CORPORATE GOVERNANCE MECHANISMS AND VOLUNTARY DISCLOSURE. THE ROLE OF INDEPENDENT DIRECTORS IN THE BOARDS OF LISTED SPANISH FIRMS

Ana Gisbert Clemente*
Universidad Autónoma de Madrid
Faculty of Economics
Accounting Department
ana.gisbert@uam.es

Begoña Navallas Labat *
Universidad Autónoma de Madrid
Faculty of Economics
Accounting Department
b.navallas@uam.es

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Ana Gisbert Clemente
Begoña Navallas Labat

ABSTRACT

Manuscript Type: Empirical

Research Question/Issue: Cross sectional analysis of the impact of corporate governance mechanisms on voluntary disclosure across listed Spanish firms

Research Findings/ Results: Empirical results reveal the significant impact of independent directors on the amount of voluntary reported information. Conversely the concentration of the Chairman and CEO responsibilities on the same person reduces the level of voluntary disclosure. Ownership concentration and the presence of gray directors do not affect significantly the level of information that listed companies disclose voluntarily in their annual reports.

Theoretical Implications: Results are consistent with the postulates of the Agency relationship and the need for governance control mechanisms to align managers and shareholders' interests, reducing information asymmetries through greater information transparency.

Practical Implications: The results reinforce the regulators' idea on the relevance of corporate governance codes as a mechanism to provide confidence on corporate governance structures and the financial reporting supply chain. Particularly, the empirical analysis points out the role of independent directors as a control mechanism to avoid the pervasive effects of information asymmetries within the firm.

Keywords: Board Composition, Independent Directors, Voluntary Disclosure

INTRODUCTION

Agency problems are influenced by the legal environment, leading corporate control mechanisms constraining the conflict of interest within the firm, to vary significantly across different institutional settings. This paper aims to look at the impact of Corporate Governance as one of the most important internal control mechanisms of agency problems in reducing one of the effects of the agency relationship: information asymmetry. Particularly, we focus on voluntary disclosure as a key complementary mechanism of the corporate governance process and the financial reporting system to reduce the costs linked to the information asymmetries that arise as a consequence of the agency relationship.

Since the early 70s, empirical literature on voluntary disclosure has placed special attention on the factors explaining why companies disclose information beyond the one required in the accounting regulation, as well as the impact of this information on capitals markets (Ahmed and Courtis, 1999). Verrecchia (2001) refers to this stream of the disclosure literature as "*discretionary- based disclosure research*"[1] since it focuses on the determinants of disclosing or withholding information. The theoretical literature stands that in the absence of disclosure costs or uncertainty, firms should follow a full disclosure policy (Verrecchia, 2001). However, in spite of the positive effects of voluntary disclosure as a result of better transparency and therefore, the reduction of information asymmetries between managers, board of directors and users of financial information, the empirical literature reveals the impact of multiple cross-sectional factors on the amount of information disclosed by listed companies. As Healy and Palepu (1993) explain managers face a tradeoff between disclosing information that may help capital markets to asses the value of the firm correctly, and withholding information to avoid potential consequences on the firms' competitive position, the so called proprietary costs. Therefore, there is a wide range of firm specific and institutional characteristics that affect managers' decisions on disclosure: the company's size, listing status, industry sector, the presence in international markets, managers' compensation plans, the ownership structure or the litigation and proprietary costs are some of the documented factors that may affect the cost-benefit equilibrium associated to the disclosure policy, leading voluntary information to significantly differ across

firms and countries (Meek et al., 1995; Giner, 1997; García and Monterrey, 1993; Wallace et al, 1994; Khanna et al., 2004; Hutton, 2004; Gómez Salas et al., 2006; Lundholm and Winkle, 2006).

Over the last decade, there have been an increasing number of empirical articles focusing on the impact of the firms' corporate governance structure on the quality of financial information. Since the beginning of the nineties, when the first Corporate Governance Codes were developed in Europe, a significant number of empirical studies focused on understanding the impact of corporate governance codes and governance structures on accounting and earnings quality. The importance of financial accounting and corporate governance structures in facilitating the agency relationship, has led academics to study the impact of corporate governance structures, as detailed in the Corporate Governance Codes, on earnings management practices (García and Gill de Albornoz, 2007; Peasnell et al. 2005; Klein, 2002; Peasnell et al., 2000; Xie et al., 2000). Consistent with Jensen and Meckling (1976) and Fama and Jensen (1983) postulates on Agency Theory, these articles reveal the significant control role of the firms' corporate governance structure on the reduction of earnings management practices, hence, reducing information asymmetry, improving market confidence and allowing a better comprehensiveness of financial information.

Together with the empirical research that looks at the impact of corporate governance characteristics on earnings quality, recent papers study the impact of the firm's corporate governance structures on an alternative piece of the reported corporate financial information: voluntary disclosure (Donnelly and Mulcahy, 2008; Babío and Muiño, 2005; Cheng and Courtenay, 2006; Lim et al 2007; Patelli and Prencipe, 2007; Eng and Mak, 2003; Gul and Leung, 2004; Chau and Gray, 2002; Bujaki and McConomy, 2002; Ho and Wong, 2001; Cheng and Jaggi, 2000). The theoretical postulates of the agency theory regarding the importance of the firm's corporate board structure and financial information as control mechanisms of the agency relationship, together with the increasing importance of small investors among the free floating capital of listed firms, have been among others, the main motivations for an increasing international literature on corporate governance and voluntary disclosure. Consistent with the empirical literature based on the relationship between corporate governance

and earnings quality, the recent literature on voluntary disclosure reinforce the relevance of the board structure on financial information disclosure.

A good corporate governance system is a key element to lead and control the performance of a business in the best interest of shareholders. As the UK 2008 Combined Code on Corporate Governance states "*Good governance should facilitate efficient, effective and entrepreneurial management that can deliver shareholder value over the longer term*". Under this premise, since the beginning of the nineties[2], an increasing number of developed countries started to work on the development of Corporate Governance Codes in order to promote confidence in both financial reporting and the governance of firms within a context of increasing globalization of capital markets, where small investors were taking a growing important place.

Most Corporate Governance Codes refer to two main categories of directors: executive and non-executive directors. While executive directors have the knowledge and expertise on the firm' activities, non-executive directors must not only provide advice in strategic decisions but also monitor the executive directors. The relevant role of non-executive directors in the governance process, has led most Corporate Governance Codes to recommend the presence of a significant proportion of non-executive independent directors in the Board. That is, professionals with the required knowledge, expertise and abilities, free from any type of personal or business relationship that could interfere due to a conflict of interests, in the exercise of an independent judgement. In fact, certain Corporate Governance Codes such as the Spanish Combined Code of Corporate Governance include two separate categories of non-executive directors: gray and independent. The classification of non-executive directors in two categories is particularly relevant in countries where firms have a significant ownership concentration. Gray[3] directors are the non-executive directors representing majority shareholders while independent directors are the representatives of small investors' interests.

When looking at voluntary information as one of the dimensions of information quality, gray directors may not have such an interest in promoting disclosures beyond the mandatory requirements. Gray directors representing majority shareholders may place their emphasis in monitoring opportunistic behaviour across managers, reducing

earnings management practices in order to enhance earnings quality. As majority shareholders have higher access to information, gray directors are not expected to promote additional disclosures. Conversely, we suggest that minority shareholders represented by independent directors are the ones requiring and demanding higher levels of voluntary information. As Faccio and Lang (2002) report, Spain is a European country with a significant proportion of family controlled firms. Under these circumstances, the agency theory problems may be found to be less severe between owners and managers (Type I agency problems), but more severe between controlling and minority shareholders (Type II agency problems), the so-called horizontal agency costs, where controlling shareholders may seek private benefits at the expense of non-controlling shareholders (Ali et al., 2007). Controlling shareholders, represented by gray directors, have better knowledge on the firm's activities, have higher control over managers, higher access to financial information and they play a significant role in the development of corporate governance' control mechanisms that reduce information asymmetry (Gillan and Starks, 2003). Therefore, gray directors' are expected to center their interests on accounting and earnings quality while independent directors, representing the free floating capital, will be more keen on enhancing voluntary disclosure as an additional mechanism to reduce information asymmetries not only between managers and minority shareholders but also between majority and minority shareholders.

The contribution of this paper to the extant literature is twofold. Firstly, Spain can be considered an interesting framework to test the effects of board composition on voluntary disclosure. Traditionally, under the national Spanish accounting regulation the disclosure requirements have been much less specific than in other countries like the United States[4], allowing higher discretion to disclosing decisions. Even nowadays under the current IAS accounting framework for listed firms, disclosure requirements in certain topics such as intangibles, intellectual capital, corporate social responsibility or forecasted information are scarce, offering firms a significant discretion to provide additional information in the annual reports. In addition to the highlighted differences in the regulatory framework, most of recent empirical studies looking at the role of the corporate governance structure on disclosure decisions have looked at either at Anglo-Saxon countries or Asian countries with a high Anglo-Saxon influence. However, little

research has been found on other European continental countries (Patelli and Prencipe, 2007 or Babio and Muiño, 2005) where differences in the institutional settings, particularly in ownership structures compared to Anglo-Saxon countries, leads to significant differences in the two main agency relationships, and therefore, in the role of independent directors and voluntary disclosures in the governance process.

Our main hypothesis states that the disclosure decision may be explained in terms of increasing transparency in order to defend minority shareholders interests. Under this premise, while the role of gray directors in Spanish companies may be understood as a guarantee of mandatory information quality (Garcia and Gill de Albornoz, 2007), the expected role for independent directors in the boards of listed Spanish firms is the protection of minority shareholders' interest, increasing transparency through voluntarily disclosed information.

Based on a sample of 62 Spanish listed firms, we create an unweighted voluntary disclosure index based on 76 items related to the information disclosed in the 2005 annual reports. These 76 items belong to 8 different information areas. The explanatory corporate governance variables measure the size of the board of directors, the proportion of independent directors, the concentration of the CEO and chairman' responsibilities on the same person and the degree of ownership concentration. According to previous literature the model also controls for size, leverage, profitability (return on assets ratio-) and growth potential (market-to-book ratio).

In Spanish, there is scarce empirical evidence about the relationship between corporate governance and voluntary disclosure. Babío and Muiño (2005) is the most recent reference that looks at the relationship between information disclosure and governance practices in the Spanish context. However, our article differs from theirs in the following aspects: (a) the time period of analysis, (b) the measurement of the degree of disclosure and (c) the governance variables. Our empirical analysis is based on the post-IAS adoption period where both the importance of additional disclosures and good governance practices were reinforced with the aim to achieve more efficient capital markets with high quality accounting standards. In addition, we compute our own voluntary disclosure index based on hand-collected information on annual accounts while Babío and Muiño (2005) use an index prepared by the Spanish economic journal

Actualidad Financiera biasing the sample towards big firms (Babío and Muiño, 2005). Finally, we look at the direct impact of several governance variables on the disclosure index, instead of creating a general measure of governance.

Based on previous literature, we expect to find a positive relationship between voluntary disclosure and the proportion of independent directors in the board. In addition, we expect to find a positive association between board size and voluntary disclosure and a negative relationship between voluntary disclosure and the other governance variables: (a) the concentration of the Chairman of the Board and the CEO responsibilities on the same person and (b) the degree of ownership concentration. As García and Gill de Albornoz (2007) report, gray directors (non executive and non independent) are related to information quality as their presence reduces earnings management adjustments. Looking at voluntary disclosure as an additional perspective of financial information quality, we hypothesize that the presence of independent directors enhances quality through greater disclosures as a mechanism to protect minority shareholders' interests.

Results from the descriptive analysis and the regression analysis are consistent with theory fundamentals and previous empirical evidence. Independent directors play a significant monitoring role, affecting the quantity of voluntary information disclosed among listed Spanish firms. Additional results provide evidence on the effect of other corporate governance variables on the level of voluntary disclosure. Particularly, results show that the concentration of the chief executive director and the ~~President~~chairman' responsibilities on the same person significantly affects negatively to the level of voluntary information while the size of the board is related to greater levels of disclosure, In opposition to previous Spanish evidence on the effect of board composition on earnings quality (Garcia and Gill de Albornoz, 2007), gray directors do not seem to play a significant role in the amount of voluntary information disclosed. These results suggest a greater emphasis of gray directors on the quality of mandatory financial information but not on voluntary disclosure. Results suggest that independent directors, representing the interests of the free floating capital, enhance the importance of reducing information asymmetries with alternatives ways of communicating with shareholders. Particularly, reporting information beyond the one required in the accounting regulation.

Our evidence for the Spanish context corroborates the relevance of the corporate governance structure as a significant control mechanism, affecting the level of voluntary disclosure hence, reducing information asymmetries through greater transparency. Spain is a European continental country with little previous empirical evidence on the relevant effects of Corporate Governance on enhancing information transparency, particularly on voluntary information. Spanish listed firms present a high level of ownership concentration, where the role of independent directors may significantly differ from gray directors. Under the presence of a dominant shareholder the agency theory costs may arise not only between owners and directors but also between majority and minority shareholder (Type II agency problem). Overall, our results reinforce the regulators' idea on corporate governance codes as a mechanism to provide confidence on corporate governance structures and the financial reporting supply chain. In a context of highly concentrated ownerships structures, independent directors enhance voluntary disclosure and information transparency, reducing type I and II agency costs, that is, not only the costs associated with the separation of ownership and control (Type I) but also, the costs associated with characteristics of the ownership structure, particularly between majority and minority shareholders (Type II).

The remainder of this paper is organised as follows. Section 2 presents prior literature on corporate governance and voluntary disclosure. Section 3 presents the development of the hypothesis. Section 4 describes de data collection and sample selection procedure. Finally, sections 5 and 6 describe the research methodology and results of the empirical analysis. Section 7 concludes.

CORPORATE GOVERNANCE AND VOLUNTARY DISCLOSURE

According to Agency Theory, the separation of ownership and control creates information asymmetries due to the misalignment of managers and shareholders' interest. Information asymmetries may create a transfer of wealth from owners to managers, leading current and potential investors to discount share prices if there is not a proper financial disclosure. In order to control and reduce the costs of the agency relationship, control mechanisms must be considered to ensure that managers act in the

interests of the owners (Jensen and Meckling, 1976) impeding the expropriation of investors' resources by managers. Information transparency through voluntary disclosures and the structure of corporate boards have been considered as two of the main documented mechanisms that significantly affect the control and monitoring role of the governance process, reducing the costs that result from information asymmetries related to the agency relationship.

The Board of Directors as a control mechanism to reduce agency costs: the role of independent directors

Following Jensen and Mecking (1976) postulates about the Agency Theory, the separation of ownership and control creates information asymmetries that may bring a transfer of wealth from owners to managers. As Jensen (1983) or Fama and Jensen (1983) explains, the board of directors is one of the major devices that limits agency costs and permits the survival of most corporations. As these authors state, corporate' boards monitor and ratify the decisions initiated at the top management level, thus creating an effective separation between "*decision management*" and "*decision control*"[5]. As Fama (1980) and Fama and Jensen (1983) explain, the board of directors is one of the most important internal control monitoring mechanisms of top internal managers in an open corporation, where external directors play a key role in working in favour of shareholders interests, "*carrying out tasks that involve serious agency problems*" between internal-executive directors and shareholders. As Fama and Jensen (1983) assert, the board is an effective mechanism of the "*decision control*" role within a corporation when it is able to restrict the discretion of top managers over the "*decision management*" role within the corporation.

Agrawal and Knoeber (1996) argue that together with external representation on corporate boards, concentrated shareholders by institutions or by blockholders can also play a significant controlling role, improving firm performance. However, as Kim et al. (2007) explain, although large owners might play a relevant monitoring role over managers, large shareholders' (institutional and blockholders) interests may not be aligned with those of minority shareholders and therefore the composition of the board of directors may be significantly affected by the ownership structure. As Kim et al. (2007) explain, concentrated ownership is considered a governance mechanism as large

owners may use their power to appoint independent non-executive directors to control managerial decisions effectively in order to reduce agency costs between owners and managers. However, as previously stated, large shareholders' interests do not always match with those of minority shareholders. Under these circumstances the fundamental agency problem comes from the separation between minority and large shareholders, where the latter dominate the "*decision control*" role within the company (Shleifer and Vishny, 1997). The presence of large shareholders may lead to wealth expropriation from minority shareholders, if large shareholders tend to appoint managers or directors that are aligned with their own interests (Lim et al, 2007). Therefore, the composition of the board of directors becomes a key control mechanism for minority shareholders. Independence becomes a crucial requirement to control the costs of the different agency relationships within the firm. The presence of a significant proportion of independent non-executive directors tends to guarantee an objective control over pervasive managers and non-independent directors' decisions. Therefore, minority shareholders are expected to support the presence of a majority of independent directors in the board. Conversely, managers will prefer the presence of executive directors and large owners will tend to nominate non-executive directors, professionally or personally connected to them, the so-called gray directors (Kim et al., 2007). Under these circumstances, the legal environment plays an important role guarantying the protection of minority shareholders' interests, promoting and a minimum number of independent directors in the corporate boards.

As Chen and Jaggi (2000) or more recently, Coles et al. (2008) explain, the board of directors of a corporation has two main roles: advising corporate boards on strategic decisions and monitoring executive directors and top management decisions (Fama, 1980). In fact, together with the regulatory requirements, the presence of independent non-executive directors depends on the costs and the needs of both advising and monitoring within each firm (Linck et al., 2008). However, most of the literature focuses on the monitoring role of independent directors where empirical results reveal how their presence significantly affects transparency and improves firm performance, revealing that independent directors work for the benefit of shareholders' interests. For example, Rosenstein and Wyatt (1990) find a positive stock price reaction to appointments of outside directors to corporate boards; Weisbach (1988) finds that a

poorly performing CEO is more likely to be replaced if the firm has a majority of outside directors; Brickley et al. (1994) report a positive stock price reaction to the adoption of anti takeover mechanisms (poison pills) when there is a majority of outsiders in the board; More recently, Black et al. (2006) find that the presence of independent directors affects company value in emerging economies; Beasley (1996) looked at the relationship between board composition and financial statement fraud, finding that those companies with higher presence of independent directors on their board are less likely to be involved in financial fraud than those with a lower proportion of independent directors. Hossain et al. (2001) find a positive relationship between the presence of independent directors and firm value on New Zealand companies, while other authors such as Dahya et al. (2002, 2005) find a similar effect on outside CEO appointments and company performance. Overall, the presence of independent outside directors monitoring company's decisions seem to be "good news" since corporate boards act in a more responsive manner, favouring investors' interests (Chen and Jaggi, 2002) reducing the potential costs of agency relationship.

Voluntary disclosure as a mechanism to reduce information asymmetry

It is widely accepted that the demand for disclosure comes from the need to reduce the adverse selection problem related to the information asymmetries between the agent and the principal of the firm, that is, between managers/directors and current and potential investors within the agency theory framework. As Verrecchia (2001, p. 165) states "*one way to achieve information asymmetry reduction is for the firm to commit to the highest level of public disclosure*". However, the current mandatory financial disclosure model can be qualified as imperfect, as it does not always fulfil the information demanded by users. The business reporting model needs to be expanded in order to satisfy the information needs of the market, requiring further information for further corporate transparency and accountability. The particularities of the current business model is leading the main accounting professional organizations and accounting regulators to enhance the information disclosed in the annual reports (Beattie et al, 2004). As an example, the FASB Steering Committee Report "Improving Business Reporting: Insights into Enhancing Voluntary Disclosures (2001), states that the *"…Business reporting is more than financial statements; it includes a number of different elements*

such as operating data, performance measures, analysis of data, forward-looking information, and information about the company, its managers and shareholders". The traditional financial statements are not enough to convey the future prospects of a firm for creating value (Hutton, 2004) and empirical literature confirms the economic relevance of voluntary disclosures as a mechanism to provide additional financial and non-financial information and reduce the information asymmetry related to the Type I and II agency problems. Both theoretical and empirical literature argues that voluntary disclosure affects the return-earnings relationship, improves stock liquidity, reduces the cost of capital and increases information intermediation leading to more accurate and less dispersed earnings forecasts[6].

However, in the absence of a regulatory framework for voluntary disclosure, investors' credibility on the reported information is crucial to reduce the collateral effects of information asymmetries (Gu and Li, 2007). Managers and executive directors' incentives to make self-serving disclosures may erode the reliability on voluntary information. Therefore investors need to look for alternative signals to infer the credibility of voluntary disclosure. Under these circumstances, independent directors may play a significant role on enhancing the credibility of the firms' voluntary disclosures.

According to Healy and Palepu (2001) empirical evidence reveal six difference forces affect managers decisions on voluntary disclosure: (1) capital market transactions, as voluntary disclosure may reduce the firm's cost of additional external financing; (2) corporate control contests, as managers may offer extra disclosure to reduce the risk of job loss in poor performance situations; (3) managers stock- based compensation plans, since they tend to reduce the risk of misvaluation[7]; (4) litigation costs that may encourage firms with bad earnings to pre-disclose poor performance information in order to avoid legal actions; (5) management talent signalling and (6) the potential competitive disadvantages (proprietary costs) and other externalities arising from additional disclosures. However, together with these forces, more recent literature focuses on the effects of alternative corporate mechanisms that align shareholder and managerial incentives. Particularly, on the role of outside directors as a management control mechanism to enhance greater transparency through voluntary disclosure.

The role of independent directors and the relationship to voluntary disclosure

As previously stated, disclosure credibility is a key factor to reduce the effects of information asymmetries. Mercer (2004) identifies four factors that influence disclosure credibility: (1) situational incentives that may exist at the time of the disclosure, leading managers to mislead about the firm's financial position, (2) the managers' credibility, (3) the mechanisms of external and internal assurance[8] of the reported information and (4) disclosure characteristics such as precision, venue, timing or supporting information. Mercer (2004) refers to the board of directors as a mechanism of internal assurance. As this author asserts "*investors may feel more confidence in the veracity of a firm's disclosures when the firm has a high-quality board of directors*". As Healy and Palepu (2001) explain, the board of directors and information disclosure can be considered complementary mechanisms to reduce the problems of the agency relationship. Corporate governance mechanisms such as the presence of non-executive directors, audit committees and the separation of chairman and chief executive responsibilities enhance monitoring and reduce benefits from withholding information, improving disclosure quality in financial statements and therefore, reducing the degree of information asymmetry between managers and investors (Forker, 1992).

For the last few years and due to the different economic scandals and the recent financial crisis, regulators have worldwide claimed for both new measures of corporate governance and greater information disclosure. As previously stated there is a strong relationship between board independence and voluntary disclosure as both are complementary mechanism ways of reducing information asymmetries. However, even though there is an increasing number of empirical studies looking at the impact of corporate governance characteristics on voluntary disclosure, results are contradictory (Cheng and Courtenay, 2006).

Authors like Eng and Mak (2003), Gul and Leung (2004) or Barako et al. (2006) find a negative relationship between external[9] directors and the level of voluntary information, suggesting a higher and stronger monitoring and control role of external directors on the board over managers (Williamson, 1984) and therefore, a smaller need to reduce information asymmetries with higher voluntary disclosure, pointing the substitutive relationship between both mechanisms. However, Gul and Leung (2004) results reveal

that external directors with a wide professional expertise act as an important control mechanism in companies where the ~~president~~chairman and the chief executive officer responsibilities rely on the same person. That is, as information asymmetry increases and the effectiveness of the monitoring role of the corporate governance mechanisms may be compromised, external directors do emphasize the relevance of greater disclosures.

In any case, the negative relationship documented in Gul and Leung (2004), Eng and Mak (2003) or more recently Barako et al. (2006) must be analyzed carefully. As Cheng and Courtenay (2006) point out the definition of external directors may affect their results. Eng y Mak (2003) and Barako et al. (2006) board composition variable is based on the percentage of outside directors on the board and does not divide between gray and independent directors. Additionally, Gul y Leung (2004) focus their analysis on gray directors and their results may be affected by using a noisy proxy for measuring the "expertise", based on the presence on multiple boards, which is negatively associated with firm value (Mak et al.,2003).

Together with the evidence on these articles, others as Ho and Wong (2001) do not find a significant relationship between independent non-executive directors and voluntary disclosure. However, due to the inconsistency of their results with previous empirical evidence (Chen and Jaggi, 2000; Forker, 1992 or Leftwich et al., 1981) the authors question the independence of directors among Hong Kong corporate boards.

Yet, the broad definition of voluntary disclosure may also affect previous results. Voluntary disclosure changes across countries, depending on each country mandatory disclosure requirements (Lim et al, 2007). Therefore, disclosure studies based on US companies may not uncover the effects of voluntary disclosure on information asymmetry as the US has much more disclosure requirements (Luo et al, 2006) compared to other countries. Secondly, the selection of certain disclosure items may also influence the results. As Lim et al (2007) document board composition does not affect all types of voluntary disclosure but only the one that represent key decisions like strategy and forward looking information, while financial and non financial data disclosed are not related to board composition.

However, in spite of the caveats and limitations on the measurement of voluntary disclosure and the identification of the independent directors most of the extant empirical literature across different institutional settings reinforce the significant role of independent directors as a determinant explanatory factor of higher levels of voluntary disclosure (Chen and Jaggi, 2000; Bujaki and McConomy, 2002; Leung and Horwitz, 2004; Babío and Muiño, 2005; Cheng and Courtenay , 2006; Patelli and Prencipe, 2007; Lim et al. 2007 and Donnely and Mulcahy, 2008).

Together with independent directors, executive directors may be also interested in enhancing voluntary disclosure to reinforce the confidence of shareholders on the firms' financial information and protect their professional reputation and their personal wealth, related to the firms' performance through remuneration contracts such as stock options (Lim et al., 2007). However, previous empirical evidence does not reveal a significant effect of executive directors on voluntary disclosure (Cheng and Courtenay, 2006). Similarly, previous empirical evidence focused on the impact of gray directors suggest that their control functions seem to be more concentrated on the quality of financial mandatory information compared to alternative mechanisms to increase transparency as voluntary information. Recent articles such as Cheng and Courtenay (2006) do no show higher disclosure in companies with a majority proportion of gray directors in their boards.

Overall, previous evidence among different institutional settings is consistent with a significant role of corporate governance characteristics on voluntarily disclosed information, particularly with the significant role of independent directors. Except for Babío and Muiño (2005), previous empirical evidence on the determinants of voluntary disclosure across Spanish firms (Giner, 1997; García and Monterrey, 1993; Wallace, et al. 1994, Gómez Salas, et al. 2006) has focused on the main cross-sectional determinants but not on the corporate governance structure and the role of independent directors as a control mechanism to reduce information asymmetries and therefore, as a potential explanatory factor of greater information disclosure. The present study goes further in this research line, pointing the importance of certain corporate governance characteristics and the role of independent directors on voluntary information. We postulate that independent directors have a key role in monitoring board decisions in

order to defend minority shareholders interests. Thus, independent directors may use voluntary disclosure as monitoring mechanism to reduce information asymmetries. However, under this approach we can find two possible limitations: on one hand, the appointment of new directors is a decision of the board itself, where large shareholders have indeed the power to influence the board composition. As Kim et al. (2007) show, independent directors are expected to be the objective monitor of the firm, but minority shareholders have very little power to affect that decision. Secondly, the disclosure policy can be affected by proprietary costs, defined as those costs associated with strategic decisions-making by a competitor using all available information, including private information disclosed via voluntary disclosure (Luo et al., 2006). Therefore, firms tend to balance the desire of revealing information to shareholders with the need to protect proprietary information from potential competitors (Verrecchia, 1983; Gelb, 2000).

HYPOTHESIS DEVELOPMENT

As Cheng and Courtenay (2006) assert, board effectiveness depends on its composition, independence and size (John and Senbet, 1998). Composition and independence are closely related, as board independence increases with the proportion of independent directors (Cheng and Courtenay, 2006). Similarly, board independence and size are related too, as the larger the board the higher tends to be the number of independent directors (Matolcsy et al, 2004). Denis and Sarin (1999) and Lim et al (2007) found a positive relationship between board size and board independence while Denis and Sarin (1999) and Gul and Leung (2004) found a positive relationship between board size and company size.

Following the Olivencia Code (CNMV, 1998) the Unified Spanish Governance Code (CNMV, 2006) points that board size *"has a bearing on its efficiency and on the quality of decision-making"*. The Spanish Code recommends a Board with more than five members and less than fifteen. While we expect that larger boards increases board monitoring capacities, this benefit may be affected and reduced by the increasing cost of poorer communication and decision making associated to larger groups (John and

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Senbet, 1998). As Jensen (1983) argues, small boards are more effective in monitoring the CEO, limiting the possibility to engage in pervasive decisions. In fact, previous empirical results reveal a negative relationship between board size and firm valuation (Yermack, 1996). Cheng and Courtenay (2006) document the absence of a significant relationship between board size and voluntary disclosure for a sample of Singapore firms. However, the relationship between firm and board size together with the tendency of big firms to be exposed to greater information requirements from stakeholders suggest that larger boards will tend to be associated to greater levels of information disclosure. We formulate the following hypothesis.

> ***Hypothesis 1: Ceteris paribus: There is a positive relationship between the Board size and the extent of voluntary disclosure***

As previously stated, results on the relationship between voluntary disclosure and non-executive directors are contradictory due mainly to the mentioned differences in the definition of non-executive directors and the different national regulatory regimes (Patelly and Prencipe, 2007). However, the majority of the empirical studies observe that greater board independence is linked to more transparency and better monitoring (Chen and Jaggi, 2000; Bujaki and McConomy, 2002; Leung and Horwitz, 2004; Babío and Muiño, 2004; Cheng and Courtenay , 2006 and more recently Lim et al, 2007 and Donnely and Mulcahy, 2008). We expect higher levels of voluntary disclosure in companies with a higher proportion of independent directors, as independent directors are related to the protection of minority shareholders' interests enhancing information transparency to reduce the costs of information asymmetries. Following previous studies on the impact of independent directors on accounting quality for the Spanish context (García and Gill de Albornoz, 2007 and Babío and Muiño, 2004) we identify and separate between independent and gray directors: the former comply with the Corporate Governance Codes' independence requirements while the latter are non-independent outside director representing the interests of the majority shareholder groups within the firm. We choose as explanatory variable the proportion and not the absolute number of independent directors as we try to know the effects of the degree of independence at the board level (Ho and Wong, 2001, Patelly and Prencipe, 2007). We formulate the following hypothesis.

Hypothesis 2: Ceteris paribus: There is a positive relationship between the proportion of independent directors and the extent of voluntary disclosure.

A high proportion of Spanish companies are controlled by one or several dominant shareholders, mainly family firms (Faccio and Lang, 2002). As previously documented, the presence of controlling shareholders, sitting representative (Gray) directors on the Boards may create agency problems between controlling and non-controlling shareholders (Ali et al., 2007; Patelli and Prencipe, 2007). Under these circumstances, independence and monitoring mechanisms becomes a crucial requirement for the protection of minority shareholders, guaranteeing equal access to information for small and dominant shareholders (Mc Kinnon and Dalimunthe, 1993). The firm's ownership structure is associated with different levels of disclosure (Gelb, 2000). Particularly, information disclosure is expected to increase with higher levels of ownership diffusion, (Raffournier, 1995) where non-controlling shareholders cannot be easily constrained by majority shareholders to require a greater level of transparency and information disclosure.

Most of the empirical evidence reports a negative relationship between ownership concentration and voluntary disclosure: Patelli and Prencipe (2007) in Italy, Barako et al (2007) in Kenya, Babio and Muiño (2005) in Spain, Chau and Gray (2002), Cheng and Courtenay (2006) or Chen and Jaggi (2000) in Asian countries. However, authors as Donnely and Mulcahy (2007), Haniffa and Cooke (2007) or Eng and Mak (2003) do not find evidence on a significant relationship between ownership and voluntary disclosure. Based on the theory postulates and previous empirical evidence we formulate the following hypothesis.

Hypothesis 3: Ceteris paribus: There is a negative relationship between ownership concentration and the extent of voluntary disclosure

As Jensen (1993) argues, separating the position of CEO and Chairman of the board avoids conflict of interests and helps to improve the monitoring function of the board. When the ~~president~~chairman and the chief executive officer functions rely on the same person- CEO duality-, the concentration of too much power on one person may compromise the monitoring role of the Board (Forker, 1992) affecting the quality and

the amount of the information disclosed (Ho and Wong, 2001). Authors as Donnelly and Mulcahy (2008) in Ireland and Ho and Wong (2001) or Gul and Leung (2004) for Hong Kong listed companies document a negative relationship between CEO duality and voluntary disclosure. Conversely, authors Cheng and Courtenay (2006) found no evidence of the relationship between CEO duality and the extent of voluntary disclosure across listed companies in Singapore. Evidence related to the effects of ownership structure on firm performance and information reporting in Spain is scarce (De Miguel et al., 2004). However, based on the theory postulates and previous empirical evidence the expectation is expressed in the following hypothesis:

> *Hypothesis 4: Ceteris paribus: There is a negative relationship between the ~~president~~Chairman duality and the extent of voluntary disclosure*

SAMPLE SELECTION AND DATA COLLECTION

The final sample consists of 62 Spanish companies listed in the Madrid Stock Exchange in 2005. The quantity of voluntary disclosure is measured using an unweighted[10] disclosure index, computed using a binary coding scheme that identifies the presence or absence of the different information items considered. The voluntary disclosure index has been computed based on data from the fiscal year 2005 annual reports. Even though companies have alternative ways to report additional voluntary information (corporate web sites, press releases, intellectual capital reports, corporate social responsibility reports, meetings with the financial analysts, and management forecast announcements), previous empirical studies as Botosan (1997) or Lang and Lundholm (1993) presume a direct relation between annual report disclosure and alternative ways of corporate information. The annual report is one of the main sources of corporate information for listed companies and the main source of data in the voluntary disclosure empirical literature.

With an initial sample of 124 non financial companies listed in the Madrid stock exchange (IBEX-35 and IGBM), we exclude from the final sample companies with non consolidated financial statements, non-available annual reports and firms with missing

information on the corporate governance structure. Finally, we exclude those companies with non available data for the control variables. Our final sample consists of 62 Spanish listed companies. Table 1 shows the final sample selection procedure (Panel B), as well as the composition of the final sample (Panel B).

INSERT TABLE 1

Our measure of voluntary disclosure is a self-constructed index created following the methodology used in previous empirical studies. Particularly, the voluntary disclosure index (D_INDEX) is based on a checklist of 76 identified information items related to the following seven areas of information: historical information, corporate social responsibility, intangible and intellectual capital, projected information, general information about the firm, non financial statistics, management analysis and IAS/IFRS adoption. Appendix 1 reports the number of items included in each of the seven information areas, as well as a detailed list of the 76 items. The checklist has been created based on the framework of the Steering Committee Report of the Business Reporting Research Project of the Financial Accounting Standards Board in 2001, the recommendations of the Enhanced Business Reporting Consortium (EBR) report published in 2005 as well as the disclosure checklists included in previous empirical studies such as Botosan (1997), Cheng and Courtenay (2006) and Lim et al. (2007).

A dichotomous variable (1/0) has been used to identify the inclusion of each information item included in the voluntary disclosure index within the content of the firm's annual report. The dummy variable for each item on the checklist takes value 1 if the company discloses information related with that item in its annual report, otherwise the dummy variable takes value 0. Similar to previous studies, in order to avoid subjectivity in index computation, all the checklist items have been considered to have the same relevance for the external users of information.

The voluntary disclosure index (D_INDEX) is computed as the sum of all the dichotomous variable values for each company divided by the total number of items included in the information checklist (76).

Corporate governance variables have been collected from the corporate governance reports that listed companies must filed in the Spanish Capital Market Regulator (CNMV – *Comisión Nacional del Mercado de Valores*), in accordance with Law 26/2003 of July 17. Control variables used in the empirical analysis were collected from Thomson One Banker.

METHODOLOGY

For the empirical analysis we estimate the following model:

$$D\_INDEX_{it} = \alpha + \sum_{j=1}^{4} \beta_j\, BOARD_{jit} + \sum_{q=1}^{5} \gamma_q\, VAR\_CONTROLS_{jit} \quad (1)$$

Where D_INDEX_{it} is the value of the voluntary disclosure index for each company in the year 2005. BOARD corresponds to the vector of corporate governance variables including: board size (BOARD), the proportion of independent directors in the board (% _IND), the concentration of the ~~president~~Chairman and CEO' responsibilities in the same person (DUALITY), and ownership concentration (CCap), measured with a dummy variable (1-0) that takes value one when the main shareholders own more than 40% of the firm. Ownership concentration is expected to be an important determinant of voluntary disclosure. As previously stated, greater ownership dispersion implies higher costs associated to the agency relationship (Jensen and Mecklin, 1976) that requires greater information to improve transparency. On the other hand, ownership concentration implies a lower proportion of free floating capital and therefore, lowers needs and pressures of majority shareholders to enhance voluntary disclosure.

VAR_CONTROLS corresponds to the vector of control variables. Previous empirical literature documents that corporate attributes such as size, leverage, profitability and the growth potential of the company are some of the main cross-sectional determinants of voluntary disclosure.

Size has been identified in numerous studies as the main determinant for voluntary disclosure. Authors like Meek et al (1995) or Hossain et al (1995) find that big companies are more likely to disclose information not only due to lower information

production costs but also because of lower potential competitive disadvantages (proprietary costs). Disclosing more information can also be the result of the pressure from external users. According to Hossain et al (1995), based on the postulates of the agency theory, voluntary disclosure is necessary to reduce the information asymmetries and the costs associated to the agency relationship. As agency costs are higher for companies with higher outside capital (Jensen and Meckling, 1976) and the proportion of outside capital tends to be higher for big firms (Leftwich et al., 1981), the existent relationship between agency costs, capital structure and the firm's size makes this variable decisive for the voluntary disclosure analysis. However, disclosing information may significantly increase potential political, legal or competition costs (Watts and Zimmerman, 1986), particularly for big firms, as they tend to have greater visibility in the market, increasing the collateral effects of greater transparency. As previously stated, managers take disclosing decisions based on a cost-benefit analysis where a wide range of firm-specific and institutional factors play a significant role. Authors such as Guo et al. (2004), Bhojraj et al. (2004) or Botosan and Stanford-Harris (2005) reveal how competition or political costs can significantly affect the level of disclosed information.

Overall, in spite of the costs that could be expected, most of the empirical studies confirm the importance of size on the level of information disclosure among companies As Ahmed and Courtis (1999) explain, big firms are not only expected to accomplished with the informational requirements of a wider range of stakeholders but they also face lower information and competition costs. They have the "*means to afford more widespread disclosures*". In our empirical analysis SIZE is measured the logarithm of total assets (LASSET). Other authors have used as alternative variables total sales, market capitalization or the number of financial analysts following the firm.

Leverage is measured as the total debt to equity ratio. Highly leveraged firms bear more agency costs due to the potential wealth transfers from debtholders to managers and shareholders (Jensen and Mecklin, 1976), creating a need to disclose more information in order to improve the communication and transparency with their creditors (Meek et al. 1995). However, as Ahmed and Courtis (1999) explain, the empirical evidence relating to this hypothesis is inconclusive. However, Ahmed and Courtis (1999) results

from their meta-analysis technique reveal a positive association between leverage and disclosure.

The firm's profitability has been considered an additional explanatory factor of voluntary disclosure. However, as Ahmed and Courtis (1999) explain, empirical evidence provides conflicting results. Authors like Meek et al. (1995) argue that high profitable companies disclose more information due to the need to reveal their superior performance. However, other authors find either a non significant or negative relationship between disclosure and performance (Hossain et al., 1995; Wallace and Naser, 1995; Raffournier, 1995; Cheng and Courtenay, 2006, Gul and Leung, 2004). A more detailed view of the relationship between performance and disclosure is offered by Land and Lundholm (1993) who suggest that the relationship between profitability and greater disclosure is only positive for companies with greater information asymmetries between managers and investors. A similar argument applies for the market to book ratio (MB), representing the firm's growth expectations. Authors as Gul and Leung (2004) or Lim et al. (1997) argue that companies with a high growth potential need to disclose more information to the market in other to signal that the value of the stock is not "overvalued."

Gul and Leung (2004) or Lim et al. (1997) arguments are consistent with Jones (2007) results that reveal that firms in intensive R&D industries with high market to book ratio disclose more information on this topic in order to reduce uncertainty about future financial performance. However, Jones (2007) results reveal the additional significant impact of potential proprietary costs on providing greater disclosure on strategic activities. As the author explains, firms may be reluctant to disclose information that could be strategically used by competitors. These are the documented proprietary costs of disclosure that is, the potential competitive disadvantages arising from more information disclosure. However, Hutton (2004) argues that beyond proprietary costs, emerging industries or firms with a significant allocation of financial resources on intangible assets, may be willing to disclose more information in order to enhance transparency and "*convince outsiders from the viability of their business model*" (Hutton, 2004). As the author explains, managers' consensus opinion[11] is that a strategy that depends on withholding information is not likely to be successful. Therefore,

managers support the idea that disclosure improves the execution of a strategy (Hutton, 2004) and assuming potential proprietary costs enhance the firm's reputation and credibility on disclosure, adding value to the released information (Cormier and Magnan, 2003). Proprietary costs have not been considered as a control variable in our main explanatory model..

Empirical literature has looked at additional determinants of disclosure such as: (a) the audit firm size (Wallace et al., 1994); (b) the internationalization level of the firm, not only measured in commercial terms but also by the presence in international capital markets (Khanna et al. (2004), (c) the use of stock options plans as a manager remuneration mechanism (Aboody and Kasnzink, 2000), (d) media visibility (Cormier and Magnan, 2003). These additional explanatory factors have not been included at first place in the vector of control variables as they are not considered to be the most relevant determinants of voluntary disclosure among our firms, as they are common features across the sample. For instance, most of the companies of our sample (92,3%) has an audit report issued by one of the four big auditing companies. Similarly, media visibility proxied by the extent of press coverage or multilingual reporting of information (Leventis and Weetman, 2001), is also a widespread characteristic of the firms included in the empirical analysis. As listed and internationally extended firms they all have wide press coverage and they provide information both in English and Spanish. Therefore, visibility can be considered as an implicit characteristic of our sample firms.

Economic sector is and additional well documented explanatory factor of voluntary disclosure. As Meek et al. (1995) points out *"the relevance of selected items disclosure can vary across industries"*. For example, in the pharmaceutical or technological industry, information about R&D can be considered an item of significant relevance that is not reported in the traditional financial statements. As Giner (1997) asserts companies acting in the same economic sector will have a common informative tendency, that is, they will adopt common disclosure practices and topics. A common disclosure tendency across economic sectors requires to control for the disclosure differences among industrial sectors either incorporating control variables or a simple descriptive analysis of the levels of voluntary information across industries. Our sample is broadly diversified in 21 economic sectors[12], with no concentration of companies in any

particular sector. Therefore, we have not included any control variable in the econometric analysis to identify potential industry differences in disclosure. Alternatively, following Giner (1997) recommendations we have carried out a descriptive analysis of the disclosure index.

In order to avoid endogenity problems that could affect the results in the empirical analysis, we follow an econometric approach similar to previous empirical literature such as Gul and Leung (2004), Lim et al. (2007) or Cheng and Courtenay (2006). As Lim et al. (2007) and other authors explain, the endogenity problem that arises as a consequence of the existent relationship between corporate governance characteristics and other control variables included in the model, creating a bias in the minimum least square regression coefficients. To avoid the documented econometric problem, the empirical analysis has been carried out through a two stage least square regression, estimating at first place the vales of the main corporate governance variable (% _IND). These estimated values (% _IND_Est) will be used on the second stage regression as an independent variable of the model

The following model has been used for the estimation of the proportion of independent directors (% _IND):

$$\%\_IND_{it} = \alpha + \beta_j\ BOARD_{it} + \beta_2\ CAP_{it} + \beta_3\ LASSET_{it} + \beta_4\ LEV_{it} + \beta_5\ ROA_{it} + \beta_6\ MB_{it} + \varepsilon_{it}$$

(2)

BOARD is the size of the board of directors; CAP represents the stake of the firm's capital owned by the main shareholders; LASSET represents the size of each company measured as the logarithm of total assets; LEV is the leverage ratio measured as total debt over total equity; ROA is the economic profitability of the company and finally, the market–to–book ratio (MB) measures the potential of growth of the company.

Based on the theoretical postulates and empirical results in previous studies (see Linck et al. (2008) for references to the main literature on the determinants of the board structure) we expect a positive and significant relationship between the dependent variable (%_IND) and all the explanatory variables except for CAP and BOARD. Based on previous evidence, higher ownership concentration implies the presence of a higher

proportion of gray and executives directors in the board, representing the interest of the dominant shareholders. Additionally, the definition of the dependent variable as the proportion of independent directors on the total board implies a negative relationship with the size of the Board (BOARD). Regarding the LASSET, LEV, ROA and MB variables the expected relationships with the dependent variable (% _IND) are positive. Big companies tend to have higher ownership dispersion (Leftwich et al. 1981) and greater cash flows, making necessary to recruit a higher number of independent non-executive directors to play an effective oversight role over managers (Boone et al, (2007). Similarly, high profitable companies or firms with high growth expectations are not only more attractive to independent directors (Lim et al, 1997) but also suffer from higher information asymmetries that require the presence of independent directors to promote transparency between dominant and minority shareholders. However, empirical evidence reveals that firms with high growth opportunities have smaller and less independent boards (Linck et al., 2008). Finally, agency costs associated to the relationship between the firm and its creditors makes necessary an increasing presence of independent directors to promote transparency and strengthen creditors' confidence to avoid an increase of the costs of debt of highly leveraged firms.

EMPIRICAL RESULTS

Table 2 panel A shows descriptive statistics for the voluntary disclosure index and corporate governance variables for the 62 companies of the final sample.

Insert Table 2

The mean voluntary disclosure index is 0.25, revealing that sample companies disclose about 25% of the 76 items comprising the general index. This value is higher than the ones reported in similar works for other countries. Lim et al. (2007) for Australian companies or Cheng and Courtenay (2006) for Hong Kong report an average index of 0.18 and 0.14, respectively.

The board of directors in our sample (panel B) has a mean size 12 members, ranging from a minimum of 5 to a maximum of 20 members. The board is composed by a

majority of gray directors (42%), followed by independent (35%) and executives (20%). In addition, 71% of the companies from our sample concentrate the ~~President~~Chairman and the CEO responsibilities on the same person. The average capital owned by majority shareholders[13] amounts 43%, with a maximum percentage of concentration of 97%. The level of concentration of the capital in hands of majority shareholders is consistent with the higher presence of gray directors in the structure of the board of directors. 40,3% of the companies (25 companies) have a majority of gray directors while 25,8% of total companies (16 companies) have a board with majority of independent directors. Executive directors are minority and two companies of our sample have a majority representation of executives in the Board.

Panel B reports the descriptive statistics for the control variables and other related variables as market capitalization or analysts following. These variables shape the main characteristics of the companies in the sample. Results reveal a wide diversity across de sample firms.

Table 3 reports a descriptive analysis by industry sector. The sample is broadly diversified in 21 industry sectors. The industry sector with a higher number of companies is food, beverages and tobacco. The electricity and communications sectors are the ones leading the voluntary disclosure positions, with a value of 0.36 and 0.37 for the voluntary disclosure index (D_INDEX), considerably higher compared to the reported average for the total sample (0.25). The transport sector shows the lowest results, with a value for the voluntary disclosure index of 0.12.

Insert table 3

Most industry sectors have an average board size of more than 10 directors. Independent directors are only majority in 7 of the 21 sectors, while gray directors occupy most of the positions in the Board in twelve sectors. Executive directors are not majority in any particular sector although as reported in table 2, they are majority in two companies of the sample.

Table 4 reports a descriptive analysis of the voluntary disclosure differences according to corporate governance and firm specific characteristics. In this analysis, the 62

companies of the sample have been divided in two groups, based on the discriminant variable average value. If we consider the percentage of independent directors (% _IND) as the first discriminant variable, sample firms have been divided in two groups. The first group comprises companies with a proportion of independent directors above the average reported value in table 2 (0,35). The second group comprises companies with a proportion of independent directors under the average reported value of 0,35. Results show a significantly higher voluntary disclosure index value for the group of companies with a higher proportion of independent directors. These results partially confirm the role of independent directors as an important control mechanism to improve information transparency among listed companies company.

While independent directors improve the level of voluntary disclosure, the presence of a high proportion of executive directors on the board seems to have the opposite effect. Companies with a proportion of executive directors above the average reported value in table 2 (0,20) have a lower value of the voluntary disclosure index. However, this difference is not statistically significant. These results are not consistent with Lim et al (2007) who argue that executive directors may be interested in enhancing voluntary disclosure to protect their professional reputation and their personal wealth, linked to the firm performance through the use of stock options as a remuneration scheme. In the Spanish context, results suggest a negative relationship between the level of voluntary disclosure and the proportion of executive directors on the board. Finally, the results on the role of gray directors on voluntary disclosure do not reveal a clear tendency. Results are not statistically significant. However, companies with a proportion of gray directors above the average reported value in table 2 (0,42) have a higher value in the voluntary disclosure index.

Insert Table 4

When using total assets as discriminating variable, results are consistent with previous empirical evidence both in the international and the Spanish context. Size is one of the main determinants of voluntary disclosures. Bigger companies significantly disclose more information. Similar results are reported for board size. Companies with bigger boards have a higher value in the voluntary information index. Finally, results for capital concentration as discriminating variable are consistent with the idea that

ownership concentration implies higher managerial and majority shareholders control, reducing the need to disclose information in order to avoid information asymmetries with minority investors. Results reveal a statistically significant lower value of the D_INDEX variable for companies with higher capital concentration.

One of the main caveats of designing a voluntary disclosure index is that it implies certain degree of subjectivity. Therefore, it is necessary to assess the validity of the index in capturing disclosure levels (Botosan, 1997; Cheng and Courtenay, 2006). One of the basic validity analyses of the index internal consistency is a correlation analysis of each one of the index components. As Cheng and Courtenay (2006) explain, "*disclosure strategies for a firm are expected to be similar along all avenues*", that is, a firm with high levels of voluntary information as reported in the general voluntary disclosure index (D_INDEX) is expected to have a high disclosure level in most of the information areas. Non-reported results of the Pearson and Spearman correlation analysis of the voluntary disclosure index (D_INDEX) with the sub-indexes of the eight different information areas, reveal a high positive correlation of the D_INDEX variable with most of the computed sub-indexes of information.

The correlation analysis of the D_INDEX and the control variables reported in table 5 allows to corroborate the results from the descriptive analysis.

Insert Table 5

Correlation coefficients of the D_INDEX variable with the control variables show a statistically significant correlation with LASSET, BOARD, DUALITY, % _IND and %_EJE. These results are consistent with the results in table 4, as well as with the previous empirical literature. The correlation coefficient of D_INDEX with company size (LASSET) and Board size (BOARD) is significantly positive in both cases, indicative of higher levels of voluntary disclosure for big companies and those with a greater number of directors in their boards. The DUALITY and the %_EJE variables have a significant negative correlation with D_INDEX, consistent with the argument on hypothesis 4.

Finally, the correlation of the percentage of independent directors (% _IND) with D_INDEX is only statistically significant for the Pearson correlation coefficient, although in both cases the coefficient is positive, indicative of higher levels of voluntary disclosure under the presence of independent directors.

Consistent with previous literature, the variable % _IND is negatively correlated with % _DOM and CAP. These variables have a negative and statistically significant correlation coefficient with the variable % _IND, indicative of the negative relationship between ownership concentration and the proportion of independent directors.

Table 6 shows the summary statistics of the first stage regression results between the proportion of independent directors (% _IND) and a number of explanatory variables detailed in model 2. All the estimated coefficients are statistically significant except the profitability variable (ROA). The size (LASSET), leverage (LEV) and the MB ratio variables are positively related to the proportion of independent directors in the Board. Conversely, higher capital concentration (CAP) and the size of Board (BOARD) have a negative impact on the dependent variable. The adjusted R^2 coefficient reaches a value of 0.2465 slightly higher than the ones reported in other studies like Lim et al (2007).

Insert table 6

The second stage regression uses the estimated dependent variable (% _IND_est) as one of the explanatory variables of the model. As a sensitivity analysis, the consistency of the results is tested using as an alternative dependent variable RD_INDEX. This variable represents the transformation of the D_INDEX variable in deciles. That is, the 62 firm-year observations have been classified in 10 groups according to the value of the general voluntary disclosure index (D_INDEX). The RD_INDEX variable takes values between 1 and 10, being 10 the value representing the highest disclosure level of voluntary information.

Panel A reports the results of the regression analysis using D_INDEX as a dependent variable. Panel B reports the results of the regression analysis using RD_INDEX as a dependent variable. Table 7 shows the results for four different regression models based on the following equation:

D_INDEX$_{it}$ / D_INDEX$_{it}$ = α + β_j BOARD$_{it}$ + β_2 %_IND_est + β_3DUALITY$_{it}$ + β_4 CCAP$_{it}$ + β_4 LASSET$_{it}$ + β_5 LEV$_{it}$ + β_6 ROA$_{it}$ + β_7 MB$_{it}$ + ε_{it} (3)

Results reported in table 7 confirm hypothesis 2. That is, a higher proportion of independent directors increases transparency through voluntary information disclosure beyond the one required in the accounting regulation. Regression coefficients for the main explanatory variable % _IND_est are positive in all the cases and statistically significant in seven out of the eight models used in the regression analysis. Therefore, we can accept hypothesis 2, that is, the significant impact of independent directors on the degree of transparency reporting higher levels of voluntary disclosure.

Coefficients for the DUALITY variable are negative and statistically significant in all cases, indicating that the concentration of the Chairman and CEO' responsibilities reduce the level of voluntary information disclosed by companies, consistent with hypothesis 4. Results for the BOARD variable are consistent with previous empirical studies revealing that companies with bigger board of directors disclose more voluntary information. Therefore, we can accept hypothesis 1.

CCap does not have a significant impact on our dependent variable. The regression coefficients are not significant in none of the four models where this variable is included.

Insert Table 7

Coefficients on the four control variables (LASSET, LEV, ROA and MB) are not significant in most cases. The only exception is for the MB variable where the results suggest that companies with higher growth potential avoid disclosing voluntary disclosure in order to preserve strategic data from competitors.

In summary, results from the empirical analysis reveal the important role of independent directors as a control mechanism of the agency relationship. Additional non reported results for the regression analysis of the role of gray directors on the disclosure of voluntary information are consistent with the descriptive analysis. That is, gray directors do not influence the level of voluntary disclosure. In spite of their major presence in the

boards of Spanish firms, gray directors do not seem to have a decisive role on reducing information asymmetries through voluntary information disclosure.

CONCLUSIONS

Since the early 70s, empirical literature on voluntary disclosure has placed special attention on those factors explaining why companies disclose information beyond the one required in the accounting regulation as well as the impact of this information on capitals markets. More recently, due to the development of corporate governance codes along the nineties, an increasing number of papers have focused on understanding the role of corporate governance characteristics on accounting quality and more specifically, on voluntary disclosure.

We measure voluntary information using a self-constructed index with 76 items classified in eight categories. The results from the empirical analysis are consistent with previous studies carried out in different contexts, revealing the significant role of independent directors as a control mechanism to reduce information asymmetry, enhancing the disclosure of information beyond the requirements of accounting regulation. Additionally, the regression analysis reveals a significant relationship between the degree of disclosure and other corporate governance variables. Particularly, we find a negative relationship with the DUALITY variable, capturing a negative impact on information transparency when the Chairman and CEO' responsibilities are concentrated in one person. Previous evidence for Spain reveals the significant role of gray directors as a control mechanism of pervasive earnings management practices (García and Gill de Albornoz, 2007). However, non reported results from the empirical analysis reveal that their presence in the board structure and particularly, their role as a management control mechanism seem to make unnecessary the use of alternative and additional ways of information. These results point out the complementarities of the governance structure and the financial information system to reduce the costs associated to the agency relationship.

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Table 1: Sample selection procedure and list of firms comprising the sample

Panel A: Sample selection procedure

	nº
Non financial firms listed in the Madrid Stock Exchange in 2005	124
Not required to report consolidated financial statements	12
Reporting period different from 31st December 2005	5
Missing observations for corporate governance variables	9
Missing observations for control variables	36
Final sample	62

Panel B: List of firms comprising the sample

Company name	Company name
Logista S.A.	Amper S.A.
NH Hoteles S.A.	Befesa Medio Ambiente S.A.
Prosegur S.A.	Indra Sistemas S.A.
Service Point Solutions S.A.	Adolfo Domínguez S.A.
Sol Meliá S.A.	Altadis S.A.
Acciona S.A.	Baron de Ley S.A.
ACS Actividades Construcción y Servicios	Campofrío Alimentación
Fomento Construcciones y Contratas S.A.	Dogi International Fabrics S.A.
Obrascon Huarte Lain S.A.	Ebro Puleva S.A.
Aguas de Barcelona S.A.	Gamesa
Enagas S.A.	Grupo Empresarial Ence
Gas Natural SDG S.A.	Iberpapel Gestión S.A.
Hullas del Coto Cortes	Indo Internacional S.A.
Iberdrola S.A.	Miquel y Costas S.A.
Petroleos (Cepsa)	Papeles y Cartones de S.A.
Red Eléctrica de España	Pescanova S.A.
Repsol YPF S.A.	SOS Cuétara S.A.
Unión Fenosa S.A.	Tableros de Fibras S.A.
Fadesa Inmobiliaria S.A.	Tavex Algodonera S.A.
Inbesos S.A.	Tele Pizza S.A.
Inmobiliaria Colonial S.A.	Viscofan S.A.
Metrovacesa S.A.	Ercros S.A.
Cementos Portland Valderrivas S.A.	Construcciones y Auxiliar de Ferrocarriles, S.A.
Uralita S.A.	Duro Felguera S.A.
Antena 3 S.A.	Elecnor S.A.
Sogecable S.A.	Tubacex S.A.
Telecinco S.A.	Abertis S.A.
Acerinox S.A.	Cintra
Lingotes Especiales S.A.	CLH
Tubos Reunidos S.A.	Iberia S.A.
Abengoa S.A.	Telefónica S.A.

Table 2: Descriptive statistics on key variables of the empirical analysis for 2005

Panel A. Descriptive statistics on the voluntary disclosure index and corporate governance variables

Variables	n	mean	median	std.dev.	max	min	nº (%)
D_Index	62	0,2501	0,253	0,0866	0,480	0,067	
Board size	62	11,95	11	4,01	20	5	
Nº executive directors	62	2,24	2	1,13	5	0	
Nº gray directors	62	5,40	5	3,96	19	0	
Nº independent directors	62	3,97	4	2,47	13	0	
Nº other directors	61	0,36	0	0,84	4	0	
% executive directors	62	0,20	0,19	0,12	0,63	0	
% gray directors	62	0,42	0,44	0,24	1	0	
% independent directors	62	0,35	0,33	0.19	0,82	0	
% other external directors	62	0,03	0	0,077	0,4	0	
CCap	62	43,29	44,88	26,97	97,29	0	
Majority independent directors							16 (25,80)
Majority gray directors							25 (40,3%)
Majority executive directors							2 (0,09)
Majority external directors							60 (96,7%)
Chairman/CEO (yes/no)							44 (70,97%)
Big four	62						56 (92,32 %)

Panel B. Descriptive statistics on control variables

Variables	n	mean	median	std.dev.	max	min
Total assets	62	6.327.031	1.304.084	10.694.174	64.789.100	60.170
Market capitalization	62	4.239.967	1.547.609	8.948.129	60.810.783	37.573
Shareholders equity	62	1.436.375	393.310	2.874.395	15.262.000	29.560
Leverage (LEV)	62	1,403	0,884	1,551	7,585	0,0012
Market-to-book (MB)	62	3,340	2,30	2,815	14,876	0,835
Return on Assets (ROA)	62	0,056	0,047	0,052	0,33	-0,001
Number of analysts	54	9,79	8,77	6,92	31,25	1

Table 3: Descriptive statistics by industry sector on voluntary disclosure indexes and key corporate governance variables

CNMV industry sector	n	D_Index	%Ind	%Eje	%Dom	% Other	%Ccap	Board size
Commerce and other services	5	0,23	0,45	0,26	0,29	-	51,63	9,60
Construction	4	0,31	0,30	0,24	0,46	-	43,45	14,25
Energy – water and gas	3	0,29	0,33	0,10	0,47	0,1	41,86	15,67
Energy - electricity	3	0,36	0,49	0,12	0,33	0,06	27,33	16,67
Energy - mining	1	0,20	0,60	0,00	0,00	0,40	63,45	5,00
Energy - petrol		0,25	0,37	0,12	0,50	-	68,73	16,50
Real state	4	0,23	0,22	0,29	0,45	0,04	49,80	13,25
Construction materials	2	0,27	0,30	0,24	0,43	0,03	33,93	13,00
Media and communication	3	0,24	0,26	0,13	0,61	-	66,80	14,33
Metal	3	0,24	0,07	0,22	0,69	0,02	48,84	12,33
Technology	4	0,28	0,53	0,26	0,24	-	53,38	9,75
Other transformation industries – beverages and tobacco	8	0,20	0,43	0,22	0,30	0,05	28,87	10,88
Other transformation industries - others	6	0,26	0,28	0,24	0,42	0,06	39,41	8,33
Other transformation industries - paper	4	0,25	0,29	0,20	0,51	-	31,75	10,25
Quemical	1	0,21	0,67	0,17	0,17	-	0,00	6,00
Metal transformation	4	0,23	0,33	0,17	0,50	-	35,01	10,50
Transport and communication - communication	1	0,37	0,47	0,29	0,24	-	11,72	17,00
Transport and communication – service concession	2	0,27	0,27	0,14	0,59	-	59,67	14,00
Transport and communication –transports	2	0,12	0,17	0,11	0,73	-	68,22	16,00

Table 4: T-test of differences in means on D_Index, based on corporate governance and firm characteristics.

	% independent directors (%_IND)			% gray directors (%_GRAY)			% executive directors (%_EJE)		
	< mean	> mean	t-stat	< mean	> mean	t-stat	< mean	> mean	t-stat
D_Index	0,2375	0,2700	-1,40*	0,2458	0,2542	-0,38	0,2593	0,2374	0,95

	Total assets			Borrad size (BOARD)			Ownership concentration (CCap)		
	< mean	> mean	t-stat	< mean	> mean	t-stat	< mean	> mean	t-stat
D_Index	0,2333	0,3076	-2,58###	0,2308	0,2707	-1,83#	0,2676	0,2338	1,54*

	DUALITY		
	Yes	No	t-stat
D_Index	0,2396	0,2755	1,49*

* 10% significant – one-tailed T-test
** 5% significant – one-tailed T-test.
*** 1% significant – one-tailed T-test.

10% significant - two-tailed T-test
5% significant - two-tailed T-test.
1% significant - two-tailed T-test

Table 5: Pearson and Spearman correlation matrix of D_INDEX, corporate governance variables and control variables.

		Pearson										
		D_Index	**MB**	**LASSET**	**LEV**	**ROA**	**BOARD**	**%_IND**	**%_DOM**	**%_EJE**	**CAP**	**DUALITY**
Spearman	**D_Index**	1	-0,0165	0,3627	0,1123	0,0192	0,2526	0,2117	-0,0574	-0,2157	0,1619	-0,1885
			0,8956	*0,0038*	*0,3848*	*0,8821*	*0,0476*	*0,0986*	*0,6576*	*0,0923*	*0,2124*	*0,1423*
	MB	0,14536	1	0,1333	0,4209	0,3097	0,1980	0,0229	0,0218	0,0009	0,2704	-0,2542
		0,2596		*0,3017*	*0,0007*	*0,0143*	*0,1229*	*0,8600*	*0,8665*	*0,9944*	*0,0335*	*0,0462*
	LASSET	0,3068	0,3107	1	0,3585	-0,0597	0,6698	0,0861	0,0640	-0,1985	0,1778	-0,0150
		0,0153	*0,0140*		*0,0042*	*0,6450*	*<.0001*	*0,5058*	*0,6212*	*0,1219*	*0,1704*	*0,9079*
	LEV	0,1963	0,3451	0,4832	1	-0,3901	0,0666	0,0026	-0,0732	0,1779	0,1675	-0,2323
		0,1263	*0,006*	*<.0001*		*0,0017*	*0,6071*	*0,9838*	*0,5717*	*0,1664*	*0,1970*	*0,0693*
	ROA	0,1244	0,1535	0,0257	-0,5193	1	0,1400	-0,0381	0,1315	-0,1354	0,1857	-0,1334
		0,3353	*0,2336*	*0,8428*	*<.0001*		*0,2779*	*0,7689*	*0,3084*	*0,2939*	*0,1518*	*0,3012*
	BOARD	0,2423	0,3045	0,6668	0,1748	0,2994	1	-0,2344	0,3793	-0,3675	0,1986	-0,0435
		0,0578	*0,0161*	*<.0001*	*0,1742*	*0,0181*		*0,0667*	*0,0024*	*0,0033*	*0,1250*	*0,7370*
	%_IND	0,1973	0,0470	0,0434	-0,0799	-0,0017	-0,2598	1	-0,8404	0,0071	-0,3278	0,0716
		0,1243	*0,7167*	*0,7378*	*0,5371*	*0,9894*	*0,0415*		*<.0001*	*0,9561*	*0,0099*	*0,5804*
	%_DOM	-0,0146	-0,0112	0,1097	0,0064	0,1542	0,3935	-0,8284	1	-0,4366	0,2998	-0,1330
		0,9103	*0,9314*	*0,3962*	*0,9606*	*0,2315*	*0,0016*	*<.0001*			*0,0189*	*0,3028*
	%_EJE	-0,2077	-0,0313	-0,2225	-0,0416	-0,2471	-0,3808	0,0694	-0,4306	1	-0,0324	0,1983
		0,1053	*0,8092*	*0,0822*	*0,7482*	*0,0529*	*0,0023*	*0,5920*	*0,0005*		*0,8044*	*0,1223*
	CAP	-0,1398	0,2281	0,1655	-0,0218	0,0552	0,1729	-0,2866	0,2980	-0,1044	1	-0,1974
		0,2824	*0,0746*	*0,2024*	*0,8676*	*0,0673*	*0,1826*	*0,0252*	*0,0197*	*0,4234*		*0,1272*
	DUALITY	-0,2327	-0,1628	-0,0516	-0,0794	-0,1172	-0,0419	0,0607	-0,1610	-0,2535	-0,2063	1
		0,0688	*0,2061*	*0,6903*	*0,5395*	*0,3645*	*0,7465*	*0,6394*	*0,2114*	*0,0468*	*0,1108*	

D_Index = General voluntary disclosure index. MB = *market-to-book* ratio. LASSET = logarithm of total assets. LEV = total debt to equity ratio. ROA = Return on assets. BOARD = board size. %_IND = proportion of independent directors in the board. %_DOM = proportion of gray directors in the board. %_EJE = proportion of executive directors in the board. CAP = Ownership concentration measured as the proportion of the firm's capital owned by the main shareholders. DUALITY = dummy variable that takes value 1 when the ~~president~~Chairman and CEO's responsibilities rely on the same person. Otherwise, this variable takes value 0.

Table 6: Summary statistics from the Ordinary Least Squares regression. Stage 1 regression- relationship between the proportion of independent directors and firm specific characteristics.

$$\%\_IND_{it} = \alpha + \beta_j\ BOARD_{it} + \beta_2\ CAP_{it} + \beta_3\ LASSET_{it} + \beta_4\ LEV_{it} + \beta_5\ ROA_{it} + \beta_6\ MB_{it} + \varepsilon_{it}$$

Dependent variable = %_IND				
Variables	Expected sign	Coef.	T-stat	Pr > |t|
intercept		-0,21602	-0,96	0,3398
BOARD	-	-0,03012	-3,8###	0,0004
CAP	-	-0,00244	-2,82###	0,0067
LASSET	+	0,07181	3,57###	0,0008
LEV	+	-0,03176	-1,47*	0,1477
ROA	+	-0,16586	-0,3	0,7688
MB	+	0,01879	1,76#	0,0838
Adj R- Sq	0,2465			
F-stat (p value)	0,0014			

BOARD = board size. CAP = Ownership concentration measured as the proportion of the firm's capital owned by the main shareholders. LASSET = logarithm of total assets. . LEV = total debt to equity ratio. ROA = Return on assets. MB = *market-to-book* ratio.

[*] 10% significant – one-tailed T-test   [#] 10% significant - two-tailed T-test
[**] 5% significant – one-tailed T-test.   [##] 5% significant - two-tailed T-test.
[***] 1% significant – one-tailed T-test.   [###] 1% significant - two-tailed T-test

Table 7: Summary statistics from the Two Stage Least Squares regression. Stage 2 regression - relationship between the voluntary disclosure variable and the vectors of BOARD and CONTROL variables, using the fitted value of %_IND (%_IND_est)

$$D\_INDEX_{it} / RD\_INDEX_{it} = \alpha + \beta_j\ BOARD_{it} + \beta_2\ \%\_IND\_est + \beta_3 DUALITY_{it} + \beta_4\ CCAP_{it} + \beta_4\ LASSET_{it} + \beta_5\ LEV_{it} + \beta_6\ ROA_{it} + \beta_7\ MB_{it} + \varepsilon_{it}$$

Panel A: Dependent variable = D_INDEX

		Modelo 1		Modelo 2		Modelo 3		Modelo 4	
		D_index		D_index		D_index		D_index	
		Coeficient	t-stat	Coeficient	t-stat	Coeficient	t-stat	Coeficient	t-stat
intercept		0,082	1,34	0,118	1,63	0,099	0,87	0,104	0,9
BOARD	+	0,009	3,01[###]	0,009	3,03[###]	0,012	1,82[#]	0,010	1,5[*]
%_IND_EST	+	0,275	2,64[##]	0,240	2,16[##]	0,358	2,14[##]	0,293	1,54[*]
DUALITY	-	-0,042	-1,85[#]	-0,045	-1,97[#]	-0,045	-1,85[#]	-0,047	-1,92[#]
CCap	-	-	-	0,027	-0,93			-0,023	-0,72
LASSET	+	-	-	-	-	-0,006	-0,38	-0,002	-0,11
LEV	+	-	-	-	-	0,015	1,2	0,013	1,03
ROA	+	-	-	-	-	0,247	0,9	0,231	0,84
MB	-/+	-	-	-	-	-0,010	-1,83[#]	-0,009	-1,6[*]
Adj R- Sq		0,1507		0,1487		0,1484		0,1408	
F-stat (p value)		0,0058		0,01		0,0257		0,0378	

Panel B: Dependent variable = RD_INDEX

		Modelo 1		Modelo 2		Modelo 3		Modelo 4	
		RD_index		RD_index		RD_index		RD_index	
		Coeficient	t-stat	Coeficient	t-stat	Coeficient	t-stat	Coeficient	t-stat
intercept		1,281	0,64	2,048	0,86	1,078	0,29	1,172	0,31
BOARD	+	0,238	2,56[##]	0,240	2,56[##]	0,295	1,39[*]	0,265	1,18
%_IND_EST	+	7,069	2,06[##]	6,329	1,72[#]	8,751	1,59[*]	7,452	1,19
DUALITY	-	-1,572	-2,12[##]	-1,646	-2,18[##]	-1,717	-2,17[##]	-1,762	-2,19[##]
CCap	-	-	-	-0,580	-0,6	-	-	-0,460	-0,44
LASSET	+	-	-	-	-	-0,057	-0,12	0,022	0,04
LEV	+	-	-	-	-	0,356	0,89	0,320	0,78
ROA	+	-	-	-	-	8,056	0,89	7,744	0,85
MB	-/+	-	-	-	-	-0,327	-1,74[#]	-0,307	-1,57[*]
Adj R- Sq		0,1219		0,112		0,118		0,1051	
F-stat (p value)		0,0144		0,0287		0,051		0,0802	

BOARD = board size. %_IND_EST = proportion of independent directors on the board as estimated in the 1st stage regression. DUALITY = dummy variable (1-0) that takes value one when the ~~president~~Chairman and CEO responsibilities are concentrated in the same person. CCAP = Ownership concentration measured with a dummy variable (1-0) that takes value one when the main shareholders own more than 40% of the firm.. LASSET = logarithm of total assets. LEV = total debt to equity ratio. ROA = Return on assets. MB = *market-to-book* ratio. D_INDEX General voluntary disclosure index. RD_Index corresponds to the transformation of the D_INDEX variable in deciles. RD_Index takes values from 1 to 10.

[*] 10% significant – one-tailed T-test
[**] 5% significant – one-tailed T-test.

[#] 10% significant - two-tailed T-test
[##] 5% significant - two-tailed T-test.

*** 1% significant – one-tailed T-test.   ### 1% significant - two-tailed T-test

Anex 1
Information items

Panel A: Information categories

Category	Nº items
Historical information	10
Corporate social responsibility	3
Intangibles and intellectual capital	14
Projected information	15
Background information	17
Non financial information	7
Management analysis	5
NIC/NIIF adoption	3
Total	76

Panel B: checklist of the 76 information items related to seven areas of information

Category
Historical information
ROE - figure or growth percentage (YES/NO)
ROE - figure or growth percentage (additional information)
ROA - figure or growth percentage (YES/NO)
ROA - figure or growth percentage (additional information)
EPS - figure or growth percentage (YES/NO)
EPS - figure or growth percentage (additional information)
Sales - figure or growth percentage (YES/NO)
Sales - figure or growth percentage (additional information)
Price per share (PPS) figure or growth percentage (YES/NO)
Price per share (PPS) - figure or growth percentage (additional information)
Corporate social responsibility
GRI Indicators (YES/NO)
Description of social programmes and strategy (YES/NO)
Quantitative information on social investment (YES/NO)
Intangibles / Intellectual capital
Intellectual capital report (YES/NO)
Human capital: training programmes (YES/NO)
Human capital: training programmes (total investment)
Human capital: training programmes (number of programmes)
Human capital: training programmes (number or percentage of employees attending the training programmes)
Human capital: employee turnover (YES/NO)
Relational capital: customer loyalty index (YES/NO)
Relational capital: customer satisfaction index (YES/NO)
Structural Capital: quality certifications (YES/NO)
Structural Capital: quality certifications (number)
Structural Capital: Investment on Research (YES/NO)
Structural Capital: Investment on Research (figure)
Structural Capital: Investment on Development (YES/NO)
Structural Capital: Investment on Development (figure)

Category
Projected information
Descriptive information on projected sales (YES/NO)
Quantitative information on projected sales (YES/NO)
Quantitative information on projected sales (additional information)
Descriptive information on projected earnings (YES /NO)
Quantitative information on projected earnings (YES /NO)
Quantitative information on projected earnings (additional information)
Descriptive information on projected R&D expenditures (YES /NO)
Quantitative information on projected R&D expenditures (YES /NO)
Quantitative information on projected R&D expenditures (additional information)
Descriptive information on projected market share (YES /NO)
Quantitative information on projected market share (YES /NO)
Quantitative information on projected market share (additional information)
Descriptive information on projected cash flows (YES /NO)
Quantitative information on projected cash flows (YES /NO)
Quantitative information on projected cash flows (additional information)
Background information
Objectives – descriptive information (YES /NO)
Objectives - quantitative information (YES /NO)
Macroeconomic environment - descriptive information (YES /NO)
Macroeconomic environment - quantitative information (YES /NO)
Legal and political environment - descriptive information (YES /NO)
Legal and political environment - quantitative information (YES /NO)
Competitive environment - descriptive information (YES /NO)
Competitive environment - quantitative information (YES /NO)
Financial markets - descriptive information on the capital markets' general trend (YES/NO)
Financial markets- quantitative information on the capital markets' general trend (YES/NO)
Descriptive information on the company stock evolution on financial markets (YES/NO)
Quantitative information on the company stock evolution on financial markets (YES/NO)
Detailed information on ownership structure (YES/NO)
Information about the management stock ownership (YES/NO)
Detailed information on management remuneration (YES/NO)
Information on good corporate governance practices (YES/NO)
Information about meetings with financial analysts (YES/NO)
Non-financial information
Number of employees
Information on the company contracting policy (YES /NO)
Information on the distribution of employees by gender (YES /NO)
Information on the distribution of employees by age (YES /NO)
Information on average compensation per employee (YES/NO)
Information on number of units sold (figure or growth percentage) (YES/NO)
Information on market share (YES/NO)
Management analysis
Management analysis of changes in net sales (YES /NO)
Management analysis of changes in the level of expenditures (YES /NO)
Management analysis of changes in earnings (YES /NO
Management analysis of changes in market share (YES /NO)
Management analysis of changes in R&D expenses (YES /NO)
NIC/NIIF adoption
Descriptive information on the main effects of the adoption of NIC/NIIF (YES/NO)
Quantitative information - reconciliation - main effects of the adoption of NIC/NIIF on shareholders equity (YES/NO)
Quantitative information - reconciliation - main effects of the adoption of NIC/NIIF on earnings (YES/NO)

NOTES

[1] Verrecchia (2001) identifies three different lines of research on disclosure: "association- based disclosure", "efficiency based disclosure" and "discretionary-based disclosure".

[2] Following the publication of the Cadbury Report in the UK in 1992, the majority of the developed economics published similar Codes of Conduct related to the structure that boards of directors. 1994: Canada; 1995: Australia, France and the European Union; 1996: The Netherlands; 1997: Japan and EE.UU. ; 1998: Spain, Belgium Germany and Italy; 1999: Greece, Ireland and Portugal. 2000: Denmark. 2001: Sweden; 2002: Austria; 2003: Finland and New Zealand; 2004: Norway. The European Corporate Governance Institute offers an overview and free access to all the Corporate Governance Codes around the world. http://www.ecgi.org/codes/all_codes.php

[3] Rosenstein and Wyatt (1997, p. 235) define as gray outside directors "*family members of insiders, attorneys whose firms represent the firm, investment or commercial bankers whose firms have relationships with the firm, consultants to the firm and directors who personally or through their employers have substantial business dealings with the firm*"

[4] As Luo et al. (2007) explain, authors as Verrecchia (2001), Leuz and Verrecchia (2000) or Core (2001) suggest that due to the rich US disclosure environment, empirical studies on disclosure based on US firms are unlikely to discover substantial first order effects of voluntary disclosure on information asymmetry.

[5] As Fama and Jensen (1983) explain, the decision process has four steps: (1) *initiation*; (2) *ratification*; (3) *implementation* and (4) *monitoring*. The *initiation* and *implementation* process of decisions tend to be allocated to the same agents and can be classified under the "*decision management*" component of the organization's decision process. The *ratification* and *monitoring* of decisions can be included in the "*decision control*" component.

[6] Healy and Palepu (2001) provide a discussion on the empirical studies that examine the economic consequences of voluntary disclosure.

[7] Healy and Palepu (2001) define misvaluation as the gap between the value of the firm based on the managers' information set and on investors' information set. The gap is the result of the information asymmetry between managers and investors.

[8] External assurance can be provided by auditors, financial analyst or journalists. Internal assurance comes from the internal auditors, the audit committee and the board of directors (Mercer, 2004).

[9] The external directors' category includes gray and independent directors, that is, non-executive directors.

[10] We do not weight the related importance of the selected items to avoid subjectivity in the index computation.

[11] Hutton (2004) interviews managers at several American companies: AOL, Progressive, InterActiveCorp and Emerson Electric.

[12] Based on the CNMV (Comisión Nacional del Mercado de Valores) classification. The CNMV is the Spanish capital market regulator.

[13] Controlling or majority shareholders are those holding over 5% of the company's total shares.