheless, the discretion of the disclosure can be explained based on companies' need to reduce information asymmetry.

To measure this relationship, we used the proxy rate of return on equity, derived from the ratio between net income and average equity. This proxy was widely used in empirical research to correlate profitability to other variables. Examples of studies using this proxy: Cunha and Ribeiro (2008); Hackston and Milne (1996); Chang and Kuo (2008), Wang, Sewone Claiborne (2008), White and Roberts (2008). Thus, the following research hypothesis is formulated:

Hypothesis 3 – more profitable companies disclose more voluntary social information than companies with lower profitability levels.

Stakeholder theory tries to explain the direct effects that stakeholders (shareholders, employees, customers, suppliers, creditors and society) have on the disclosure of corporate actions. Brammer and Pavelin (2008) argue that the low level of leverage in a company makes creditors exert less pressure for the development of activities related to corporate social accountability, because they will be more interested in expanding the financial return. In that sense, in the study by Belkaoui and Karpik (1989), a negative association was found between the disclosure of social information and the leverage ratio.

More recent research, however, such as Wang, Sewon and Caiborne (2008), Brammer and Pavelin (2008) and Jennifer Ho and Taylor (2007), found no significant evidence that the leverage is an important determinant of social and / or environmental disclosure. According to the work of Reverte (2009), the leverage seems to explain the differences in disclosure practices of social accountability in Spanish companies.

To operate the hypothesis, the variable was modeled by means of the leverage indicator used by Belkaoui and Karpik (1989); Brammer and Pavelin (2008); White and Roberts (2008); and Lu and Abeysekera (2014), derived from the relationship between liabilities and total assets of the period studied. Thus, the following research hypothesis is formulated:

Hypothesis 4 – companies that have a lower leverage ratio tend to disclose more voluntary social information than companies with a higher leverage ratio.

Stakeholder theory adopts the perspective that the government has the ability to influence the company's strategy through the regulations (Roberts, 1992). In this research, the regulation is interpreted as the specific rules of government agencies which some sectors are subject to.

The variable regulation aims to verify if the Stakeholder government influences the level of voluntary social disclosure through regulation. This influence can occur when the government provides recommendation and guidance about the social responsibility of companies subject to regulation. Liu and Anbumozhi (2009) found that the Chinese government had a positive and significant influence on environmental disclosure of companies in that country. The study by Murcia and Santos (2009) showed that the regulated companies (electricity sector) reported more voluntary information than other publicly traded companies. In the research by Lu and Abeysekera (2014), however, no significant association was found between the power of the government and the social and environmental disclosure.

The study by Kirch, Lima and Earth (2012) used the electric energy, finance and insurance, mining, oil and gas, telecommunications and transportation sectors to model the variable regulated sector. Therefore, to operate the variable "regulated sector", a dichotomous variable was used, corresponding to 1 for the companies within the sector regulated by the government, and 0 for businesses outside the regulated sector. Thus, we have the following research hypothesis:

Hypothesis 5 – companies regulated by the government disclose more voluntary social information than companies not regulated.

The disclosure of information on corporate social responsibility contributes to build a positive company image for the Stakeholders (White & Rodrigues, 2008), because disclosure may influence the perception of society on the company's reputation.

The adaptation to social accountability practices is important, but society needs to be informed aoutb the company's shares, for if the disclosure does not occur, the legitimacy cannot be achieved or maintained. In this sense, the disclosure gives the company the legitimate status (Villiers & Staden, 2006). Thus, the goal is to verify if the companies with the best reputation disclose more voluntary social information.

To operate the hypothesis "reputation", a dummy variable was used, corresponding to 1 for companies that are listed in the ranking of 100 companies with the best reputation, and 0 for companies that are not included in the rankings. The ranking is the result of a survey released exclusively by the magazine Exame. To reach the companies that make up the ranking of the best reputation, Merco and Ibope gathered economic data of the companies and consulted 450 executives, 259 market analysts and 1,000 consumers. Thus, the following research hypothesis is established:

Hypothesis 6 – companies that have the best reputation disclose more voluntary social information than companies that do not have a good reputation.

5. Method

This research aimed to investigate the determinants of voluntary disclosure of social information, between 2010 and 2012, in the companies with the most traded shares on the São Paulo Stock, Commodities and Futures Exchange (BM & FBOVESPA). In the first stage of research, the determinants of voluntary social disclosure had to be determined.

This research is classified as theoretical and empirical because, using theoretical arguments, the determinants of companies' voluntary social information disclosure are verified, besides attempting to find a relation between the characteristics of organizations and factors that may determine the voluntary disclosure of social information. This is possible when the relationship among variables is investigated, such as size, ownership concentration, profitability, leverage, regulated industry and reputation.

The quantitative and qualitative data needed to conduct the research were taken from sustainability reports or similar statements. Subsequently, the qualitative data were quantified to obtain the voluntary disclosure index. The context to be searched were the annual reports (ARs) or similar reports, between the years 2010 and 2012. The reports were obtained through an electronic search on the company websites. In this research, the term "anual report" is understood as synonymous with sustainability report, socio-environmental report or other terms companies use to designate the disclosure instrument of social and environmental information.

As for the information collection technique, content analysis was chosen, which studies and analyzes the communication objective and systemically. The information collection technique - content analysis - was used to describe trends in the disclosure context, identifying and interpreting the voluntary disclosures by companies that develop and publish social responsibility practices.

Content analysis is a quantitative evaluation technique of qualitative data that allows for a textual analysis, which is characterized by two specific moments: identification of social information disclosed by companies and classification of the sentence, according to the previously established measure. The content analysis may have some limitations, for example: risk of researcher's interpretive bias when obtaining information (Front & Wilmshurst, 2000); and different extent of disclosure. To reduce the effect of interpretive bias, a single person extracted the information from the reports. Thus, the possible biases had the same weight for all companies.

The items in the measure were the same used by Rover and Santos (2013). The processing of the content analysis followed the procedures: score 1 was attributed to items the company disclosed and 0 to items not disclosed. Next, the ratio between the sum of the disclosed items and the items in the measure was obtained.

Categories	Subcategories
Community	Volunteering programs
	Sponsoring of public health projects
	Relations with indigenous and quilombola people
	Sponsoring of conferences, seminars, exhibitions or campaigns
	Resource donations to public entities or Civil Societies for Public Interest (Oscip)
	Support for education
	Support for housing and meals
	Support for culture
	Support for sports activities
	Relationship with stakeholders
	Decisions or fines related to the community the company operates in
	Social investments
Diversity	Number of women and/or minorities in the workforce
	Occupation of women and/or minorities in management functions
	Proportion of baseline salary between men and women
	Hiring of disabled people
	Non discrimination against minorities
Products, services and consumers	Quality programs – International Organization for Standardization (ISO)s 9.000 and 9.001
	Product innovation (Research & Development)
	Products in compliance with safety standards
	Consumer satisfaction or dissatisfaction
	Unfair competition or trust practices
Relation with employees	Number of employees, length of experience in the company and age ranges
	Employee remuneration (average and/or total)
	Relations with unions or class entities
	Culture incentive programs
	Development of leisure and sports activities
	Employee education and training
	Workplace health, hygiene and safety
	Occupational acidentes, illnesses, absenteeism and deaths
	Retirement and complementary social security plans
	Kindergarten aid and grants for children of employees
	Maternity and paternity support
	Profit participation
	Turnover rate and resignation policy
	Workers' participation in management decisions
	Professional satisfaction and motivation of employees
	Childhood work, forced labor or slavelike labor
	Investments in management development
	Value added per employee

Figure 1. Voluntary Social Disclosure Measure

Source: Rover and Santos, 2013.

The universe of this research were publicly traded companies listed on BM & FBOVESPA in the period from 2010 till 2012. The sample was composed of 100 companies listed on BM & FBOVESPA with the most actively traded shares during the twelve months of 2012. The sample size was based on the tradability index method of BM & FBOVESPA, which permits determining the companies with the most liquid stocks traded in the capital market. It is important to note that the data needed for the tradability index were extracted from the Economática® system.

After obtaining the tradability indices, companies were ranked in descending order according to the tradability index. Next, the following steps were undertaken: (i) choice of 139 companies with most traded shares; (ii) companies were filtered that had more than one type of share among the 139 in step (i), considering only one type of share to eliminate repeated companies, holdings were also filtered (we chose to filter out companies whose objective is to manage participations in other companies, as these organizations can manage businesses that are already included in the survey); (iii) only companies were included in the sample that published at least one annual sustainability report and / or social balance sheet between 2010 and 2012. The entire number of companies per period is shown in Figure 2.

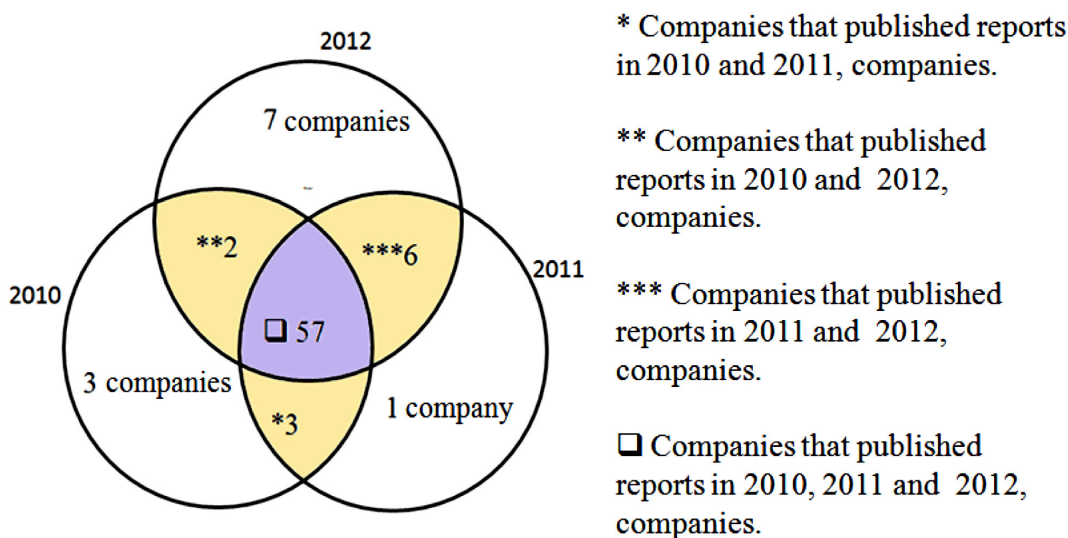

Figure 2. Sample companies during 2010, 2011 and 2012

Source: elaborated by the authors, 2014.

The observations used in the study were derived from two dimensions, which combined cross-sectional data and time series data (three periods - 2010 to 2012). To define the best model specification, the following routines were followed: the pooled Ordinary Least Squares (OLS) (pooled OLS) model and the fixed effects model were estimated to test, through the Chow test, the null hypothesis that the pooled OLS model is preferable over the fixed effects model. Subsequently, we tested the model for random effects, using the Breusch-Pagan Lagrangian multiplier test, which verified the null hypothesis that the pooled OLS model is preferable to the random effects model. The third routine was to evaluate, by means of the Hausman test, the null hypothesis that the random effects estimator is preferable to the fixed effects estimator, being consistent and efficient.

The econometric models have been described next. Equation 2 refers to the variable to be explained - Index of Social Disclosure (IDS) - and its possible explanatory factors (size, Ownership Concentration, Profitability, Leverage, Regulated Sector and Reputation).

$$IDS_{it} = \alpha+\beta_1 TAM_{it} + \beta_2 CON_{it} + \beta_3 ROE_{it} + \beta_4 LEV_{it} + \beta_5 REG_{it} + \beta_6 REP_{it} + \varepsilon_{it} \quad (2)$$

The assumptions accepted by the regression model were validated through the following tests: multicollinearity analysis (Variance Inflation Factor (VIF) and tolerance; assessment of waste independence (Durbin-Watson test and Breusch-Godfrey test), estimated assumption of normal distribution of waste (Bera Jarque-test and Kolmogorov-Smirnov test); homocedasticity investigation (Breusch-Pagan-Godfrey test and White test).

6. Presentation and Analysis of Results

6.1 Descriptive Statistical Analysis

Prior to the presentation and discussion of the inferential data analysis, Table 1 shows the companies' mean levels of disclosure by category. This table shows the companies' mean disclosure indices, which were analyzed. Of the 12 categories analyzed, four were related to voluntary social disclosure and nine to voluntary environmental disclosure. As for the subcategories, the contexts of 40 items on voluntary social disclosure and 40 items about voluntary environmental disclosure were analyzed. In this regard, a marked discrepancy was found between the averages of the four voluntary social disclosure categories.

Table 1
Mean disclosure rates of companies per categories

Categories	Number of subcategories	Mean for 2010		Mean for 2011		Mean for 2012	
		Nº	%	Nº	%	Nº	%
Voluntary social disclosure index							
Community	12	6.0923	50.77	6.4925	54.10	6.0833	50.69
Diversity	5	2.8000	56.00	2.9254	58.51	3.000	60.00
Products, services and consumers	5	2.1080	42.16	2.1343	42.69	2.1944	43.89
Relation with employers	18	7.9690	44.27	7.9254	44.03	8.0417	44.68

Source: research data (2014).

According to Table 2, the disclosure social index varied between 0.0500 and 0.7750. The average voluntary social disclosure index was 0.4817, with a standard deviation of 0.1813, or approximately 62% of social disclosure rates range between 0.3004 and 0.6630. The average CON variable was 0.4784 and the standard deviation 0.2378, indicating that the participation of the main shareholder varies from 0.2406 to 0.7162 among the companies. About the ROE variable, the lowest and highest rates were -0.2574 and 0.4483, respectively, and the mean was 0.0475 and the standard deviation 0.0632, indicating that the feasibility indices of the companies surveyed are concentrated in the range between 0.0157 and 0.1107.

Table 2
Descriptive statistics of variables

Continuous variables						
Variables	Minimum	Maximum	Central trend measures			Dispersion measures
			Mean	Median	Mode	Standard deviation
IDS	0.0500	0.7750	0.4817	0.4750	0.4250	0.1813
TAM	3.7223	8.0452	5.2023	5.0642	3.7223	0.9141
CON	0.0014	1.0000	0.4784	0.5026	0.5270	0.2378
ROE	-0.2574	0.4483	0.0471	0.0384	0.0493	0.0632
LEV	0.2382	0.9392	0.5916	0.5790	0.4000	0.1630

Nominal variables			
Variables	Dummies	No. companies	%
REG	1 – Regulated sector	79	38.73
	0 – Non-regulated sector	125	61.27
REP	1 – Good reputation	93	45.59
	0 – Opposite	111	54.41
Number of observations			204

Source: research data obtained from Economática® and anual and sustainability reports (2014).

As for the nominal variables, these have no quantitative values, being defined by categories or classifications, without a ranking among the variables. In this study, we used two nominal variables: regulated sector and reputation. Still analyzing Table 2, on the variable regulated sector, one can see that 38.73% of the observations belong to companies that are subject to specific governamental regulations. In the variable reputation, modeled by a dummy, 45.59% of the observations are companies with a good reputation.

6.2 Analysis of Voluntary Social Disclosure (Ids)

The econometric modeling consisted of a random effects panel, estimated by OLS. Data were taken from three different periods: 2010, 2011 and 2012. Thus, to apply the best model specification, the Chow, Breusch-Pagan and Hausman tests were performed. Test results showed that the random effects panel model is preferable to the fixed effects and pooled models. To evaluate the existence of individual effects, we performed the Chow test, according to which the null hypothesis could not be rejected (p-value = 0.9721). The Breusch-Pagan test revealed that the null hypothesis was rejected, since the variance of residues, which reflects individual differences, was different from zero (≠ 0 α2u). But the Hausman test proved appropriate to use the random effects model (p-value = 0.1674). According to Table 3, among the three specification hypotheses of the model (pooled, fixed effect and random effect), the preferred model to estimate is the random effects panel.

Table 3

Test results for better specification of the model: social disclosure index

Tests	Hypotheses	Results
Chow	H0– The pooled OLS model is preferable to the fixed effects model.	*p-value* = 0.9721
	H1 – The fixed effects model is preferable to the pooled OLS model.	
Breusch-Pagan	H0 – The pooled OLS model is preferable to the random effects model.	$\alpha^2_u \neq 0$ ($\alpha^2_u = 0.0191$)
	H1 – The random effects model is preferable to the pooled OLS model.	
Hausman	H1 – The random effects model is preferable to the fixed effects model.	*p-value* = 0.1674
	H1 – The fixed effects model is preferable to the random effects model.	

Source: research data (2014).

To test the normality of the residues, the Jarque-Bera test was used, which showed that the residues have a normal distribution. To verify if the residues are heterocedastic, the Breusch-Pagan-Godfrey and White tests were used. Preliminary tests showed the occurrence of this condition. We used the cross-section White method, which estimates robust parameters, assuming the presence of heteroscedasticity, correcting the heteroscedasticity of the residues. The absence of serial correlation was diagnosed using the Durbin-Watson and Breusch-Godfrey tests. The latter pointed out the absence of serial correction of the residues. The diagnosis of multicollinearity indicates no multicollinearity between the independent variables.

The model was estimated using six variables. To evaluate the relationship between the level of voluntary social disclosure and the variables related to the business characteristics (size, ownership concentration, profitability, leverage, regulated sector and reputation), we estimated the panel data model with random effects. R^2 measured the model variation, which is explained by the variation of the estimated variables. Approximately 25% of the variation of the social disclosure index is explained by the variation of the estimated variables. Likewise, the significance of the p-value (0.0000) of the F-statistic in the model confirms that the independent variables used demonstrated significance to explain the social disclosure index.

Table 4

Estimated results of panel model with random effects: dependent variable – social disclosure index

Variables	β	T statistics	*p – value*
Size	0.0333	***1.8673	0.0677
Profitability	0.0359	0.7296	0.4665
Rentabilidade	-0.3157	*-2.3856	0.0180
Leverage	-0.0090	-0.2273	0.8204
Regulated sector	0.1753	*3.7273	0.0003
Reputation	0.0416	*2.6510	0.0087
Intercept	0.2227	3.0458	0.0026
R2			0.2480
Adjusted R2			0.2251
F statistics			10.8286
p-value			0.0000
Durbin-Watson statistics			1.8686
Jarque-Bera			3.2369
p-value			0.2002
Number of observations			**204**

$$IDS_{it} = \alpha + \beta_1 TAM_{it} + \beta_2 CON_{it} + \beta_3 ROE_{it} + \beta_4 LEV_{it} + \beta_5 REG_{it} + \beta_6 REP_{it} + \varepsilon_{it}$$

*, ** and *** = statistically significant at 1%, 5% and 10%, respectively.

Obs: Standard errors estimated using Whitecross-section correction for heteroscedasticity.

Source: research data (2014).

The "size" variable sought to verify if the largest companies have a higher level of voluntary social disclosure. The largest companies are subject to more frequent visibility of the stakeholders, and the costs to disclose information are less representative in the companies. According to Table 4, the results showed a positive and significant relation (p-value = 0.0677) between the level of voluntary social disclosure and firm size, modeled by total assets, corroborating the results found in research by Belkaoui and Karpik (1989) Jennifer Ho and Taylor (2007), Cunha and Ribeiro (2008), Gamerschlag, Möller and Verbeeten (2011) and Lu and Abeysekera (2014).

When the property is relatively widespread, the lack of disclosure would increase the information asymmetry between the organization and its shareholders (Brammer & Pavelin, 2008). The hypothesis "ownership concentration" tested the influence of the stakeholder (shareholder) on the decision of managers to disclose voluntary social information. This suggests that companies with lower ownership concentration divulge more voluntary social information than the companies with greater ownership concentration. Based on the results, it cannot be inferred whether equity dilution affects the voluntary social disclosure, as the p-value was not significant in the model (Table 4). The results were divergent from the findings by Gamerschlag, Möller and Verbeeten (2011), Lu and Abeysekera (2014).

Managers who have the knowledge necessary to make a business profitable also have knowledge and understanding of their social responsibility. In addition, these companies would have more resources to invest in social responsibility actions. Thus, the "profitability" hypothesis found that companies with higher profitability disclose more voluntary social information than companies with a lower level of profitability. The results described in Table 4 showed negative significance (p-value = 0.0180) between the voluntary social disclosure index and the profitability of companies, which means that, the more profitable the company is, the less it is likely to disclose social information. This result may indicate that companies use voluntary disclosure to mitigate the consequences of low profitability.

The stakeholder theory argues that managers are encouraged to disclose information about their specific programs or initiatives for particular groups of stakeholders with the power to influence. In this case, the goal was to verify the influence of the Stakeholder (creditors). Thus, it was verified that companies, when they have a lower leverage ratio, tend to disclose more voluntary social information than companies with a higher leverage ratio. According to the information in Table 4, the results were not statistically significant (p-value = 0.8204) between the voluntary social disclosure and the leverage ratio. The results are consistent with the findings of Cunha and Ribeiro (2008) and Jennifer Ho and Taylor (2007).

The variable "regulated sector" aimed to verify if the Stakeholder (government) influences the level of voluntary social disclosure through the regulation, which means that companies regulated by the government publish more voluntary social information than companies not regulated. The analysis of the results described in Table 4 shows positive statistical significance (p-value = 0.0003). In that sense, it seems that government regulation influences the voluntary social disclosure index, and is therefore one of the factors accounting for the voluntary social disclosure. This result is consistent with the findings of Murcia and Santos (2009).

The variable "reputation" sought to verify if the voluntary social disclosure can be influenced by the company's good reputation from the perspective of the Stakeholder society. Thus, the hypothesis tested whether the companies with the best reputation disclose more voluntary social information than companies that do not have a good reputation. Based on the estimated model (Table 4), it was concluded that the good reputation of companies is a factor of voluntary social disclosure, as the results show positive significance (p-value = 0.0087) between voluntary social disclosure and good reputation. Thus, the perspective of the stakeholder theory cannot be rejected, according to which the dissemination of voluntary social information is seen as a strategy to manage the perception of the various interest groups that relate to the company, in this case, society.

Table 5
Synthesis of results: dependent variable – social disclosure ratio

Hypotheses	Variables	Expected sign	Obtained sign	Significance obtained	Results
H1	Size (TAM)	(+)	(+)	Significant	Not rejected
H2	Ownership concentration (CON)	(–)	(+)	Not significant	Rejected
H3	Profitability (ROE)	(+)	(–)	Significant	Rejected
H4	Leverage (LEV)	(–)	(–)	Not significant	Rejected
H5	Regulated sector (REG)	(+)	(+)	Significant	Not rejected
H6	Reputation (REP)	(+)	(+)	Significant	Not rejected

Source: research data (2014).

Table 5 provides an overview of the results expected by the research hypotheses and the results actually found. Based on the analysis, it can be concluded that the hypotheses H1, H5 and H6 were not rejected, as they showed to be positively significant in the estimated models. Although hypothesis H3 is significant, a negative coefficient was expected, which was not confirmed in the models, which is why hypothesis H3 was rejected. Also in relation to the synthesis of the results, it is clear that the expected sign of hypothesis H4 converged with the sign obtained, although the results were not significant. Finally, the sign of hypothesis H2 was not as expected and the result was not significant either, being therefore rejected in this study.

7. Final Considerations

The objective in this research was to investigate the determinants of companies' voluntary social information disclosure from 2010 till 2012. Therefore, six hypotheses were formulated, which described the financial characteristics or specific attributes inherent in each company, such as: size, ownership concentration, profitability, leverage, regulated sector and reputation.

To achieve the proposed objective, a theoretical and empirical study was undertaken. The models were estimated in an unbalanced panel with random effects. The dependent variables are qualitative, but were quantified to obtain the voluntary disclosure rates, and the independent variables have both qualitative and quantitative characteristics, due to the use of continuous and categorical proxies.

For the companies analyzed, it was found that: firm size, measured by total assets; profitability, modeled by the ROE; reputation, according to the ranking of the 100 companies with the best reputation by Exame magazine; and regulation, companies subject to specific government regulations, were considered determinants of voluntary social disclosure.

The hypotheses tested earlier were based on two theories: the theory of voluntary disclosure and stakeholder theory. The stakeholder theory acknowledges the existence of several stakeholders who may have common or conflicting interests, making the company responsible for managing the conflicting interests. In this research, it was found that the Stakeholders shareholders and creditors did not influence the behavior of companies, as they voluntarily disclosed social and environmental information. But the Stakeholders society and government were perceived as individuals capable of influencing the voluntary disclosure.

The theory of Voluntary Disclosure postulates that the discretion of the disclosure can be explained based on the need for companies to reduce information asymmetry. In all models estimated, however, disclosure varied inversely to the profitability of companies. The fact that less profitable companies disclose more voluntary information may indicate an attempt by the company to divert the stakeholders' attention from the financial performance or even an attempt to justify the low financial performance.

Some limitations should be considered, however, in the interpretation of the study results, including: (i) the results may be sensitive to the proxies used to measure the variables, thus, there is the possibility of obtaining other results if different proxies are used; (ii) the voluntary social disclosure indexes were obtained through the content analysis technique, which is sensitive to the researcher's interpretation bias; and (iii) the data used to build the measure were investigated in unregulated environmental reports, so it cannot be ensured that all information contained in the reports is actually consistent with the company's reality.

As a suggestion for future research is recommended to investigate the social voluntary disclosure in other outlets as the site of the companies, management reports, propaganda, among others.Como sugestão para pesquisas futuras recomenda-se pesquisar a divulgação voluntária social em outros meios de divulgação como o *site* das empresas, relatórios da administração, propaganda, entre outros.

References

Ameer, R. & Othman, R (2012). Sustainability practices and corporate financial performance: a study based on the top global corporations. *Journal of Business Ethics*, *108*(1), pp. 61-79. doi: 10.1007/s10551-011-1063-y

Belkaoui, A. & Karpik, P. G. (1989). Determinants of the corporate decision to disclose social information. *Accounting, Auditing & Accountability Journal*, *2*(1), pp. 36-51. doi:.org/10.1108/09513578910132240

Braga, J. P., Oliveira, J. R. S. & Salotti, B. M. (2009). Determinantes do nível de divulgação ambiental nas demonstrações contábeis de empresas brasileiras. *Revista Contabilidade UFBA*, Salvador, *3*(3), pp. 81-95.

Brammer, S. & Pavelin, S. (2008).Factors influencing the quality of corporate environmental disclosure. *Business Strategy and the Environment*, *17*(2), pp. 120-136. doi: 10.1002/bse.506

Branco, M. C. & Rodrigues, L. L. (2008). Factors influencing social responsibility disclosure by portuguese companies. *Journal of Business Ethics*, *83*(4), pp. 685-701. doi: 10.1007/s10551-007-9658-z

Ceretta, P. S., Barba, F. G.; Kruel, F. C. M. & Milani, B. (2009). Desempenho financeiro e a questão dos investimentos socioambientais. *RGSA – Revista de Gestão Social e Ambiental*, Salvador, *3*(3), pp.72-84. doi:.org/10.5773/rgsa.v3i3.177

Chang, D. & Kou, L. R. (2008).The effects of sustainable development on firms' financial performance – an empirical approach. *Sustainable Development*, *16*(6), pp. 365-380. doi: 10.1002/sd.351

Chih, H. & Chih, H. & Chen, T. (2010). On the determinants of corporate social responsibility: international evidence on the financial industry. *Journal of Business Ethics, 93*(1), pp. 115-135. doi: 10.1007/s10551-009-0186-x

Choi, J. S. (1999). An investigation of the initial voluntary environmental disclosures made in Korean semi-annual financial reports. *Pacific Accounting Review*, *11*(1), pp. 73-102.

Clarkson, M. E. (1995). A stakeholder framework for analyzing and evaluating corporate social performance. *The Academy of Management Review*, *20*(1), pp. 92-117. doi: 10.5465/AMR.1995.9503271994

Costa, R. S. & Marion, J. C. (2007) A uniformidade na evidenciarão das informações ambientais. *Revista de Contabilidade e Finanças – USP*, São Paulo, 43, pp. 20-33.

Cullen, L. & Christopher, T. (2002). Governance disclosures and firm characteristics of listed Australian mining companies. *International Journal of Business Studies*, *10*(1), pp. 37-58.

Cunha, J. V. A. & Ribeiro, M. S. (2008). Divulgação voluntária de informações de natureza social: um estudo nas empresas brasileiras. *Revista de Administração – Eletrônica*, São Paulo, *1*(1), art.6.

Dahlsrud, A. (2008). How corporate social responsibility is defined: an analysis of 37 definitions. *Corporate social responsibility and environmental management*, *15*(1), pp. 1-13. doi: 10.1002/csr.132

Deegan, C., Rankin, M., & Tobin, J. (2002). An examination of the corporate social and environmental disclosures of BHP from 1983-1997: A test of legitimacy theory. Accounting, Auditing & Accountability Journal, *15*(3), 312-343. doi: org/10.1108/09513570210435861

Dye, R. A. (2001).An evaluation of essays on disclosure and the disclosure literature in accounting. *Journal of Accounting and Economics, 32*(1), pp. 181-235. doi:10.1016/S0165-4101(01)00024-6

Eugénio, T. (2010). Avanços na divulgação de informação social e ambiental pelas empresas e a teoria da legitimidade. *Revista Universo Contábil,* Blumenal: FURB, 6(1), pp. 102-118. doi:10.4270/ruc.2010106

Freeman, R. E. (1999).Divergent stakeholder theory.*Academy of Management Review*, *24*(2), pp. 233-236. doi: 10.5465/AMR.1999.1893932

Gamerschlag, R., Möller, K. &Verbeeten, F. (2011). Determinants of voluntary CSR disclosure: empirical evidence from Germany. *Review of Managerial Science*, *5*(2-3), pp. 233-262. doi: 10.1007/s11846-010-0052-3

Hackston, D. & Milne, M. J. (1996).Some determinants of social and environmental disclosures in New Zealand companies. *Accounting, Auditing & Accountability Journal*, *9*(1), pp.77-108. DOI: org/10.1108/09513579610109987

Huang, C. & Kung, F. (2010). Drivers of environmental disclosure and stakeholder expectation: evidence from Taiwan. *Journal of Business Ethics*, *96*(3), pp. 435-451. doi: 10.1007/s10551-010-0476-3

Jennifer Ho, L. & Taylor, M. E. (2007). An empirical analysis of triple bottom-line reporting and its determinants: evidence from the United States and Japan. *Journal of International Financial Management & Accounting*, *18*(2), pp. 123-150. DOI: 10.1111/j.1467-646X.2007.01010.x

Kirch, G., Lima, J. B. N. & Terra, P. R. S. (2012). Determinantes da defasagem na divulgação das demonstrações contábeis das companhias abertas brasileiras. *Revista Contabilidade & Finanças*, *23*(60), pp. 173-186.

Liu, X. & Anbumozhi, V. (2009). Determinant factors of corporate environmental information disclosure: an empirical study of Chinese listed companies. *Journal of Cleaner Production*, *17*(6), pp. 593-600. doi:10.1016/j.jclepro.2008.10.001

Lu, Y. & Abeysekera, I. (2014). Stakeholders power, corporate characteristics, and social and environmental disclosure: evidence from China. *Journal of Cleaner Production*, 64, pp.426-436. doi:10.1016/j.jclepro.2013.10.005

Magness, V. (2006). Strategic posture, financial performance and environmental disclosure: an empirical test of legitimacy theory. *Accounting, Auditing & Accountability Journal*, *19*(4), pp.540-563. doi: .org/10.1108/09513570610679128

Martins, G. A.; Theóphilo, C. R. (2009). *Metodologia da investigação científica para ciências sociais aplicadas*. 2. ed. São Paulo: Atlas, 2009.

Murcia, F. D. & Santos, A. (2009).Fatores determinantes do nível de *disclosure* voluntário das companhias abertas no Brasil. *Revista de Educação e Pesquisa em Contabilidade*. *3*(2), pp. 72-95.doi: .org/10.17524/repec.v3i2.68

Nascimento, A. R., Santos, A., Salotti, B. & Murcia, F. D. (2009). *Disclosure* social e ambiental: análise das pesquisas científicas veiculadas em periódicos de língua inglesa. *Revista Contabilidade Vista & Revista*, Belo Horizonte: UFMG, *20*(1), pp. 15-40.

O'Dwyer, B. (2003). Conceptions of corporate social responsibility: the nature of managerial capture. *Accounting, Auditing & Accountability Journal*, *16*(4), pp. 523-557. doi: .org/10.1108/09513570310492290

Oliveira, J. A. P. (2005). Uma avaliação dos balanços sociais das 500 maiores. *RAE-eletrônica*, *4*(1), art. 2.

Phillips, R., Freeman, R. E. & Wicks, A. C. (2003). What stakeholder theory is not. *Business Ethics Quarterly,* p. 479-502. doi:.org/10.5840/beq200313434

Reverte, Carmelo. (2009). Determinants of corporate social responsibility disclosure ratings by spanish listed firms. *Journal of Business Ethics*, *88*(2), pp. 351-366. doi:10.1007/s10551-008-9968-9

Roberts, R. W. (1992). Determinants of corporate social responsibility disclosure: an application of stakeholder theory. Accounting Organizations and Society, 17(6), pp. 595-612. doi:10.1016/0361-3682(92)90015-K

Rover, S., Borba, J. A. & Murcia, F. D. (2009).Características do *disclosure* ambiental de empresas brasileiras potencialmente poluidoras: análise das demonstrações financeiras e dos relatórios de sustentabilidade do período de 2005 a 2007. *Revista Contemporânea de Economia e Gestão*, *7*(1), pp.23-36.

Rover, S. & Santos, A. (2013). *Disclosure* socioambiental e custo de capital próprio de companhias abertas no Brasil. Anais da Conferência Interamericana de Contabilidade Socioambiental, Belém, PA, Brasil, 3.

Rover, S., Tomazzia, E. C., Murcia, F. D. R., & Borba, J. A. (2012). Explicações para a divulgação voluntária ambiental no Brasil utilizando análise de regressão em painel. *Revista de Administração*, São Paulo, *47*(2), pp. 217-230. doi: 10.5700/rausp1035

Salotti, B. M.; Yamamoto, M. M. (2005). Ensaio sobre a teoria da divulgação. *BBR – Brazilian Business Review*, v. 2, n. 1, p. 53-70, jan./jun. 2005. doi: .org/10.15728/bbr.2005.2.1.4

Silva, F. A. & Pinheiro, L. E. T. (2012). Estágio atual de evidenciação e fatores que influenciam o *disclosure* de informações por segmentos por empresas brasileiras. *Revista de Contabilidade e Controladoria*, Curitiba: UFPR, *4*(3), pp. 78-94. doi: .org/10.5380/rcc.v4i3.29897

Verrecchia, R. (2001). Essays on disclosure. *Journal of Accountingand Economics*, Amsterdam, *32*(1-3), pp..97-180. doi:10.1016/S0165-4101(01)00025-8

Villiers, C. & Staden; C. J. V. (2006). Can less environmental disclosure have a legitimising effect? Evidence from Africa.*Accounting, Organizations and Society*, *31*(8), pp. 763-78. doi:10.1016/j.aos.2006.03.001

Wang, K. & Sewon, O. & Claiborne, M. C. (2008).Determinants and consequences of voluntary disclosure in an emerging market: evidence from China. *Journal of International Accounting, Auditing and Taxation*, *17*(1), pp. 14-30. doi:10.1016/j.intaccaudtax.2008.01.001

Watson, A., Shrives, P. & Marston, C. (2002). Voluntary disclosure of accounting ratios in the UK.*The British Accounting Review*, *34*(4), pp. 289-313. : doi:10.1006/bare.2002.0213

Wilmshurst, T. D. & Frost, G. R. (2000). Corporate environmental reporting: a test of legitimacy theory. *Accounting, Auditing & Accountability Journal*, *13*(1), pp. 10-26. doi.org/10.1108/09513570010316126