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1. INTRODUCTION

Corporate social responsibility (CSR) becomes a goal more serious for economic agents due to a new focus to all appearances of business activities and their dependencies with stakeholders.

According to Garriga and Melé (2004) corporate social activities are more than simple occur profitable results because through these activities companies can deploy good relationships with stakeholders (Freeman, 1984), and indirectly generate value for shareholders. Indeed, the companies' attitude towards communication related to social responsibility activities seem to be able to maintain and to support a better relationship with stakeholders in general.

CSR is a concept with an increasingly currency around the globe. It is usual to overlap with similar concepts such as corporate sustainability, sustainable development and corporate responsibility.

In addition, CSR has a wide range of potential significance: it can be considered as the method of

integrating economic, social and environmental objectives of private sector activities.

Thus, this mutation announces expanded growth of the corporate governance concept, which begins to cover some forms usually considered part of the corporate social responsibility. CSR is a difficult concept to define, as already indicated in 1973, when he was stated that "the term is clear, it means something, but not always the same thing to everyone" (Carroll, 1999), this feature seems to be related to the participation of many stakeholders with a range of different needs often opposed (McWilliams and Siegel, 2001). However, there is some agreement that CSR covers at least the deontology's voluntary attention, social and environmental implications of business (Carroll, 1999; McWilliams and Siegel, 2001; Whetten et al., 2002). As a reflection of this, McWilliams et al. (2006) define CSR as "conditions where the company goes beyond the harmony and engages in voluntary actions seem to defend the common good, beyond the interests of the company and what is required by law".

It is difficult, from a conventional and conceptual point of view, to distinguish the differences between the judgment of a company to engage in CSR activities and the decision on the why, how and when to report on these activities to stakeholders. The choice of wide theoretical framework for the researcher approaches is the issue of CSR on profitable terms or moral point of view (Cetindamar and Husoy, 2007). The moral conceptions discover that these activities should be encouraged because they are the "right thing" to do. Economic theory shows that these activities should be encouraged to the extent that they generate wealth for shareholders through increasing the gain. Virtually all theoretical approaches support the implication that it is not enough to take part in an action of CSR, then it is essential to provide information on the measures taken. A matter of significant dissimilarity between the theories relate to what measures should be used, and must be prevented.

For the survival of the company, it must win the support and approval of its stakeholders, whether they be major players (those who are without whose of the support the company cannot move at all, including buyers, traders or providers of labor and wealth) or auxiliary stakeholders (who are members but indirectly

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in a position to influence significantly the success of the company, including regulators and the media) (Clarkson, 1995).

CSR activities and the consequent communication are part of the essential ongoing communication process essential in order to incorporate and maintain this support (Gray et al. 1995). Under this general heading, researchers have developed different theoretical developments based on the stakeholder theory (Clarkson, 1995; Maignan and Ralston, 2002) and legitimating (Campbell, 2000) to analyze both CSR activities and disclosure.

The paper is organised as follows. In the next section we briefly describe various CSR conceptualizations are on offer in the literature. We then discuss the explanatory theories environment disclosure, focusing on stakeholder theory. Then, we review evidence supporting the existence of diversity in corporate governance environmental disclosure practices. Next, the fifth section examines previous literature on corporate governance and voluntary disclosure and the research hypotheses.

Finally our hypotheses are developed and the methodology is explained. Results and analysis are presented followed by implications and conclusions.

II. TRADITIONAL CORPORATE SOCIAL RESPONSIBILITY CONCEPTUALIZATIONS

Before examining the relationship between corporate governance, social responsibility, business ethics, we begin first by setting them separately. Corporate governance is a term for the application of the reliability of the accounts (Demb and Neubauer, 1992). In modern societies, companies have many Shareholders who do not play a role in business administration. Thus, the actual economic activities of the companies are connected with the general economy of the world. Indeed, the managers in business management have to be more than in the past guarantors. Because of this condition, regulators such as the OECD have triggered requirements for companies that prefer codes of corporate governance.

In terms of modern management strategy, the genesis of the concept of social responsibility has emerged in the 1950s (Carroll, 1999). Avoid cultural and linguistic debates, social responsibility can be determined as voluntary efforts by companies to ensure accountability to rule out or at least simplify the bad impact of their activities on stakeholders (Post et al., 1996). Identically, Gjolberg (2009) states that in modern society, companies have offered more autonomy, but they also aim to play social roles, such as mitigating climate changes and to defend human rights.

In reviewing the above definitions, we can suggest that corporate governance, social responsibility and business ethics concepts have some common

characteristics and that these three terms are correlated. Requirements of corporate governance that managers make their companies more efficient, reliable and responsible; requirements of the CSR maintain society with their activities and businesses ethics set the ethical standards for employees. The business ethics can support the leader to make his /her company more responsible and intelligible. Similarly, when a company prefers codes of corporate governance, it must also meet the needs of its stakeholders. As a matter of fact, the rules of corporate governance include principles related to the ethics of business and social responsibility. However, some researchers (Heath and Norman, 2004) assume a similar theory of CSR that cannot be reproduced without the corporate governance. In any case, it is clear concluding that these three concepts are related and they are required by companies' shareholders and stakeholders (Scott, 2007).

Explanations of corporate governance have been discussed widely in the literature (Shleifer and Vishny, 1997; Bradley et al., 1999). For the needs of this research, corporate governance is explained as to encourage fairness corporate, listening and relevance though its responsibilities to stakeholders. Thus, this study focuses on how corporate governance can support to encourage corporate social responsibility through increased environmental data using voluntary reporting. Indeed, this information should be of higher quality, more detailed and more comprehensive than those used in the traditional annual report on paper or the environment, health and safety report. However, this exploratory study showed that this was not the case and that, in Tunisia, at least, good corporate governance with respect to social information in a voluntary reporting is significant way to go.

Increasing the effect of environmental reporting companies (Triple Bottom Line reports or reports on environmental, health and safety) was strongly correlated to the recognition of the fact that the best corporate governance requires an analysis of the impact a company has on the community and the environment. This information is often published on an annual basis and is retrospective and are often updated, so it is essential that companies use in voluntary disclosures and separate reports to ensure that stakeholders are clearly informed of the current importance of environmental issues.

On the one hand, the annual management report was printed the usual environment and key by which the undertaking was only information communicated to the public, it has gained a lot of awareness of researchers (Niskala and Pretes, 1995; Fayers, 1998). On the other hand, many companies today have their independent reports and volunteers that are easily accessible on the web, it is a very effective mean of receiving and disseminating

information (Schwartz, 2000; Ashbaugh et al., 1999; Trites, 1999; Petravick and Gillett, 1998). These self-reports are increasingly used to provide updated information on the behavior of companies, market conditions, future directions and financial conditions, including, it turns out that they are used to meet needs and expectations of the community on issues of corporate social and environmental responsibilities (Jones et al., 1998).

Although, Budeanu and Thidell (2006) find that despite their communication initiatives of environmental information, the Romanian companies are willing to join with Western practices, Ienciu et al. (2011) examine the quality of environmental information voluntarily disclosed by listed companies over Romanian Hungarian companies for the period 2006-2008, noted that the multitude of environmental information submitted by the Romanian companies is unreliable and irrelevant. The study maintains that the legitimacy theory is the most important to explain and define the environmental reporting within the Romanian companies because companies are prospecting in the aspects that will create a clear effect image and a good place in society.

Regarding the dependencies between the features of corporate governance and the level of voluntary disclosure, a series of studies was presented. Based on this assumption, Rao et al. (2012) analyzed using a quantitative study of the relationship between environmental reporting and corporate governance characteristics of Australian companies in 2008. They consider the annual reports of 100 companies listed on the Australian Stock Exchange of Australia. The result of the Research shows a significant positive relationship between the quality of environmental reporting and the proportion of independent directors and women on the board.

Sanchez et al. (2011) studied the behavior of disclosure of Spanish companies in relation to a voluntary classification of strategic information to capture the factors that determine these practices. The results reveal that companies with the President of the Board are the same person as the Chief Executive Officer and, in addition, where there is a lower amount meeting, they communicate a greater amount of strategic information on their websites.

The research conducted by Ho and Wong in 2001 examines the relationship between the compositions of the Corporate Governance (the proportion of independent directors, the presence of the audit committee, the existence of controlling shareholders, and the ratio of family members) and the level of voluntary reports in the Hong Kong Stock Exchange listed entities. The study finds that the existence of the audit committee affects positively the level of voluntary reports. The study prepared by Gul and Leung (2004) focuses mainly on the Hong Kong market, examining the relationship between the

compositions of the management Board and the voluntary disclosure of information for 385 entities on the basis of the regression analysis. The results show that the dual role of Executive Manager (General Manager is also the Chairman of the Board) is associated with less voluntary reports.

Haniffa and Cooke (2002) study the importance of different cultural traits or characteristics of corporate governance for the voluntary disclosure in Malaysia Stock listed companies. The following variables were examined in the study: the board structure, the dual role, the position of Chairman of the Board, the existence of managers who are part of the board of directors of other companies, the existence of chairmen in the board of managers in other companies. The working hypotheses were tested using of regression analysis. The results found that a non-executive position for the Chairman influences the level of voluntary reporting, including environmental reporting.

III. CORPORATE DISCLOSURE OF ENVIRONMENT: THEORY AND EVIDENCE

The research on social and environmental communication explained that there are many mutation in the conceptual perspectives have been adopted (Deegan, 2002), the absence of a single idea framework for studying the correlations necessary (Belkaoui and Karpik, 1989), the lack of any explicit assumption of global social and environmental responsibility that encompasses the done analysis (Roberts, 1992) and the current probability of properly established theories (Gray et al., 2001). However, three major research trends have dominated the light on the practices of social and environmental disclosure. There are the stakeholder theory, the theory of legitimacy and the theory of political economy. Legitimacy and stakeholder theories have their origins from the theory of political economy (Deegan, 2002). All these theories are related to the concept of the existence of a social agreement between the company and the company, which company is responsible and due to all of its stakeholders (Gray et al., 1996). Indeed, it has been developed these overlapped and additional theories rather than competing as such (Gray et al., 1995). In addition, the signaling theory was exposed as a possible interpretation of the voluntary disclosure practices of that environmental disclosure which is an important category.

Identical, corporate governance is not based on accepted theoretical basis or a common rule (Parum, 2005). Corporate governance has been developed and investigated using different theoretical models such as the agency theory, stakeholder theory, and legitimacy theory. In analyzing the literature of corporate governance, however, it can be distinguished as the

agency theory and stakeholder theory are the predominant theories. Stakeholders theory is broader than the agency theory view as it develops the concept of capital to include all stakeholders rather than just shareholders parties. A different theoretical analysis surrounding an even wider than the two theories was the stakeholder-agency perspective theory, considered by Hill and Jones (1992). The incorporation of the stakeholder concept with agency theory developed the principal-agent paradigm of financial economics.

The essential distinction between these theories is the view from which they are discussed and appreciated.

Stakeholder theory has been extensively discussed in the accounting literature by providing powerful explanation for the behavior of social and environmental disclosure and corporate governance instruments of companies. The stakeholder theory involves exploration and recognition of the relationship between business practice and the impact on stakeholders (Ansoff, 1965). Indeed, "the continuity of the company requires support of the stakeholders and their acceptance must be requested and the activities of the close corporation for approval. The most important players over the company must adapt"(Gray et al., 1995). According to Gray et al. (1996), the company has greatly stakeholders, therefore, should be responsible of all stakeholders, turning to the expanded range of responsibilities proved to business decision makers. Thus, the most important of the stakeholders in the organization, the more attention will be made to direct and lead this dependence. Govern such a relationship can be done by providing more information through voluntary social and environmental information, to gain the support and acceptance of these stakeholders.

The stakeholder theory appeared in the scope of discussing these as a backup of the social responsibility of the company and the discourse that leaders must have honest responsibilities to other parts passionate, not only to its shareholders (Hendry, 2001). These affected parties are stakeholders who have a goal or cooperation in society and which are a significant catalyst for the company's success or failure. Relied on stakeholder theory, a set of stakeholders are involved in the organization and each of them deserve some return for their participation (Crowther and Jatana, 2005). Freeman (1984) have made a great effort to design basis or foundation for the development of stakeholder theory in the 1980s.

Some attempts have been made as to the clarification of stakeholders. Freeman (1984) defines a stakeholder as "any group or individual who can influence or be influenced by the goals of the company." Hill and Jones (1992) explain the stakeholders as "maker who has a legal right about the company." This legitimacy is beyond dispute the existence of an exchange relationship. Gray et al. (1996) presents a

stakeholder as "any human body that can be conducted by, or may itself influence the activities of the company in question."

These explanations have basic limits of what constitutes an issue. An organization is therefore likely to have many stakeholders such as shareholders, customers, suppliers, employees, creditors, competitors, public interest groups, local communities, government agencies, stock markets the industry organizations, national and international society and the general public. Each stakeholder can be considered as providing the firm with critical resources and in exchange each expects its interests and expectations are met (Hill and Jones, 1992).

Best privilege of stakeholder theory provides a method to act with multiple parts conflicts of interest. He argued that the satisfaction of demands of different stakeholders is accomplished by using the instructions about theory (Freeman, 1984). The stakeholder theory has recommended a new approach in the scope of the study of social enterprise liability by claiming that the needs of shareholders cannot be achieved except satisfying the requirements of other stakeholders (Foster and Jonker, 2005; Jamali, 2008). However, stakeholder theory provides necessary social systems to assess business activities and environmental reporting (Snider et al., 2003). The stakeholder theory has two distinct categories (Gray et al., 1996; Deegan, 2000). The first idea is ethical or branch Directive (which is normative) and the second concept relates to the business sector (which is descriptive).

The concept of responsibility developed by Gray et al. (1996) makes the assumption of a two-way dependency between the management of a company and stakeholders. The Application of accountability requires the development of a system of organizing information activities. Hence, the need for more information to be published consciously social and environmental performance to prevent stakeholders on the extent to which managers were occupied responsibility (Gray et al., 1991) is included by company's essential governance disclosure and reliability. Depending on the model of capitulation accounts, the argument is that the principal can promote or ignore the information prepared by the agent, which nevertheless still required providing an account to fill the principles of good practices of corporate governance (Gray et al., 1991).

The ability and the strength of stakeholders to influence corporate management is discussed as a function of the degree of control over essential to the company) of stakeholder's means. Power, in this sense, indicates the willingness to use resources to accomplish an event or to ensure a desired result (Ullmann, 1985). For example, the UK Code of Corporate Governance (2010) corporate governance allows shareholders the legitimate right to vote, which directs business strategy

and thus defend their investments. Another important idea of power in the research work of environmental responsibility is the political force that governments and other stakeholders using their assets to government pressure - create legislation, laws, or bring legal action against companies or who adopt new legislation or regulations or a court action against a company. A stakeholder group led legitimacy if it has a legal status in society or the legitimate demands of the society. The emergency feature includes both the notion of emotional time-the pressing need on the part of its stakeholder requests to provide immediate concentration and the concept of criticality-consciousness on the part of the actor that his assertions are mandatory and very serious (Mitchell et al., 1997).

IV. DIVERSITY IN CORPORATE GOVERNANCE ENVIRONMENTAL DISCLOSURE PRACTICES

This article analyzes the dependence between corporate governance and environmental and social disclosure. The study assumes that it is necessary to examine the relationship between a company and its stakeholders, as defined by the compositions of corporate governance in developing environmental policy of an organization. Systems of corporate governance require impact on the presentation of the environment by approaching all stakeholders. However, the company governance is considered as a key mechanism in determining the disclosure required to meet the information needs of different stakeholders, as is the board of directors directs the disclosure in annual reports (Gibbins et al., 1999; Gul and Leung, 2004; Haniiffa and Cooke, 2005).

The theory of stakeholders-agency assumes that the business continuity and success is connected to achieve both economic growth (profit maximization) and non-economic (corporate social and environmental performance) objectives meeting the needs of the company's stakeholders and meeting their expectations (Pirsch et al., 2007). According to this vision, corporate environmental disclosure is considered a technique by which stakeholders have come to obtain support and approval of the business continuity (Cormier et al., 2005; Gray et al., 1995) and to deflect the opposition and critical stakeholders (Gray et al., 1996) and to forgive the responsibility (Deegan, 2002). Indeed, corporate communication environmental policy represents a wish to meet the various stakeholders and society in general (Gray et al., 1995; Guthrie and Parker, 1989). With a view to successfully implement this strategy, the amount of the environment, such information must be sufficient and quality. Companies disclose voluntarily information regarding environmental practice about their activities as a solution to prove the global creation of value and represent accountable to stakeholders and society in

general (Velamuri and Freeman, 2006).

Similarly, corporate governance has been treated as an important accountability mechanism (Aguilera et al., 2006). However, the board acts as a relationship between the company and its stakeholders. However, the board of directors and other governance arrangements firms are considered an important source of responsibility.

Reliability, being a catalyst for accountability is an important quality index of the level of corporate governance in the business world (Ho and Wong, 2001). Gul and Leung (2004) argue that corporate performance is directly related to good corporate governance. Resonating modes of governance, established and managed in the interests of stakeholders, would be perfectly publish quality information, which increases the reliability of the company and directors' liability. In this context, corporate governance is considered as effectively with the rights and responsibilities of each stakeholder group organization (Ho and Wong, 2001).

Similarly, Demb and Neubauer (1992) stated that "corporate governance is the means by which companies take into account the demands and the expectations stakeholders." Monks and Minow (1995) states that "It is the relationship between the participants determining success and performance of the companies." While, Tricker (1994) notes that "corporate governance deals with issues such as Board of dependence with top management and relations with shareholders and others motivated the affairs of the corporation, including accounts receivable, bankers debt analysts, auditors and corporate governance". According to this view, the structure of governance is a principal-agent situation a relationship model of the team, and critical governance become guarantee, planning, collaboration and the elimination of conflicts in order to optimize, rather than just checking and sharing value creation in order to support the commitment of all stakeholders (Kochan and Rubinstein, 2000).

A prototype of passionate stakeholders in corporate governance is examined by Turnbull (1997). Pressing the stakeholder theory-agency, he noted that: (1) the objective of the company is to generate wealth or gain to its stakeholders, (2) optimizing the increase in total wealth by the company is the responsibility of directors and officers, (3) the solution to achieve the objective of the company is defending the integration of the Board by stakeholders seriously and give them a direct voice in governance and expertise, (4) the identification of both conventional and explicit contractual relations in business, (5) and finally the control of the company is divided among various stakeholders through various meetings to eliminate conflicts of interest and thus agency costs. By analogy to this development, some authors propose stakeholder engagement or the existence of various stakeholders on board to protect the interests of corporate stakeholders

and ensure that their needs are taken into account in the strategy of the firm (Freeman and Evan, 1990; Jones and Goldberg, 1982). The focus on stakeholders of the company recognition simulates both the quantity and quality of voluntary disclosures (Boesso and Kumar, 2007). Thus, corporate governance interested in how external stakeholders control management companies (Monks and Minow, 1995) and, therefore, to reform disclosure of the company.

V. ROLE CORPORATE GOVERNANCE IN THE VOLUNTARY ENVIRONMENT DISCLOSURE: DEVELOPING THE HYPOTHESES

Analyzing the of previous research literature, we can see that voluntary environmental and social disclosure practices are a complex behavior that can be explained by various factors. In addition to specific factor to the company, this study examines several characteristics of corporate governance and ownership composition as determinants explaining of environmental and social voluntary disclosure. Based on previous studies, this article will focus primarily on discernible and identifiable corporate governance characteristics that explain the extent to which companies are disclosing environmental and social information, and quality of this information.

Accordingly, we examine previous studies to analyze this, we find that corporate governance systems are studied and classified into the following three groups: (a) the specific board: independence board, the effect of duality, size board of directors, board meetings, directors' skills and experience including education, the influence of the community; (b) board committees features: the existence of the corporate social responsibility, or committee responsible, oversight committee independence, the independence of the remuneration committee, nomination committee independence; and (c) composition of property: concentration property, institutional property.

The key objective of the review of this parameter is the meeting, yet different corporate governance additional systems run as control of the application of management to engage in satisfaction stakeholder interest which, in turn, could influence the disclosure decision. These governance mechanisms taken together oriented emphasis on environmental and social issues and how the role of a company and its stakeholders are determined in a society. This, in round, is disseminated in corporate environmental disclosure practices. We choose some variables measuring the characteristics of corporate governance. From these variables, testable hypotheses are studied.

The following assumptions represent our personal perspective on the relationship between the variable measuring environmental disclosure and each

independent variable. Indeed, we develop the following theoretical frameworks:

a) *Independent Directors and Disclosure*

The quality of environmental reporting is positively affected by the proportion of independent non-executive directors on the board. The OECD guidelines and all of corporate governance code, respectively, confirm the existence of two types of directors in the board; executive directors and non-executive directors, the goal it is to check or to plan management strategies. Important leaders are committed to the company with a direct role in the strategy, however, the non-executive managers do not work directly in the strategy of the company, with a role of vigilance fair and independent on how the company is headed. From the perspective of agency theory, Solomon (2007) argues that the existence of independent non-executive managers within the council board should be involved in reducing persistent conflicts of interests persistent between shareholders and management of the company, because their role is to monitor independently the business activity on increasing the objectivity, independence within the board, which leads to the minimization of agency costs.

In this context, the board must ensure an average number of independent members to present independent solutions in order to reduce the potential conflict of interest. As independent managers should meet the needs of stakeholders, it is expected that they have more power over the dissemination of the environment performance and transparency related information (Haniffa and Cooke, 2002). However, researches in this field also suggest a negative vision addressing the existence of independent non-executive managers: in the case of an extended board, non-executive managers are considered powerless arbitrary element within the structure. Adherents of this theory suggest that the market in which the company has the capability exists encourage the management of a company to move correctly, in fact, maintain shareholder expectations (Solomon, 2007). Different Studies confirm results related to the correlation between the number or percentage of independent non-executive managers and the level of voluntary disclosure. On the one hand, Akhtaruddin et al., (2009), Donnelly and Mulcahy (2008), Jianguo and Huafang (2007), Kelton and Yang (2008) are all research demonstrating the existence of a positive dependence between number of non-executive and independent managers and the degree of information communication, based on empirical data approaches, in the other hand, Barako et al., (2006) find a negative association between the level of voluntary disclosure and the ratio of non-executive directors.

The independent directors resulting in a group of quality expertise encouraged the institutional level that

decides companies do not retain the value of adequate information (Ho and Wong, 2001). Autonomous and competent specialists will always strengthen the reliability and their role as effective vigilance to improve their reputation of evaluation systems. In a state governed serious environment focused on improving the relevance, companies are looking further their reputation for performance and success (Patelli and Prencipe, 2007) and to appoint independent directors, who will perform their role to recommend, monitor and steer effectively. We formulate the following hypotheses:

H1: There is a positive complementary relationship between independent directors and the extent of voluntary disclosure.

b) Board Size

The work of previous research confirms that board size explains the performance and value thereof (Xie et al., 2001), since a large board size affects the decisions of more experienced investors. A more efficient board, acting characterizes a more information system and a more increased level of voluntary disclosure at the same time, environmental disclosure quantity. However, there is research has shown that there is no dependency between the size of the board and the quality of voluntary information communication (Halme and Huse, 1997, Cheng and Courtenay, 2004). In our point of view, we believe that the disclosure of environmental reports may be related to the size of the board.

In the field of environmental disclosure, Kassinis and Vafeas (2002) examined the hypothesis which characteristics of corporate governance have an impact when companies change the environmental laws. They studied four particularities of corporate governance: board size, board composition, outside directors and inside the property. These researchers suggest that the two boards with many members and those who know far fewer members lead to less environmental offenses, empirically, they find that boards with fewer members are more successful in terms of having less environmental offenses. They confirm this by referring to Goodstein, Gautam and Boeker (1994), who found that large board ability to defend the free exchange of ideas and opportunistic CEO can enjoy them.

Kassinis and Vafeas (2002) examine the characteristics of the board of directors in an exceptional manner. They are investigating whether the board of directors who formed an industrial alliance with the company explaining solidarity, in effect, provides the poor pollution performance. In addition, these outside directors are more likely to side with management, they accept poor environmental performance. They find a statistically significant dependence between the environment and the pursuit number of peers who sit on the board. External missions are determined as the number of other boards that directors are members.

They confirm that the reputation of outside directors is an important instruction in the future recommended composition of the board. Thus, based on the group improves the members of the board expertise.

Assuming a prohibited practice may discourage a member of the board reputation and therefore should be avoided. They notice a statistically significant correlation opposite between the number of mandates and environmental litigation (more board memberships less discord).

In addition to the features of government, studies on the Spanish context states that the conflict of interests between minority and majority shareholders (Shleifer and Vishny, 1997) only exists at a more significant level of dominant ownership concentration compared to Anglo-Saxon countries (De Miguel et al., 2004). Our empirical analysis is conducted in an institutional context where the minority shareholders against the law and the appointment of independent directors said. This creates a medium strong robustness as majority shareholders appoint independent directors to fulfill their role of efficient control, support dependencies between corporate governance and disclosure of information. Consequently, as a result of strong concentration of ownership property and a dominant shareholder, we suggest positive correlations between governance and publication, which explains higher levels of voluntary disclosure in companies with a higher percentage of independent directors.

The work of Jensen (1983) deserves limited number of acting tips in the control of the CEO, which limits the possibility of taking ineffective strategies. In fact, previous empirical results show a negative relationship between the size and enterprise value (Yermack, 1996). Cheng and Courtenay (2006) report the absence of a significant relationship between size of the board and the voluntary publication of a sample of Singapore companies. Indeed, the correlation between the company and the size of the board of directors as well as the ability for large companies to still be under pressure from stakeholders to provide information determines that greater guidance are bringing to disclose more (Denis and Sarin, 1999).

The size of the board, as an effective corporate governance system, was a concept of a theoretical discussion. According to the agency theory, an expanded board greater control forces and, in fact, is considered as an effective governance mean of the effectiveness management control (John and Senbet, 1998; Zahra and Pearce, 1989). Extended board is choosing to have a greater presence of experienced independent directors (Welford, 2007; Xie et al., 2003) and, therefore, it is more able to reduce management opportunism by deflecting the concentration of social enterprise and environmental responsibilities (Sun et al., 2010). According to the vision of stakeholders, however, it is supported that large companies increase the

diversity of the composition of the board. Based on the theoretical arguments and empirical studies we have the following hypothesis:

H2: There is a positive relationship between the quantity of corporate environmental disclosure and board size.

c) *Role Duality*

It is properly founded the involvement of duality, where the CEO officer is the head of the board, can identify the autonomy of the Board and limit its performance as that governing instrument (Adams et al., 2005; Millstein, 1992). Agency theory advocates for the separation of management and control, however, allowed thinking that the two positions of CEO and Chairman should be split to provide essential obstacles and limitations on management performance (Fama and Jensen, 1983). The effect of duality can reduce sucked board since the CEO gifted to enjoy the meetings of the board and choose programs and board of directors (Haniffa and Cooke, 2002). It can greatly significant hinder in the Work of board control, discipline and pay of executives and the CEO admit to choose opportunistic practices following its authority in the board (Barako et al., 2006).

By bringing the two roles together it becomes difficult for a board to change an incompetent CEO accomplish (Shivdasani and Zenner, 2004).

Haniffa and Cooke (2002), Barako et al.(2006) did not observe significant correlation between the two variables. However, Forker (1992) documented a negative dependence of the effect of duality and disclosure identically found by Gul and Leung (2004) and Huafang and Jianguo (2007). Based on the above findings, differentiation of roles of CEO and chairman is the board are more likely to be the acting in supervise performance management, ensuring a high degree of reliability and, therefore, simplification information asymmetry between management and stakeholders (Gul and Leung, 2004; Rupley et al., 2011). Indeed, company's duality concentration should be less complementary to full disclosure and high quality. Finally, the following hypotheses are proposed:

H3: There is a negative relationship between the quantity of corporate environmental disclosure and role duality.

d) *Institutional Ownership*

Many groups have pressure on corporate governance. One of these groups we find shareholders, particularly institutional investors, they are engaged in the recreation of an important role. In the academic view, the situation of institutional investors in corporate governance is extremely problematical. As of this point of view, institutional investors disclose a different method of influential corporate governance which could have direction in excess of firm management. Since they can either significantly change firm management or

organize interests of shareholders' groups. Of course, in literatures about corporate governance, the ownership center is referred to as a significant instrument to have power over agency's problems and to progress investors' interest sustaining (Shleifer and Vishny, 1997). However, such meeting point may have negative impacts as well, e.g. admission to secret information may result in information asymmetry between shareholders and minor shareholders.

As a result of their advantage from economic recompense and variability, institutional investors can tenacity agency problems.

In addition, it should be noted that institutional shareholders are acting investors who have strategic and some long-term targets investments apart from short-term financial efficiencies (Anderson et al., 2003; Monks and Minow, 1995; Welford, 2007).

Thus, they can consider environmental issues as an important solution to increase long-term value (Halme and Huse, 1997; Prado-Lorenzo et al., 2009; Welford, 2007). In the same context, with stakeholder theory, institutional investors are "seeking more reliability and responsibility based increasingly large portion of their exams finance corporate governance" (Welford, 2007). The work of Emerson et al., (2005) confirm that long-term investors give importance to criteria such as the ability to grow of the environment, the climate change, the environmental liabilities and the right to use the environment in their appreciation of investments. Based on theoretical arguments and empirical studies, we have the following hypothesis:

H4: There is a positive relationship between the quantity of corporate environmental disclosure and institutional ownership.

e) *Ownership Concentration*

The agency theory assumes that the agency problems resulting from the separation of ownership and verification (Jensen and Meckling, 1976) are more serious objections when ownership is dispersed when they are closely held (Fama and Jensen, 1983). To reduce the attraction of the resulting dispersion of ownership conflicts, administrators may be required to broadcast an autonomous manner of more information, as minority shareholders give more confidence to such reporting explaining business practices (Brammer and Pavelin, 2008). Indeed, voluntary publication can be enjoyed as a technique whereby the officers prove that they are acting in the expectations and demands of the owners (Craswell and Taylor, 1992). In situations of ownership distributed, shareholders have little direct power over managers and they are unable effectively to examine the management which increases the problem of information asymmetry (Brammer and Pavelin, 2006). These practices, which bring an adverse effect of the reaction of investors and the leaders, are an incentive for

a company to disclose environmental information to shareholders (Brammer and Pavelin, 2006; Ullmann, 1985).

Research examining the relationship between ownership concentration and companies environmental communication are not numerous, but homogeneous. The concentration property was statistically evaluated negatively and independent with environmental information in the annual management reports as announced by Brammer and Pavelin (2006) on the amount of disclosure and Pavelin and Brammer (2008) and Cormier et al. (2005) about the quality of this disclosure. Both Reverte (2009) and Prado-Lorenzo et al., (2009) found concentration of ownership have a negative correlation to the company's revelation social responsibility, although the latter showed low dependency. Based on the agency theory, we formulate our fourth hypothesis as follows:

H5: Ownership concentration has a negative impact on the level of corporate governance disclosure.

VI. METHODS

a) Sample

This study is an empirical examination of how the characteristics of corporate governance can analyze the degree of environmental reporting for a sample of 23 companies listed on the Stock Exchange Securities Value of Tunis. Variables were collected from annual reports and other business relationships with the reports using content analysis and are presented in table 1.

Our sample consists of non-financial listed companies in Tunisia. Specifically, we examined the annual reports of these companies which are published on their websites on Tustex, and for a period ranging from 2003 to 2011 order to construct an index of disclosure for each year. The total number of observation is 184. The choice of this period is motivated by the availability of those reports in the Council Financial Market (CFM) during the collection period.

b) Dependent variables: quantity of voluntary environmental disclosure

To examine the method by which the environmental performance or environmental information is communicated between (2003-2011) by Tunisian companies listed at Tunis Stock Exchange Securities in the first, second and third level

(Environmental Reporting) we composed an index publication (PI) on all of the following information:

$$\text{EnvRepPI} = \frac{\sum_{i=1}^n p_i}{m}$$

Where,

n: number of element disclosed, n=3

m: number of possible elements to disclose, m=3

pi: group of elements disclosed

- [p1] Non-financial information concerning the environmental objectives, the management, the policy and other appearances that can broadcast environment performance in non-financial information. This measure can procreate a value "1" if the company disseminates this information or category "0" if the companies no account information.
- [p2] Performance indicators have a significant impact on the environment (water, air, soil). These indicators are defined by the Global Reporting Initiative, and other organizations. The indicator is "0" if the company does not disclose such information, "1" if the company reports communicate these indicators, although these indicators are not associated with the indicators set out in international guidelines and recommendations.
- [p3] Financial indicators (investments and acquisitions of environmental assets, costs, provisions).

These indicators expose in monetary terms the behavior of firms regarding environmental reporting. Values can be "0" if the company does not advertise this information or "1" if the company indicates such information.

This way of quantifying environmental information allows the incorporation of all kinds of information in single figure comparable companies and is not very subjective and based, as it is not a review qualitative analysis. According to researchers is not always the same with the point of view of the investor in terms of environmental reporting importance and transparency.

Thus, our publication EnvRep Index (PI) is calculated as follows:

Method of Calculation Envrep Publication Index (PI)

N° company	Company name	p ₁	p ₂	p ₃	PI
from 1 to 23					

c) Control Variables

Measures of control variables in our study are corporate specific to Tunisian companies. The peculiarities of the company are mainly considered as significant determinants of corporate environmental

publishing. They are considered mediators variable and must be recognized by academic researchers (Cowen et al., 1987; Roberts, 1992; Ullmann, 1985). Many empirical studies have investigated the relationship between firm characteristics and environmental

publication in companies annual reports. Their empirical results confirmed that before the company characteristics significantly undo fluctuation in environmental reporting practices.

i. Size

Company size was mainly associated with the business environment post back behavior. Important companies in terms of size that can accept additional costs of providing environmental disclosure have the ability to use templates and clearly qualified with skills and of developing information systems for disseminate full information (Buzby, 1975; Monteiro and Aibar-Guzman, 2010).

ii. Profitability

The financial performance of companies is one of the specific impacts of CSR communication (Lucyanda and Siagian, 2012). Economic performance is a challenging feature to disclose CSR activities in the high level of suppleness. The high degree of profitability, superior CSR disclosure as they are concerned in developing hollow of CSR disclosure how they design their profitability less profitable company (Gamerschlag et al., 2011; Hatta and Daryono, 2012).

Profitability is generally considered as a key for social and environmental disclosure. However, the future financial performance depends on environmental disclosure. Probable clarification for a positive correlation is that the firm has the flexibility to engage and communicate large environmental responsibility activities to stakeholders (Heinze, 1976).

iii. Leverage

Very strong leverage can lead companies in a dangerous situation, so when the debt is growing enterprises are obviously under the influence of creditors or financial institutions. Generally, companies must retain some leverage (debt) ratio. If the debt ratio exceeds the normal threshold, chances are that companies will be highly controlled by stakeholders especially by banks, creditors and investors. Consequently, companies are required to disclose more information to the community and those stakeholders in order to ensure that they do not alter the normal covenant debt- conditions of the debt.

The work of previous research addressing the relationship between indebtedness and communication environment are not convincing and consistent. While some studies have confirmed a significant positive correlation between leverage and environmental dissemination (Clarkson et al., 2008; Naser et al., 2006; Parsa and Kouhy, 2008), other studies have found a significant negative relationship (Belkaoui and Karpik, 1989; Pavelin and Brammer, 2006; Zainudin and Cooper, 2009; Cormier et al., 2011; Cormier and Magnan, 2003).

d) Operational and Measurement of Study Variables

The following table summarizes a summary of the operational determination or measurement of each of the dependent variables, independent variables and control variables, with their origins and data collection. The dependent variables, corporate environmental disclosure quantity and quality are obtained by analyzing the content of the annual reports.

	Variables	Abbreviation	Measurement	Data Source	Sign
Dependent Variables	Corporate Environment disclosure	Score	$\text{EnvRepPI} = \frac{\sum_{i=1}^n P_i}{m}$	Calculated from annual reports	
Independents Variables	Independent directors	IND	Percentage of independent directors on the board : number of external members/ total number of board members	Calculated from annual reports	(+)
	Board Size	BS	Number of board members	Calculated from annual reports	(+)
	Duality	DUAL	Equal to 1 in the presence of the combined functions of CEO and Chairman of the Board and 0 if not	Calculated from annual reports	(-)
	Institutional Ownership	INST	Percentage held by institutional investors	Information provided by annual reports	
	Ownership Structure	Own-Con	Percentage of total shares held by blockholders or shareholders in excess of 5%	Information provided by annual reports	
Control Variables	Size	Size	Natural logarithm of total assets	Information from financial statement	(+)
	Profitability	ROE	Net income/ Total equity.	Information from financial statement	(+/-)
	Leverage	DEBT	Total debt/ total assets.	Information from financial statement	(+/-)

e) *Model Specification*

In this study, the method used is panel data because we have data for 23 companies and 8 years, which gives us 168 observations. The variables of this study can be classified into three types: dependent variable, independent variables and control variables.

Data were composed either from the annual reports of the companies. The main statistical technique

$$SCORE_{it} = \beta_0 + \beta_1 IND_{it} + \beta_2 BS_{it} + \beta_3 DUAL_{it} + \beta_4 INST_{it} + \beta_5 Own-Con_{it} + \beta_6 SIZE_{it} + \beta_7 ROE_{it} + \beta_8 DEBT_{it} + e_{it}$$

Where:

e_{it} : error term. The indices i and t correspond to the company and the period of the study.

VII. PRESENTATION AND DISCUSSION OF RESULTS

Software modeling and data analysis, STATA 11 is used to make, first, statistics exams including descriptive statistics, Pearson and Spearman dependences and Ordinary Least Squares (OLS) multiple regression tests. Then, GLS regression is used primarily to test the hypotheses of the research and to ensure the reliability of the main OLS regression results. Finally, the sensitivity analysis in Based on ordinary least

used in this study is panel data analysis (generalized least square method). Generalized least square method is used since the sample data are not normally distributed and the data have, either, heteroskedasticity problem, autocorrelation problem or both. Therefore use of the generalized least square method will defeat all these problems.

The econometric model is written as follows:

squares (OLS) together with the robust standard error is performed to check the sensitivity and, therefore, the robustness of the main regression analysis.

The data are consolidated over time or eight years examined 2003-2011 inclusive. Panel data are better able to absorb and measure effects that are just downright not visible in pure transverse or pure time series data.

a) *Descriptive Analysis*

Descriptive statistics are tested for each corporate governance systems and firms specificities. The results of the descriptive statistics are shown in Table 2.

Table 2 : Descriptive Statistics of Corporate Governance Mechanisms

Variable	Mean	SD	Max	Min
IND	0.092	0.134	0.633	0
BS	9.352	1.761	12	4
DUAL	0.272	-	-	-
INST	0.210	0.184	0.685	0
Own-Con	0.626	0.054	1	0.05
SIZE	18.341	0.958	23.713	12.589
ROE	0.047	0.042	0.201	-0.136
DEBT	0.406	0.292	1.468	0.064

Table 2 presents the descriptive statistics of the different corporate governance systems discussed in the explanation of changes in the amount of corporate environmental communication practices. The independence of the average tip is 9.2 %, which indicates that almost one tenth of directors are non-independent executive. The presence of independent is considered low compared with international standards and codes of good practice. The mean role duality is 0.727, this proportion is also very high for both international recommendations that influence the environmental disclosure practices negatively. However, the average size of the board is 9.35, revealing that the large size of the board has been a traditional practice in Tunisian firms over time. Analyzing property structure, it can be observed that the average concentration of ownership and institutional ownership are not close enough (62.6 and 21 respectively), reflecting the fact that institutional ownership is not the main and the dominant form of control blocks as the ownership concentration among a majority shareholder, which

reinforces the idea that most Tunisian listed firms are family corporate.

Table 2 also analyzes the descriptive statistics of the different corporate characteristics to be controlled. One can observe that the sample firms are about large size (an average of 18.341 between minimum of 12.589 and a maximum 23.713). However, the majority of the sample companies are in debt. There seems to be a wide variation between the minimum values among the society and maximum attributes. This result is expected due to the consideration of a wide range of companies of different sizes, degrees of environmental sensitivity and different levels of profitability, debt, as well as various positions on the list.

b) *Correlation Analysis*

Correlation coefficients of Pearson expose dependence of each of the whole company amount of environmental information to all corporate governance and the corporate characteristics integrated in our study. The significant association was found with a confidence level of 95%. Results show that at this level

of environmental disclosure information, it is important association between total environmental information quantity and the majority of the corporate governance specific, including board independence, role of duality, board size, concentration of ownership and institutional ownership.

Concerning the most information from of environmental publication, it is also significant positive relationship between board independence and the disclosure quantity of each environmental issue related to environmental policy changes, products, environmental auditing and sustainability. There is a negative significant correlation between the role of duality and the quantity information of each broadcast categories. Board size is significantly and positively associated with disclosure quantity of each environmental policy.

Results exhibit a significant positive identically dependence between total environmental disclosure amount information and companies specificity, including firm size, and leverage. No significant relationship was found between total environmental disclosure information quantity and each performance measure.

c) Examination of Multicollinearity

Multicollinearity assumes the subsistence of a linear dependence between two or more variables. Thus, if there is an ideal linear relationship between the explanatory variables, the assessments for a regression model can be only calculated. The possible existence of multicollinearity is checked on the basis of the correlation matrix including all the independent and control variables. Together Pearson and Spearman rank correlation matrices argue that the correlation coefficients do not exceed 0.8, the limit or cut correlation percentage often advised by previous studies, after which multicollinearity may exist.

In an exclusive way the coefficient of correlation between the two independent variables, measuring the ownership structure, more particularly, there is little multicollinearity between ownership concentration and institutional ownership, where Pearson and Spearman coefficients dependency are 0.898 and 0.841 correspondingly. We confirm this result given that institutional ownership is considered important and dominant from of control blocks. Furthermore, as such multicollinearity is simply somewhat higher than the ideal limit, results signify that multicollinearity is improbable to be a powerful problem.

The likely existence of multicollinearity is also considered by the explanation of the variance inflation factor (VIF). Table 3 analyzes the variance inflation factor (VIF) and tolerance coefficients of each illustrative variable. The table illustrates that the maximum VIF is 5.53, in addition, the smallest tolerance coefficient is 0.18. Finally, the results of VIF and tolerance coefficients discover that there is no intolerable degree of

multicollinearity between the variables in our study dealing with Tunisian firms, ensures that there is no require to worry about the correlation between the illustrative variables.

Table 3 : Variance Inflation Factor (VIF) of Corporate Governance Mechanisms and Corporate Characteristics

Variable	VIF	Tolerance 1/VIF
IND	2.95	0.33
BS	1.83	0.54
DUAL	2.74	0.36
INST	4.10	0.24
Own-Con	5.53	0.18
SIZE	2.87	0.34
ROE	1.91	0.52
DEBT	2.04	0.49

d) Regression Analysis

Multiple regression examination by Ordinary Least Squares (OLS) longitudinal panel regression with robust standard error is engaged to test the developed research hypotheses. Such multivariate study suppose to analyses the association between corporate environmental disclosure quantity and every of the diverse corporate governance systems following controlling for Tunisian corporate characteristics.

Thus, Generalized Least Squares (GLS) regression is executed to additional test the study hypotheses and to verify the consistency of the main OLS regression results. GLS acquires into consideration that the variances of the observations might be unequal and/or there might be a certain degree of relationship among the observations.

i. OLS Regression Analysis

Empirical results of the Ordinary Least Squares (OLS) regression of corporate governance on environmental disclosure quantity are exposed in Table 4.

Table 4 : OLS Longitudinal Panel Regression with Robust Standard Error

Variable	DivEnv	
	Coeff.	p-value
Intercept	4.38	0.341
IND	0.28**	0.06
BS	-0.31**	0.054
DUAL	-10.76***	0.001
INST	0.52	0.001
Own-Con	-0.21	0.003
SIZE	5.31*	0.089
ROE	-0.84	0.617
DEBT	0.92*	0.081
Adjusted R ² (%)	18.36	

IND: Independent Directors, BS: Board Size, DUAL: Duality, INST: Institutional Ownership, Own-Con: Ownership concentration, SIZE: measure of Size, ROE: Profitability, DEBT: Leverage

*** $p \leq 0.01$, ** $p \leq 0.05$, and * $p \leq 0.10$.

Table 4 analyses the results of Ordinary Least Squares (OLS) longitudinal panel regression with robust standard error of corporate governance on environmental disclosure quantity.

Correlation coefficients of the EnvDis variable with the control variables show a statistically significant correlation with board size, ownership concentration, duality, % independent directors and % ownership concentration. These results are consistent with the descriptive analysis in Table 4, supporting the relationship between voluntary disclosure, board composition and ownership structure. In this context, we find that, the results show a significant positive association between total environmental disclosure information and each independent directors ($p \leq 0.1$) and institutional investors ($p \leq 0.05$). Results also indicate a strong significant negative association of total environmental disclosure information with each of board independence ($p \leq 0.05$), role of duality ($p \leq 0.01$) and ownership concentration ($p \leq 0.05$). The adjusted R square of the model is 18.36% which indicates that 18.36% of the changes in total environmental disclosure information are explained by changes in its examined determinants.

Results also expose an important positive relationship between total environmental revelation quantity and corporate specifics including company leverage ($p \leq 0.1$), while, there is a negative relationship with profitability but it is not significant. Nevertheless, the insignificant relationship of size to publication quantity is confirmed for most of the disclosure categories.

ii. GLS Regression Analysis

Generalized Least Squares (GLS) longitudinal panel regression with robust standard error is approved out to additional test the study hypotheses and to confirm the dependability of the main OLS regression results.

The robust standard error choice is practical in order to adjust the GLS parametric test to fit with non-parametric data, as exposed by the descriptive statistics representing that the study's data are not normally distributed. The results of the Generalized Least Squares (GLS) regression of corporate governance on environmental disclosure quantity are shown in Table 5.

Table 5 : GLS Longitudinal Panel Regression with Robust Standard Error of Corporate Governance on Environmental Disclosure

Variable	DivEnv	
	Coeff.	p-value
Intercept	2.76	0.519
IND	-0.08***	0.001
BS	-0.83	0.164
DUAL	-13.58***	0.000
INST	0.39	0.942
Own-Con	-3.29	0.000
SIZE	9.56***	0.001

ROE	2.79**	0.09
DEBT	1.21***	0.000
Adjusted R ² (%)	24.59	

IND: Independent Directors, BS: Board Size, DUAL: Duality, INST: Institutional Ownership, Own-Con: Ownership concentration, SIZE: measure of Size, ROE: Profitability, DEBT: Leverage

*** $p \leq 0.01$, ** $p \leq 0.05$, and * $p \leq 0.10$.

Table 5 offered the results of Generalized Least Squares (GLS) longitudinal panel regression with robust standard error of corporate governance on environmental disclosure quantity. Results illustrate an important negative relationship between total environmental disclosure quantity and each of independent directors ($p \leq 0.01$), role duality ($p \leq 0.01$) and ownership concentration ($p \leq 0.01$). However, no significant association is found between total environmental disclosure quantity and each of board size and institutional ownership. The adjusted R Squared of the model is 24.59% indicating that 24.59% of the changes in total environmental disclosure quantity are explained by the opportunities in its analyzed determinants.

Results also reveal an important positive association between total environmental disclosure quantity and corporate characteristics including company size ($p \leq 0.01$), profitability ($p \leq 0.10$), and leverage ($p \leq 0.01$).

These results signify that developing a strategic environmental disclosure that encourage transparency and powerful governance mechanisms reinforces the complementarities between both supervising mechanisms, make up for the potential motivation for majority shareholders to withhold pertinent information to minority shareholders. However, results also suggest that other governance mechanisms should be strengthened to improve check over the agency relationship. Accordingly, doubling up the responsibilities of chairman and executive director is seen to significantly reduce the level of voluntary environmental disclosure information, establish potential conflicts with the role of independent directors.

VIII. SUMMARY AND CONCLUSIONS

In this study the relations between corporate governance and corporate environment disclosure were examined. The examination also provides evidences to reconcile the competing theories about the incentives of environmental performance and disclosure.

Four hypotheses were analyzed to make association between voluntary disclosure, corporate governance, and stakeholder and legitimacy theories.

Results also revealed a significant association between environmental disclosures quantity and most corporate governance instruments. Particularly, elevated environmental disclosure quantity is dependent with

minor percentage of independent non-executive directors on the board, separation of the dual role of CEO and chairman. However, regression study for the duality variable propose the need to modify the current recommendations on certain governance measures such as the concentration of Chair and CEO responsibilities that not only involve transparency but may also intervene with the role of independent directors.

The econometric examination isolates the effect of corporate governance ownership on voluntary environment disclosure. We find that the role of independent directors is not impaired and that their presence is significantly correlated with higher levels of voluntary environment disclosure. Our results highlight the relevance of guaranteeing independence among board members in order to guide the concern of minority and majority shareholders around more accountability and transparency so as to decrease the information asymmetries that occur in an open corporation.

There are some limitations to this study. First, we have not focused on environment disclosure quality but quantity. Though several previous studies have concerted on mutually (Cheng and Courtenay, 2006), we have not assessed quality in order to reduce subjectivity in the index computation. In addition, sample size is restricted, since the empirical results are based on a single country and in one eight year. Nevertheless, due to the difficult nature of the data collection to build the disclosure index, most previous literature is also typify by a small sample sizes.

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