**DISCRETIONARY-BASED DISCLOSURE: THE CASE OF SOCIAL AND ENVIRONMENTAL REPORTING IN BRAZIL**

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**ABSTRACT**

The objective of this paper is to identify the factors that explain voluntary social and environmental disclosure, as there is not a standard that requires companies to disclose these kind of information in Brazil. The underpinning theory for this study is the Discretionary-Based Disclosure, which treats disclosure endogenously, by considering managers' incentive to disclose information that is not mandatory. Information has been gathered from Financial Statements for the year ended in 2007 with the use of content analysis. Sample is composed by the largest non-financial companies listed in the *Bolsa de Valores de São Paulo* (BOVESPA). In order to explain social and environmental disclosure, 11 hypotheses have been formulated, based on the existing literature, regarding firm's sector, auditing firm, leverage, internationalization, stock issuing, ownership concentration, origin of control, profitability, corporate governance, size and corporate sustainability. Multiple regression analysis has generated a model that is able to explain 48% of social and environmental disclosure. Also, seven variables are statistically relevant at a significance level of 10%: size, profitability, leverage, sector, internationalization, origin of control and sustainability. Also, with the exception of leverage, all these variables have a positive relation with the disclosure.

**Keywords:** discretionary-based disclosure, social and environmental reporting, Brazil.

## 1. INTRODUCTION

Financial reporting presents a variety of information, which might also include social and environmental issues. Although there have been some tentative to regulate the disclosure of these information, like the Social Balance and the Global Reporting Initiative (GRI), there is not an accounting standard or norm in Brazil that requires corporations to disclose these kind of information.

Despite this fact, some corporations choose to voluntary disclose social and environmental information. Obviously, preparation and reporting raise additional costs to the entity and also provides information to competitors (SOLOMON; SOLOMON, 2004). However, it may also beneficiate the corporation by lowering the cost of capital, improving corporate image and attracting socially responsible investment. For Gray *et al*. (2001) voluntary disclosure of social and environmental information may also reduce agency costs.

According to Dye (2001) the benefits of voluntary disclosure should be higher than its costs. In this line of thinking, if managers' objective is to maximize shareholder's wealth, there seems to be equilibrium, where information that favors an entity is disclosed, while the one that harms it is not (VERRECCHIA, 2001).

One can expect much of the voluntary disclosure to be beneficial to the entity (DYE, 2001). However, due to the risk of adverse selection, entities may also disclose negative information whenever they believe there will be a higher penalty for the absence of certain information. Brammer and Pavelin (2006) state that stockholders may prefer not invest in companies that do not voluntary disclose environmental information, due to possibility of missing information. According to Verrecchia (2001) rational investors interpret the absent information as negative information.

The theory underpinning this study is the Discretionary-Based Disclosure, which treats disclosure endogenously, by considering managers' incentive to disclose certain kinds of information. As we know, managers possess different kinds of information of which disclosure is not mandatory. Therefore, they exercise discretion with regard to the information about which they have knowledge (VERRECCHIA, 2001).

According to Dye (2001) this is a special case of the Game Theory, where the central premise is that entities will always evaluate the information to be disclosed, as a function of costs and benefits. In this sense, voluntary disclosure can be explained by corporate characteristics like size, profitability, leverage, etc. (CUNHA; RIBEIRO, 2006). Therefore, it is possible to evaluate under which circumstances companies will choose to disclose certain kinds of information.

In this line of thinking, this work wishes to examine under which conditions corporations disclose social and environmental information. Hence, the objective of this paper is to identify the factors that determine the disclosure of social and environmental information in the Brazilian Market.

The motivation for conduction this research lies in two central premises: (i) increasing demand of society towards great corporate accountability regarding social and environmental issues; (ii) lack of research addressing these issues in less developed countries, like Brazil.

First, it has been widely accepted that the effects of economy activity on the environment should be somehow measure and recognized. In virtually all segments of the financial market, the attention to environment issues has grown over the years (LABBAT; WHITE, 2002). In the recent times, it seems that corporate stakeholders have become more concerned with corporate damages to the environment, and therefore expect to be informed about social and environmental practices.

Therefore, in order to fulfill investor's desires and needs, corporations must report information regarding its relation to the environment, employees and the community. In this sense, managers face several questions regarding the voluntarily disclosure of these kinds of information, like for example:

- What should we disclose? Good news, bad news, qualitative information, etc.
- How should we disclose it? Financial Statements, sustainability reports, etc.
- Where should we disclose it? Newspapers, magazines, website, etc.
- When should we disclose it? Often, after a disaster in the industry, etc.

At the same time, most studies addressing social and environmental disclosure have evidenced differences among countries (GRAY; KOUHY; LAVERS, 1995a). Also, the great majority has utilized samples of companies from developed countries (Tsang, 1998). According to Newson and Deegan (2002) most studies have been conducted in the United States, Europe and Australia. For that reason, Gray, Owen and Adams (1996) recommend new studies addressing social and environmental disclosure on less developed countries, especially due to the presence of multinational companies based on these places.

In this sense, the lack of studies in less developed countries, like Brazil, and the need for greater corporate accountability represent the main motivations for conducting this research. The remainder of this paper is organized as follow. Section 2 reviews the existing literature regarding social and environmental disclosure. Section 3 describes the methods and section 4 evidences the results. Section 5 presents this paper's conclusions.

## 2. LITERATURE REVIEW

According to the framework proposed by Deegan (2002), social and environmental disclosure is a part of a larger research area called Social and Environmental Accounting Research (SEAR). A search conducted in the Brazilian accounting and auditing journals has showed that this theme is yet incipient in the national literature, as only few papers addressing social and environmental disclosure have been published.

Nossa (2002), that analyzed a sample of companies in the Paper and Cellulose Industry from different countries including Brazil, found that disclosure is positive associated with company size and differs among countries. Borba, Rover and Murcia (2006) compared the environmental disclosure in two different markets: BOVESPA (Brazil) and NYSE (USA) for a sample of Brazilian companies that had American Depositary Receipts (ADRs). Their results showed that Brazilian corporations evidence a large volume of environmental information in the North-American market. Cunha and Ribeiro (2006) have analyzed the factors that determine the disclosure of the Social Balance in Brazil. Their results showed that disclosure was positive associated with the level of corporate governance and negative associated with size.

Despite being yet incipient in Brazil, social and environmental issues have been largely researched by the accounting and auditing community all around the world. For instance, Buhr (2001) explored the nature of accountability and environmental disclosure using The North American Free Trade Agreement (NAFTA) and its environmental side agreement as a venue. His results evidence that managers and companies do not see themselves as accountable for or liable to speak about their environmental performance in connection with NAFTA.

Tilt (2001) analyzed the relationship between corporate environmental policies of Australian public companies and subsequent disclosure. Results showed that Australian companies are surprisingly behind other countries in environmental reporting trends. Deegan, Rankin and Tobin (2002) examined the social and environmental disclosure of BHP Ltd, one of the largest Australian companies, from 1983-1997. Their results lend support to legitimation motives. Another study conducted by O'Donovan (2002), which used semi-structured interviews to identify the perception of senior personnel from three Australian public companies, also supported legitimacy theory as an explanatory factor for environmental disclosure.

Nyquist (2003) investigated how the new demands for environmental information are perceived by Swedish accountants. His main findings are: (i) accountants have a positive attitude towards environmental information, (ii) they are asking for more training, and (iii) they find the amount of environmental disclosure tends to increase in the future. Campbell (2004) analyzed the annual reports of 10 UK-based companies in five sectors between 1974 and 2000. His findings showed and overall increase in the disclosure volume over the period but with a market upturn in the late 1980's.

Adams and Frost (2006) examined the use of the web as a means of stakeholder engagement and as part of a strategy for communication. A key finding was the limited understanding of the advantages of using the web as part of a communication strategy on all aspects of corporate performance. Another study conducted by Deegan and Blomquist (2006) explored the influence and initiative of WWF-Australia had on environmental reporting practices of the Australian mineral industry. Findings suggest that WWF's initiative influence revisions to the industry code, as well as the reporting behavior of individual mining companies.

Van Staden and Hooks (2007) investigated if there is an association between companies that have been identified as environmental responsive and the quality and extent of their disclosures about their environmental impacts. Their results showed a positive correlation between the independent ranking and their raking of environmental disclosure. Ahmad, Hassan and Mohammad (2003) examined the incentives that motivate Malaysian listed companies to disclose environmental information in their annual reports. Their results evidenced that environmental disclosure in annual reports in negatively related with firm's leverage and that their accounts were audited by Big-Five firms.

## 3. METHODS

This study wishes to identify the factors that determine the disclosure of social and environmental information in Brazil. The description of this study's methods is divided in three parts: (i) data collection, (ii) hypotheses development and (iii) study's restriction.

### 3.1 Data Collection: Social and Environmental Disclosure

In order to gather social and environment information, content analysis has been utilized. According to Krippendorf (1990) this technique enables the study of messages in a rigorous and systematic manner. Also, content analysis permits a researcher to classify qualitative information in categories (ABBOTT; MONSEN, 1979), which facilitates the inference process of messages (BARDIN, 1977). Sentences regarding social and environmental issues have been defined as the unit of analysis for content analysis. According to Gray, Kouhy and Lavers, (1995b) sentences are preferred if one is seeking for meaning.

A very important decision regarding content analysis regards which document to analyze. In this study, financial statements, for the year ended in 2007, available in the BOVESPA's website have been selected for analysis. In this sense, the document analyzed in this study is the *Demonstração Financeira Padronizada* (DFPs), which is the official version of a company's financial statement.

Sample is composed by the largest companies listed in the *Bolsa de Valores de São Paulo* (BOVESPA). Top one hundred companies have been selected, excluding the financial industry due to their specificities.

In order to classify and analyze social and environmental information, a framework has been utilized, composed of 11 categories and 49 subcategories: social financial information (4), products and services (2), employees (9), environmental policies (5), environmental management and auditing (3), impact of products and services in the environment (7), energy (3), environmental financial information (6), environmental education and research (2), carbon credits (4) and other environmental information (4).

The framework has been based on the works of Ernst and Ernst (1978), Gray, Kouhy and Lavers (1995b), Meek, Roberts and Gray (1995), Hackston and Milne (1996), Botosan (1997), Williams (1999), Depoers (2000), Hail (2002), Nossa (2002), Kuasirikun and Sherer (2004), Lanzana (2004), Malacrida and Yamamoto (2006), Yusoff, Lehman and Nasir (2006), Alencar (2007), Lima (2007), Andrade and Salotti (2008), Francis, Nanda and Olsson (2008).

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|---|---|
| **SOCIAL DISCLOSURE** | |
| **Social Financial Information** | Value added statement<br>Mentions to the value added or distributed<br>Social Investments<br>Expenses in social projects |
| **Product and Services** | Statement about the adequacy to safety regulation<br>Complains about company's products and services |
| **Employees** | Number of employees<br>Employee's salary<br>Employee's benefits<br>Employee's satisfaction<br>Minorities in the workforce<br>Education and training<br>Safety in the workplace<br>Accidents in the workplace<br>Relationship with labor unions |
| **ENVIRONMENTAL DISCLOSURE** | |
| **Environmental Policies** | Actual environmental policies<br>Environmental goals, targets and objectives<br>Compliance with licenses, laws and environmental entities<br>Environmental partnerships<br>Environmental prizes and participation and sustainability indexes |
| **Environmental Management and Auditing** | Environmental management<br>ISOs 14.000<br>Environmental auditing |
| **Impact of Products and Services in the Environment** | Waste<br>Packaging<br>Recycling<br>Development of ecological products<br>Efficient use of water<br>Impacts in the environment<br>Repairs to environmental damages |
| **Energy** | Energy conservation / use more efficient in business operation<br>Use of waste material for energy production<br>Development of new sources of energy |
| **Environmental Financial Information** | Environmental investments<br>Environmental costs and expenses<br>Environmental liabilities<br>Description of accounting practices for environmental issues<br>Environmental insurance<br>Environmental assets |
| **Environmental Education and Research** | Environmental education<br>Environmental research |
| **Carbon Credits** | Clean Development Mechanisms (CDM)<br>Carbon credits<br>Emission of greenhouse gases |

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|---|---|
| | Certified Emission Reductions (CERs) |
| **Other Environmental Information** | Any mention concerning sustainability<br>Forest management<br>Biodiversity conservation<br>Stakeholders |

**Exhibit 1 – Social and Environmental Disclosure Framework**

Based on the framework presented on Exhibit 1, a social and environmental disclosure index (DISC) has been elaborated, using a non-weighted approach (1 if the company disclosed the information and 0 otherwise). Using these criteria, a social and environmental disclosure index was assigned to each company, based on the amount of social and environmental information disclosed, taking into consideration the subcategories presented on the framework.

For instance, *Petrobras*, from the Energy sector, disclosure a total of 42 subcategories of the 49 available, receiving a disclosure index of 85,71% (42/49). Thus, this index became the dependent variable in the regression model developed in order to explain social and environmental disclosure.

## 3.2 Hypotheses Development

A total of 11 hypotheses have been formulated in order to explain social and environmental disclosure, regarding: (i) auditing firm, (ii) leverage, (iii) internationalization, (iv) stock issuing, (v) profitability, (vi) ownership concentration, (vii) origin of control, (viii) corporate governance, (ix) size, (x) sector and (xi) corporate sustainability. These hypotheses became the independent variables in the regression model. A brief description of these hypotheses is presented below.

### 3.2.1 Auditing Firm (AUD)

H1: Companies audited by 'Big Four' tend to disclose more social and environmental information than companies audited by 'other auditing firms'.

Watts and Zimmerman (1986) argue that auditors incur in costs when entering contracts with clients. In this sense, they tend to influence them to disclose as much information is possible in order to reduce possible litigation costs due to absence of information. Recent fraud scandals involving auditing companies like Arthur Andersen and its client, Enron Corporation, illustrates the fact that in some cases auditors might be considered reliable for their clients' practices.

A dummy variable has been used as proxy for auditing firms', where companies audited by 'Big Four' = 1, and companies audited by 'other companies' = 0.

### 3.2.2 Financial Leverage (LEV)

H2: Companies with higher level of financial leverage tend to disclose more social and environmental information than companies with lower level of financial leverage.

Due to the fact that managers have a natural tendency to assume higher risks, creditors might impose restrictions about company's operation (Lopes, 2004). According to the Agency Theory, firms with higher level of financial leverage tend to voluntary disclose more information in order to satisfy creditors and remove the suspicions of wealth transfer to shareholders. However, is it worthwhile to mention that the some empirical evidences on this hypothesis are contradictory (AHMAD; HASSAN; MOHAMMAD, 2003).

The proxy for financial leverage chosen was Total Liability divided by Total Assets for the year of 2007.

#### 3.2.3 INTERNATIONALIZATION (INTER)

H3: Companies listed in the New York Stock Market (NYSE) tend to disclose more social and environmental information than companies listed only in *Bolsa de Valores de São Paulo* (BOVESPA).

According to Archambault and Archambault (2003), disclosure practice tends to be influenced by the stock market in which the company operates. Also, companies listed in international financial markets have more pressure to disclose information when compared to companies that negotiate only in the local market (MEEK; ROBERTS; GRAY, 1995).

A dummy variable has been used as proxy for internationalization, where companies that have American Depositary Receipts (ADR) Levels II e III = 1, and other companies = 0.

#### 3.2.4 STOCK ISSUING (STOCK)

H4: Companies that issue stock in the year of 2008 tend to disclose more social and environmental information than companies that did not.

According to Baums (2002), companies would be willing to disclose information when raising capital even if they were not required to do so. That happens because companies that are able to reduce the information asymmetry during the time they are issuing stock, should be able to enjoy lower levels of cost of capital (LANG; LUNDHOLM, 2000). In this sense, we expect companies that anticipate a stock issuing during the year of 2008 to voluntary disclosure more information in order to reduce the information asymmetry component of cost of capital.

A dummy variable has been used as proxy for stock issuing, where companies that issue stock during the year of 2008 = 1, and other companies = 0.

#### 3.2.5 PROFITABILITY (PROFIT)

H5: Companies with higher level of profitability tend to disclose more social and environmental information than companies with lower level of profitability.

According to Akerlof (1970) profitable firms are more likely to disclose more information in order to screen themselves from less profitable firms. A well-run company has incentives to distinguish themselves from less profitable company in order to raise capital on the best available term (AHMAD; HASSAN; MOHAMMAD, 2003).

The proxy for company profitability utilized was Return on Equity (ROE), composed by Net Profit for year of 2007 divided by the average Equity for the period.

#### 3.2.6 OWNERSHIP CONCENTRATION (OWN)

H6: Companies that have less concentrated ownership tend to disclose more social and environmental information than companies with more concentrated ownership.

The more disperse the firm's ownership is, the greater the separation between property and control, which generates larger agency conflicts between insiders and outsiders (DEPOERS, 2000), which has a direct influence on the level of voluntary disclosure (CHOW; WONG-BOREN, 1987). The premise is that investors that have a significant portion of a company's stock can obtain information privately (ARCHAMBAULT; ARCHAMBAULT, 2003), because they are generally part of the management or the board, having insider information.

This hypothesis has been operationalized with a dummy variable, where companies controlled by a single stockholder (50% + 1 of ordinary shares) = 1, and other companies = 0.

### 3.2.7 Origin of Control (ORIGIN)

H7: Companies controlled by the State tend to disclose more social and environmental information than companies with more concentrated ownership.

The justification to why a company controlled by the state should disclose higher levels of social and environmental information is not clear. However, descriptive analysis of data has showed that origin of control might be a significant variable in explaining company's voluntary disclosure of social and environmental information. For instance, five out of the ten companies with highest levels of disclosure are controlled by the State (*Petrobras*, *Sabesp*, *Sanepar*, *Cesp*, *Eletrobrás*). In this sense, this variable has been included in the regression using a dummy variable = 1 for companies controlled by the State, and = 0 otherwise.

### 3.2.8 Corporate Governance (GOVERNANCE)

H8: Companies with better corporate governance practices tend to disclose more social and environmental information than other companies.

According to the bonding hypothesis, companies from countries with weak institutions, characterized by low investor protection might engage in additional governance mechanisms in order to gain investors confidence (LEUZ, 2006). Specifically in Brazil, companies might list their stocks in the Corporate Governance Levels of BOVESPA. It is expected that companies with better corporate governance practices also have better disclosure practices. Therefore, dummy variable = 1 has been assigned for companies that belong to Level I, II and New Market of Bovespa, and = 0 otherwise.

### 3.2.9 Size (SIZE)

H9: Larger companies tend to disclose more social and environmental information than smaller companies.

The development of this hypothesis is based on the "Political Cost Hypothesis" of Positive Accounting Theory (WATTS; ZIMMERMAN, 1986). Basically, larger firms have higher political costs due to their visibility which might lead to higher government and society attention. According to Hackston and Milne (1996) both agency theory and legitimacy theory also contain arguments for a size-disclosure relationship. Also, larger companies have more shareholders who might be interest in social and environmental disclosure. In addition, Firth (1979) suggests that companies with higher visibility tend to disclose more information to improve corporate image.

The proxy for company size utilized in the study was Ln of Revenues for the year of 2007.

#### 3.2.10 SECTOR (SECTOR)

H10: Companies from the Electric Sector tend to disclose more social and environmental information than companies from other sectors.

Regulation and enforcement from *Agência Nacional de Energia Elétrica* (ANEEL) has largely influenced the disclosure of companies from the electric sector. For instance, although is not mandatory, most companies from this sector do disclose the Social Balance and the Value Added Statement. Also, specifically regarding social information, descriptive analysis has evidenced that eight out of the ten companies with highest levels of social disclosure are from the Electric sector. In this sense, this hypothesis has been included in the regression using a dummy variable = 1 for companies that belong to the electric sector, and = 0 for companies in other sectors.

#### 3.2.11 CORPORATE SUSTAINABILITY (SUSTAIN)

H11: Companies that participate in the *Índice de Sustentabilidade Empresarial* (ISE) of BOVESPA tend to disclose more social and environmental information than companies that do not participate.

The ISE objective is to reflect a portfolio of companies with recognized commitment with social responsibility and sustainability. Tracing a parallel with the North-American Market, the ISE is the Brazilian version of the Dow Jones Sustainability Index. In this sense, we expect companies that participate in the ISE to disclose more social and environmental information than firms that do not participate.

A dummy variable has also been used as proxy for participation in the ISE, where members of ISE = 1, and non-member of ISE = 0.

### 3.3 Study's Restriction

First, it is worthwhile to mention that social and environmental disclosure is not a proxy for social and environmental performance. In this sense, this study does not intend to establish this relation.

Regarding the use of content analysis, subjectivity has been reduced by the use of two independent coders, both accounting graduate students. Differences were solved in a subsequent meeting where coders got to an agreement about data interpretation.

Another restriction regards the study's sample, which is composed only for companies listed in the BOVESPA. Finally, as stated by Unerman (2000) the analysis of financial statements only, might not give a complete picture of a company social and environmental disclosure.

## 4. RESULTS

In order to achieve this study's objective – identify the factors that explain voluntary social and environmental disclosure in Brazil –, a multiple regression model was utilized. In this model, the level of social and environmental disclosure assigned to each company based on the framework is the dependent variable and the 11 hypotheses are the independent variables. Table 1 evidences the initial results.

**Table 1 – Initial Model: Social and Environmental Disclosure**

| Model | Σ Squares | df | Mean Square | F | Sig. | $R^2$ |
|---|---|---|---|---|---|---|
| Regression | 3529,475 | 12 | 294,123 | 8,888 | ,000 | ,551 |
| Residual | 2879,165 | 87 | 33,094 | | | **Adjusted R2** |
| Total | 6408,640 | 99 | | | | ,489 |
| **Model** | **B** | **Std. Error** | **Standard B** | **t** | **Sig.** | **VIF** |
| (Constant) | -3,345 | 10,379 | | -,322 | ,748 | |
| SECTOR | 7,307 | 1,657 | ,378 | 4,411 | ,000 | 1,423 |
| AUD | 1,262 | 1,704 | ,058 | ,741 | ,461 | 1,179 |
| LEVERAGE | -,088 | ,030 | -,226 | -2,951 | ,004 | 1,136 |
| INTER | 3,647 | 1,951 | ,163 | 1,869 | ,065 | 1,467 |
| STOCK | -1,867 | 3,290 | -,046 | -,567 | ,572 | 1,256 |
| OWNER | -1,949 | 1,567 | -,099 | -1,244 | ,217 | 1,231 |
| ORIGIN | 7,793 | 2,473 | ,248 | 3,151 | ,002 | 1,203 |
| SIZE | 1,155 | ,680 | ,147 | 1,698 | ,093 | 1,454 |
| PROFIT | ,024 | ,013 | ,142 | 1,822 | ,072 | 1,174 |
| SUSTAIN | 5,405 | 1,958 | ,248 | 2,761 | ,007 | 1,556 |
| GOVERNANCE | -1,249 | 1,494 | -,077 | -,836 | ,406 | 1,663 |

As showed on Table 1, the model as a whole is statistically significant. However, only seven variables are statistically significant at a confidence level of 90%: sector, leverage, internationalization, origin of control, size, profitability and sustainability. The stepwise method confirmed the statistical significance of these seven variables at a confidence level of 90%. In this sense, the multiple regression analysis was conducted again with only seven independent variables. Table 2 presents the final model of social and environmental disclosure.

**Table 2 – Final Model: Social and Environmental Disclosure**

| Model | Σ Squares | df | Mean Square | F | Sig. | $R^2$ |
|---|---|---|---|---|---|---|
| Regression | 3317,587 | 7 | 473,941 | 14,106 | ,000(a) | ,518 |
| Residual | 3091,053 | 92 | 33,598 | | | **Adjusted R2** |
| Total | 6408,640 | 99 | | | | ,481 |
| **Model** | **B** | **Std. Error** | **Standard B** | **t** | **Sig.** | **VIF** |
| (Constant) | -6,933 | 9,809 | | -,565 | ,573 | |
| SECTOR | 7,596 | 1,491 | ,393 | 4,443 | ,000 | 1,136 |
| LEVERAGE | -,085 | ,029 | -,218 | -2,916 | ,004 | 1,070 |
| INTER | 3,365 | 1,911 | ,150 | 1,999 | ,048 | 1,386 |
| ORIGIN | 7,205 | 2,389 | ,230 | 1,742 | ,085 | 1,106 |
| SIZE | 1,429 | ,656 | ,182 | 1,768 | ,080 | 1,334 |
| PROFIT | ,022 | ,013 | ,128 | 2,938 | ,004 | 1,071 |

| | | | | | | |
|---|---|---|---|---|---|---|
| SUSTAIN | 4,732 | 1,753 | ,217 | 2,166 | ,033 | 1,229 |

* Correct by the White Heteroscedasticity Covariance Matrix

The final model has an explanatory power of 48% and seven independent variables that can be considered relevant at a significance level of 10% Colinearity among the independent variables has not been detected as VIF indicator for all variables is lower than 1,5. Finally, the model also presented a problem of heteroscedasticity that has been corrected by the White covariance matrix.

One might note that, with the exception of leverage, all the independent variables have a positive relation with the disclosure of social and environmental information. On the other hand, financial leverage has a negative relation to social and environmental disclosure, which is contrary to the theoretical arguments from the Agency Theory.

The fact that size is significant to explain social and environmental disclosure corroborate with prior studies (AHMAD; HASSAN; MOHAMMAD, 2003; HO; TAYLOR, 2007) and also with the Political Costs Hypotheses of the Positive Accounting Theory (WATTS; ZIMMERMAN, 1986). Adverse selection problems also help to explain the significance of profitability, as there is a cost to be perceived by the market as a lemon (AKERLOF, 1970).

The fact the United States market pressures companies for higher levels of disclosure when compared to the Brazilian market helps to explain the fact that companies listed in the NYSE exhibits higher levels of social and environmental disclosure. Finally, companies from the electric sector and controlled by the State presented on average higher levels of social and environmental disclosure which seems to be a unique phenomenon that results from the specifities of the Brazilian scenario. We recommend further studies to search for possible explanations for these results.

## 5. CONCLUSIONS

The objective of this paper was to identify the factors that determine the disclosure of social and environmental information in Brazil. The underpinning theory for this study is the Discretionary-Based Disclosure (VERRECCHIA, 2001). The motivation for conduction this research lies in two central premises: (i) increasing demand of society towards great corporate accountability regarding social and environmental issues; (ii) lack of research addressing these issues in less developed countries, like Brazil.

Sample is composed by the largest companies listed in the *Bolsa de Valores de São Paulo* (BOVESPA). Top one hundred companies have been selected, excluding the financial industry due to their specificities.

One of the main contributions of this paper is the elaboration of a social and environmental disclosure framework, based on the works of: Ernst and Ernst (1978), Gray, Kouhy and Lavers (1995b), Meek, Roberts and Gray (1995), Hackston and Milne (1996), Botosan (1997), Williams (1999), Depoers (2000), Hail (2002), Nossa (2002), Kuasirikun and Sherer (2004), Lanzana (2004), Malacrida and Yamamoto (2006), Yusoff, Lehman and Nasir (2006), Alencar (2007), Lima (2007), Andrade and Salotti (2008), Francis, Nanda and Olsson (2008).

This framework was composed of 11 categories and 49 subcategories: social financial information (4), products and services (2), employees (9), environmental policies (5), environmental management and auditing (3), impact of products and services in the environment (7), energy (3), environmental financial information (6), environmental education and research (2), carbon credits (4) and other environmental information (4).

Based on the proposed framework, each company has been assigned a social and environmental disclosure index, which became the dependent variable in the regression model. The independent variables were the 11 hypotheses that have been formulated based on the existing literature, regarding: sector, auditing firm, leverage, internationalization, stock issuing, ownership concentration, origin of control, profitability, corporate governance, size and corporate sustainability.

Results evidence that seven variables are statistically relevant at a significance level of 10%: size, profitability, leverage, sector, internationalization, origin of control, and sustainability. On the other hand, with the exception of leverage, all these variables have a positive relation with the disclosure of social and environmental information.

Also, the model is able to explain 48% of social and environmental disclosure. Problems regarding multicolinearity have been solved with the White covariance matrix and colinearity among the independent variables has not been detected.

Finally, this paper wishes to contribute to the existing literature on the issue by presenting empirical evidences on the factors that explain voluntary social and environmental disclosure in a less developed country. Future studies could build on the founded results, especially regarding the significance of the Electric sector and the origin of control.

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