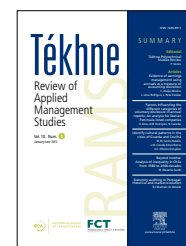


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ARTICLE

Factors influencing the different categories of voluntary disclosure in annual reports: An analysis for Iberian Peninsula listed companies

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Abstract This study examines the determinants of voluntary disclosure, and its different categories, in the annual reports of Portuguese and Spanish listed companies. We studied the relations between corporate characteristics, corporate governance variables and voluntary disclosure. We built a voluntary disclosure index based on the information firms provided in their annual reports. The results show that the score for strategy is significantly higher than for marketing and human capital. The analysis of the multiple regression models indicated that disclosure decisions are a complex process and are affected by interrelated factors. The results indicate that the main determinants of voluntary disclosure are the variables related with firm size, growth opportunities, organizational performance, board compensation and the presence of a large shareholder.

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1. Introduction

The focus of our study is examining empirically the determinants of voluntary disclosure, and its different categories, in the annual reports of Iberian Peninsula listed companies. The voluntary disclosure of information is seen in the literature as motivated, in the first place, by its effects on the capital market perception level of the value of the organizations. There are major market incentives to

disclose information voluntarily and managers' attitudes to voluntary disclosure change according to the perceived relationship of the costs and benefits involved (e.g. Gray et al., 1990; Healy & Palepu, 1995).

The agency theory, initially developed by Jensen & Meckling (1976), is based on the conflict of interest between owners (the principal) and the managers of these (the agent), in situations where there is a separation between the ownership and management or in

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situations where one person delegates a task to another or the management of certain interests. As a result of asymmetric information and interests, the principal should have reasons to not trust the agent. In this sense, certain mechanisms are put in place to align the interests of agents with those of the principal, thus reducing the possibility of information asymmetry, as well as opportunistic behaviours (ICAEW, 2005). Thus, revealing more information will result in a reduction of agency costs. According to Leventis & Weetman (2000: 5) *“a voluntary disclosure may serve as a way of reducing the adverse effects of ‘moral hazard’ and ‘adverse selection’”*. Voluntary disclosure can also strengthen the confidence of external investors in relation to management, reducing equally the costs of the agency. Several studies provided the framework for linking disclosure to corporate governance. On the corporate governance side, most of the research focuses on ownership structure and board structure (in a broad sense, governance rules). According to Denis and McConnell (2003: 2) *“the internal corporate governance mechanisms of primary interest are the board of directors and the equity ownership structure of the firm”*.

To analyse the level of voluntary disclosure we built an index through a list of items, within six categories. We employed multivariate regressions to examine the determinants of voluntary disclosure and its different categories. In our work an important aspect is the definition of *“voluntary disclosure”*. Consistently with prior definitions in different regulatory national environments (Cooke 1989b; Raffournier, 1995; Meek et al., 1995; Depoers, 2000; Allegrini & Greco, 2011), we consider voluntary disclosure as the information released to the outside deriving from management's insider knowledge of the company, which are not required to be published in regulated reports. Voluntary disclosure is, therefore, produced by a management's reporting decision (Meek et al., 1995; Healy & Palepu, 2001). We analysed the information disclosed by Iberian Peninsula non-financial listed companies, concerning the year of 2007. In this sense, we analysed the information disclosed few time after the obligation of following International Financial Reporting Standards (IFRS) as endorsed by the European Union. Furthermore, in Spain, the Unified Good Governance Code, applicable from 2007 onwards, provided a common standard for the good governance practices of all listed firms. In Portugal, the recommendations on Corporate Governance were implemented in 2001, continuing to regularly improve its legislative framework through a process of bi-annual amendments. We hope that this research and the results obtained have contributed to the perception of the practices of governance and dissemination adopted by Iberian Peninsula companies. Furthermore, the results of this study may be useful to investors, company managers, and other researchers interested in the information disclosed on the market by companies and their determining factors.

This paper is organized as follows. In the next section, section 2, we present the main arguments found in the literature for each of the developed hypotheses. The research design is described in section 3. Analysis and results are discussed in Section 4. Finally, section 5 summarizes and concludes the study.

2. The determinants of voluntary disclosure: Development of hypothesis.

2.1. Relation between ownership structure and voluntary disclosure

Eng & Mak (2003) argue that when managerial ownership is low, there is a greater agency problem, meaning that managers have greater incentives to consume shareholders wealth, and reduced incentives to maximize organizational performance. Eng & Mak (2003) also argue that monitoring by outside shareholders increases costs of the firm. However, monitoring by outside shareholders may be reduced if managers can provide voluntary disclosure. That is, voluntary disclosure is a substitute for monitoring. More recently, Baek et al. (2009) find that, for firms with low levels of managerial ownership, there is a negative relationship between the level of managerial ownership and the level of disclosure.

H_{1a}: Voluntary disclosure is negatively related to managerial ownership.

In a greater number of countries the government has a capital participation in some companies that are of strategic importance to the state. These companies are run like other private commercial enterprises, but may have to look beyond pure profit goals and consider goals related to the interests of the nation. These goals may conflict with the commercial objectives of the enterprise (Mak & Li, 2001). Eng & Mak (2003) and Wang et al. (2008) find a positive relationship between government ownership and disclosure. Because of the government's interest in these companies and the conflicting objectives faced by these firms, there may be a greater need for communication with other shareholders of the firm.

H_{1b}: Voluntary disclosure is positively related to government ownership.

In cases of ownership dispersion, investors don't have first-hand access to information, and this may lead to increased demands for organizational information that can be used to monitor management (Gelb, 2000). For Lopes & Rodrigues (2006) if a shareholder owns a large stake in a company, the dependence on public disclosure is likely to be smaller, because he can directly monitor management. Furthermore, the ownership structure may have a significant impact on the adoption of rules of good governance which, in turn, will affect corporate disclosure (Arcay & Vázquez, 2005). As suggested by Wymeersch (2002) compliance with the recommendations of codes of good governance is more difficult when a significant proportion of a firm's equity is held by a majority shareholder.

H_{1c}: Voluntary disclosure is negatively related to with a presence of a large shareholder.

2.2. Relation between directors' and supervisors' structures and voluntary disclosure

Lefwich et al. (1981) and Fama & Jensen (1983) argue that the larger the proportion of independents on the board, the more effective it will be in monitoring management acts, and companies can be expected to have more

voluntary disclosures. According to several authors, independent directors are supposed to mitigate the agency conflicts between large controlling shareholders and minority outsider shareholders (Anderson & Reeb, 2004; Park & Shin, 2004; Patelli & Prencipe, 2007). Chen & Jaggi (2000), Arcay & Vázquez (2005) and Patelli & Principe (2007) empirical results show a positive correlation between the proportion of independent directors on the board and the amount of voluntary information disclosed by the companies.

H_{2a}: Voluntary disclosure is positively related to the proportion of non-executives and independents on the board.

Vafeas (2000) argues that investors place higher value on earnings information when provided by firms with smaller boards. Some authors argue that larger boards may be beneficial because, for example, they increase the pool of expertise and resources available, namely, to monitor the managers' actions (e.g. Dalton et al., 1999). Di Pietra et al. (2008) argue that in firms with ownership concentration and high insider shareholders representation in the board, larger boards do not necessarily imply less effective governance structures. A larger board can offer "*more knowledge and expertise, as well as more capacity for monitoring and sharing the workload*" (Larmou & Vafeas, 2010, p. 62). Larger boards could better contribute to mitigate distributional conflicts among insider and minority outsider owners (Allegrini & Greco, 2011).

H_{2b}: Voluntary disclosure is related to the size of the board (with no predicting sign).

Empirical evidence indicates that voluntary disclosure is positively related to the functioning of an audit committee (e.g. Ho & Wong, 2001; Arcay & Vázquez, 2005; Allegrini & Greco, 2011). Dominance of a board by executives and insiders can deter the creation of active and independent audit committees (Klein, 1998; Méndez & García, 2007). In addition to the audit committee, firms can voluntarily establish an internal audit function. Davidson et al. (2005) argue that this function can improve the effectiveness of governance procedures. Several studies argue that the big audit firms risk damage to the value of their reputation if they are associated with clients whose reporting practices are perceived as lower quality. Hence, they encourage clients to disclose more information (Hossain et al., 1994; Raffournier, 1995; Chau & Gray, 2002; Camfferman & Cooke, 2002). Wang et al. (2008) show that the level of voluntary disclosure is positively related to the reputation of the engaged auditor.

H_{2c}: Voluntary disclosure is positively related with the existence of monitoring and control structures.

Nagar et al. (2003) argue that general stock-priced-based incentives represent an effective mean of encouraging both good and bad news disclosures. These authors report a positive association between corporate disclosure and the proportion of CEO compensation affected by stock price. Arcay & Vázquez (2005) also find that directors' stock option plans are positively related to voluntary disclosure. The study of Shleifer & Vishny (1997) pointed out that a remuneration contract with a strong benefit plan will cause management's

interest to be consistent with those of the investors. As a result, management's actions will work to benefit investors.

H_{2d}: Voluntary disclosure is positively related to management incentives.

Fama (1980) and Fama & Jensen (1983) argue that the market for directors serve as an important source of incentives for them to be good monitors because being directors of well-run companies signals value to the external market, which rewards them with additional directorships. Despite this, Shivdasani & Yermack (1999) suggest that the benefits of outside directorship may be non-linear, declining for the highest directorship levels as busy directors have less available time to monitor management properly. There is evidence for the costs associated with serving on multiple boards. These studies suggest that too many directorships may lower the effectiveness of directors as corporate monitors. In contrast, Ferris et al. (2003) claim that busy boards are as effective as non-busy boards at monitoring and find no relation between the average number of directorships held by outside directors and the firm's market-to-book ratio.

H_{2e}: Voluntary disclosure is related to management expertise (with no predicting sign).

2.3. Relation between firm characteristics and voluntary disclosure

Profitability ratios are usually used in empirical research on voluntary disclosure (Raffournier, 1995; Meek et al., 1995; Ahmed & Courtis, 1999; Ho & Wong, 2001; Camfferman & Cooke, 2002; Petersen & Plenborg, 2006). The positive relation between disclosure and firm performance is implied by theoretical models of voluntary disclosure in the face of adverse selection. According to Meek et al. (1995) companies that are performing well tend to voluntarily disclose more information. In general, these papers predict that, in the presence of disclosure costs, firms whose performance exceeds a certain threshold will disclose, while those below the threshold will not. According to Wang et al. (2008) as the firm's earnings increase, managers have incentives to supply more information to the market in order to signal quality.

H_{3a}: Voluntary disclosure is positively related to companies' performance.

A higher level of debt could lead to higher levels of agency costs, which could be eliminated by higher levels of disclosure. However, several studies support a negative relationship between the level of debt and disclosure practices, as is the case of Zarzeski (1996), Abd-El Salam & Weetman (2003). The argument is sustained by the so-called signalling factors that support that companies with high leverage ratio belong to the *bank-oriented financial system*, where capital markets are no longer seen as the main source of finance and corporate information becomes more private than public. To Jensen & Meckling (1976) companies with a high level of debt try to reduce monitoring costs by disclosing more information. Wang et al. (2008) and Allegrini & Greco (2011) predict a positive relation between debt and voluntary disclosure.

H_{3b}: Voluntary disclosure is related to the level of companies' debt (with no predicting sign).

Literature find evidence that larger firms disclose more information (e.g. Cooke, 1989a,b; Meek et al., 1995; Hossain et al., 1995; Camfferman & Cooke, 2002; Eng & Mak, 2003; Arcay & Vázquez, 2005; Wang et al., 2008; Allegrini & Greco, 2011). Also Beattie et al. (2004) find a positive relation between the size and the reporting of British companies. Hope (2003) emphasizes the need of increasing the quality of accounting information available abroad due to high demand of this information. To Jensen & Meckling (1976) large companies face greater agency costs because they require large volumes of external capital to finance their investments. Watts & Zimmerman (1990) also argue that the political costs are greater in large organizations. Consequently, large firms tend to disclose more information to reinforce confidence and to reduce such costs.

H_{3c}: Voluntary disclosure is positively related with the size of the company.

Hossain et al. (2005) argue that high growth firms need external equity to stimulate their growth and equity providers require oriented information for the estimation of equity risks. Consistent with this argument, some studies document that disclosure is associated with a lower cost of equity (Botosan, 1997; Healy et al., 1999; Lang & Lundholm, 2000; Botosan & Plumlee, 2002) and with a lower cost of debt (Sengupta, 1998), which in turn stimulates firms' growth opportunities through the availability of finance to fund their acquisition and development.

H_{3d}: Voluntary disclosure is positively related with growth opportunities.

3. Research design

3.1. Sample

Our sample consists of 140 listed firms from the Iberian Peninsula. Portugal has 38 firms included in this study, which represents 27,14% of our total sample and Spain has 102 firms included which represents 72,86%. The sample of our work consists of non-financial Iberian companies listed in the market, in the year of 2007. The consolidated accounts of the selected companies are analysed, when these companies are required to consolidate. The accounting and market data used in the research were collected from the *Thomson Datastream* database, as well as from the analysis of reports and accounts of the companies and the information disclosed by companies in their official sites.

3.2. Construction of the disclosure Index

The disclosure index is based on the information firms provide in their annual reports to shareholders. The index is similar to that in Eng & Teo (1999), Eng et al. (2001), Eng & Mak (2003) and Peterson & Plenborg (2006). The design of the index is inspired by earlier studies and reports as, for example, Botosan (1997),¹ AICPA (1994), the PwC Value Reporting (1999)

and CICA (2008). Common to these studies is that they focus on investors' needs. Our disclosure index is based on the following six categories: strategy, market and competition, management and production, marketing, future perspective and human capital. A scoresheet was designed for scoring firms on the amount and the level of detail of disclosures. A total of 60 indicators within the six groups have been identified (see Appendix A). We read the annual reports of 2007 for the sample firms and assessed each annual report on the six disclosure categories. The disclosure index is unweighted as it assumes that each indicator of each disclosure category is equally important (Gray et al., 1995). Despite that, we use a scale, of zero to two, to score the level of detail of the information disclosed about each indicator inside the six categories. The firms' score was zero if the company did not disclose anything about that indicator, the score was one if the company has disclosure without detail and, finally, the score was 2 if the company disclosure has detail. We proceed to the validation of our voluntary disclosure index, following Botosan (1997), based on the following points: comparison with similar studies using voluntary disclosure indexes; positive statistically significant correlations between the number of analysts and the voluntary disclosure scores; an accepted value for the Cronbach's alpha coefficient; and similar results with previous studies of the correlation between the voluntary disclosure level and firm characteristics.

4. Analysis and results

4.1. Descriptive statistics

In Table 1 we show the descriptive statistics of the continuous variables, in Table 2 of the dichotomous variables and in Table 3 of the disclosure variables. Descriptive statistics of the continuous variables show that companies in our study are widely distributed regarding to corporate size. The results show us that the part of the remuneration that is not fixed present a mean of 46% of the total board remuneration. The average board has approximately 10 members and includes a mean of 67% of non-executives, but only 26% are considered independent². In our sample, 4 is the average number of other societies in which board members exercise management functions.

The analysis of ownership structure through the continuous variables showed us that the proportion of shares owned by the state have a low average of 0.8%, being the biggest participation in 32% of the company's shares.

1. Botosan (1997) provide a discussion about the advantages and disadvantages of using AIRM disclosure index versus a self constructed disclosure index.

2. Anderson et al. (2004) reported, for a sample of US firms from 1993 to 1998, approximately 12 directors, 57% of whom were independent. Asbaugh-Skaife et al. (2006), who study US firms in 2002, reported a mean of 10 board members and 70% of independent directors. In contrast, Morales et al. (2010) also reported a average board of 10 members but only 29.64% of independent directors, for a sample of Spanish non-financial listed firms during 2004-2007. CMVM (2008) reported, for Portuguese listed companies in the year of 2007, 19.2% of independents members on the board. CNMV (2008) reported, for Spanish listed companies in the year of 2007, 28.32% of independents. These data confirm that low independence is a predominant characteristic of Iberian Peninsula listed companies.

Table 1 Continuous variables.

	N	Mean	Std.Dev.	Min	Max
INDEP	140	0.262	0.187	0.000	0.750
NONEXEC	140	0.674	0.261	0.000	1.000
BNUMBER	140	10.057	4.001	3.000	22.000
BSIZE	140	0.476	0.162	0.152	0.944
EXPERTISE	140	4.107	4.619	0.000	25.000
PERFOR 1	135	0.056	0.058	-0.195	0.233
ASSETS	140	5.743	1.423	26	105.873
FSIZE	140	20.778	1.851	17.085	25.386
LEVERAGE	140	0.298	0.188	0.000	0.822
PER	133	25.940	26.094	2.070	170.000
CAPSTATE	140	0.008	0.045	0.000	0.327
MAINSHARE	138	0.390	0.246	0.050	0.993
DIRCAP	130	0.230	0.264	0.000	0.993
CONTROLINDEX	140	0.680	0.198	0.200	1.000
DIRCOMP	140	0.460	0.292	0.000	1.000

INDEP is the number of independent members of the board divided by the total number of members; NONEXEC is the number of non-executive members of the board divided by the total number of members; BNUMBER is the number of members of the board; BSIZE is the number of members of the board divided by the natural logarithm of total assets; EXPERTISE is the average number of other societies in which board members exercise management functions; PERFOR1 is the earnings before interests and taxes divided by year-end total assets; ASSETS is the total assets (millions of Euros); FSIZE is the natural logarithm of total assets; LEVERAGE is the long term liabilities divided by total assets; PER is the year-end price of ordinary shares divided by earnings per share; CAPSTATE is the proportion of the shares of the company own by the state; MAINSHARE is the proportion of the shares of the company own by the biggest shareholder; DIRCAP is the proportion of capital owned by the board; CONTROLINDEX is the firm's individual score on monitoring and control issues divided by the total score (5 indicators: Corporate governance commission, Big 4, Internal audit, Audit committee and Remuneration committee); DIRCOMP is the proportion of directors' remuneration that is not fixed.

Table 2 Dichotomous variables.

	N	% (0)	% (1)
BIG4	140	12.90	87.10
AUDCOM	140	17.10	82.90
REMCOM	140	7.90	92.10
INTAUD	140	35.00	65.00
CORPGOVCOM	140	87.10	12.90

BIG4 is a binary variable which took the value of 1 for Big 4 audit firms and 0 for non-big 4 audit firms; AUDCOM is a binary variable which took the value of 1 if a audit committee exists and 0 if otherwise; REMCOM is a binary variable which took the value of 1 if a remuneration committee exists and 0 if otherwise; INTAUD is a binary variable which took the value of 1 if a internal audit function exists and 0 if otherwise; CORPGOVCOM is a binary variable which took the value of 1 if a corporate governance commission exists and 0 if otherwise.

The mean level of ownership concentration, studied by the proportion of the shares of the company owned by the biggest shareholder, is 39%, with a minimum of 5% and a maximum of 99%. The management ownership has a mean of 23%, but it is also widely distributed. By the analysis of the dichotomous variables we can conclude that the majority of companies in our study have an audit committee, a remuneration committee, an internal audit function and have one of the Big 4 external auditors. Otherwise, the majority of companies don't have a corporate governance commission.

The score for strategy and management and production categories is significantly higher than that for marketing and human capital categories. The score for strategy is the highest score, suggesting that management considers strategy information an important issue.

Our results are consistent with the work of Meek et al. (1995). The authors analysed the factors influencing voluntary annual report disclosures by United States, United Kingdom and Continental European multinational companies. They concluded that the disclosure of strategic information seems to reflect national or regional influences. Specifically, Continental European companies voluntarily disclose more of this type of information than either American or British companies. The authors refer that, in general, the measurement practices in most Continental European countries are conservative and often tax-determined. In this sense, Meek et al. (1995, p. 566) argue that "*perhaps these companies view disclosures of strategic information as a way to overcome a conservative bias in their measurement practices*". Also Domínguez et al. (2010) state that, within the information voluntarily disclosed by companies, strategic stands out. In this sense, we can state that this information can be distinguished by its capacity to differentiate the companies that act on the market. Marketing is the category with the lowest score.

4.2. Multiple regression analysis

We studied the determinants of voluntary disclosure using, firstly, the total voluntary disclosure index as the dependent variable and, secondly, we made the same analysis using

Table 3 Disclosure variables.

	N	Mean	Std.Dev.	Min	Max
INDTOTAL	140	0.470	0.152	0.109	0.850
INDMARK	140	0.315	0.235	0.000	0.929
INDSTRA	140	0.672	0.190	0.133	1.000
INDCOMP	140	0.369	0.164	0.045	0.727
INDMANAG	140	0.577	0.197	0.182	1.000
INDFUT	140	0.383	0.180	0.000	0.813
INDHCAP	140	0.353	0.254	0.000	1.000

INDTOTAL is the firm's individual disclosure total score on the 60 indicators; INDMARK is the proportion of the firm's individual disclosure score on marketing issues to the maximum possible score applied in those issues (7 indicators); INDSTRA is the proportion of the firm's individual disclosure score on strategic issues to the maximum possible score applied in those issues (15 indicators); INDCOMP is the proportion of the firm's individual disclosure score on market and competition issues to the maximum possible score applied in those issues (11 indicators); INDMANAG is the proportion of the firm's individual disclosure score on management and production issues to the maximum possible score applied in those issues (11 indicators); INDFUT is the proportion of the firm's individual disclosure score on future perspective issues to the maximum possible score applied in those issues (8 indicators); INDHCAP is the proportion of the firm's individual disclosure score on human capital issues to the maximum possible score applied in those issues (8 indicators).

the six categories of the voluntary disclosure index. In the estimation of the model we used the method *Enter* (*Standard Multiple Regression*) through the SPSS 17.0.

4.2.1. Dependent variable: Total voluntary disclosure index

4.2.1.1. Model 1

This model pretends to explain the impact of variables related with firm characteristics, such as firm size, performance, leverage and growth opportunities. Table 4 present the regression results.

$$\text{INDTOTAL} = \beta_0 + \beta_1 \text{FSIZE} + \beta_2 \text{PERFOR1} + \beta_3 \text{PER} + \beta_4 \text{LEVERAGE} + \varepsilon \quad \text{Eq. (1)}$$

The hypothesis H_{3a} predicted a positive relation between companies' performance and voluntary disclosure. Our result supports the previous hypothesis. This result suggests that companies that are performing well tend to voluntarily disclose more information. The positive statistical significant relation between organizational performance and the voluntary disclosure index also corroborate the argument of Meek et al. (1995) and of Petersen & Plenborg (2006). Also according to Wang et al. (2008) as the firm's earnings increase, managers have incentives to supply more information to the market in order to signal quality.

On the other hand, voluntary disclosure helps investors to differentiate the high quality stocks. Furthermore, we can also analyse this result in light of the legitimacy theory. In this sense, companies with good performance feel persuaded

Table 4 Regression results, Model 1.

	Pred. Sign	Stand. Coef. (β)	t-stat.
Constant		-0.083***	-6.135
FSIZE	+	0.746***	8.594
PERFOR1	+	0.227***	3.177
PER	+	0.129*	1.824
LEVERAGE	+ / -	-0.082	-0.942
R ²		0.522	
R Adjusted		0.505	
F-statistic		31.121***	
Durbin-Watson (3)		2.053	

*Significant at $0.05 < p \leq 0.10$; **significant at $0.01 < p \leq 0.05$; ***significant at $p \leq 0.01$

by the social contract to perform voluntary reporting of their activities and results. According to the signalling theory, it was expected that managers of companies that are performing well disclose more information about their present situation, in order to send signs to the market about the quality of the companies they manage.

The hypothesis H_{3c} predicted a positive relation between companies' size and voluntary disclosure. Our result supports the previous hypothesis. The firm size has been found to be significantly and positively correlated with disclosure level in a number of studies, suggesting that larger companies disclose more information, either mandatory or voluntary, than smaller companies (Cooke 1989 a, b; Meek et al., 1995; Hossain et al., 1995; Camfferman & Cooke, 2002; Ho & Wong, 2001; Eng & Mak, 2003; Wang et al., 2008; Allegrini & Greco, 2011). The argument rely on the fact large firms tend to have more voluntary disclosure because they need more financing capital than smaller firms. Furthermore, large firms are closely watched by investors and have the ability to absorb extra costs for broader disclosure. This positive statistical significant result between the firm size and the voluntary disclosure can be also explained by the fact that larger firms make a more extensive use of the capital markets and have a greater number of analysts following them (Lang & Lundholm, 1993). These facts make the companies willing to provide more information to the market. Also the agency theory suggests that larger firms will have higher agency costs compared to smaller firms which require them to voluntarily disclose more information to mitigate this agency problem (Jensen & Meckling, 1976). The extent of the result also shows that the firm size can be considered a major determinant of voluntary disclosure. Also Arcay & Vázquez (2005, p. 323) state that their findings "*reveal that corporate size is a significant determinant of corporate disclosure*". Furthermore, this result also shows that companies are worried about their legitimacy. Companies that feel more observed tend to increase the level of disclosure to keep their reputation and ensure their survival.

The hypothesis H_{3d} predicted a positive relation between companies' growth opportunities and voluntary disclosure. Our result supports the previous hypothesis. For a company

with growth opportunities, mandated disclosure might be insufficiently to produce low information asymmetry. These companies need external finance and, generally, have high litigation, and proprietary costs. In this sense, these companies will improve their voluntary disclosure of information. Furthermore, according to the signalling theory, companies will disclose information in order to send signs to the market. Finally, the hypothesis H_{3b} predicted a relation between companies' debt and voluntary disclosure (with no predicted sign). Our result doesn't support the previous hypothesis. The level of debt does not provide an explanation for the level of voluntary disclosure. Our result is similar to Raffournier (1995), Wang et al. (2008) and Allegrini & Greco (2011). This result is not very surprising as evidence from earlier studies is mixed.

4.2.1.2. Model 2

The second version of the model incorporates explanatory variables associated to ownership structure. This model intends to measure the impact of variables such as management ownership, state ownership and the presence of a large shareholder. Table 5 present the regression results.

$$\text{INDTOTAL} = \beta_0 + \beta_1 \text{FSIZE} + \beta_2 \text{PERFOR1} + \beta_3 \text{PER} + \beta_4 \text{LEVERAGE} + \beta_5 \text{DIRCAP} + \beta_6 \text{CAPSTATE} + \beta_7 \text{MAINSHARE} + \varepsilon \quad \text{Eq. (2)}$$

The hypothesis H_{1c} predicted a negative relation between the presence of a large shareholder and voluntary disclosure. Our result supports the previous hypothesis. There is a negative statistical significant (at 0,01 level) association between the level of voluntary disclosure and the presence of a large shareholder (-0,180). In the presence of a large shareholder, the owner has significant involvement in the firm's management and has unlimited access to information. This fact restrains the voluntary disclosure of information to outside.

Table 5 Regression results, Model 2.

	Pred. Sign	Stand. Coef. (β)	t-stat.
Constant		-0.781***	-5.486
FSIZE	+	0.733***	8.249
PERFOR1	+	0.243***	3.312
PER	+	0.076	1.053
LEVERAGE	+ / -	-0.037	-0.419
DIRCAP	-	-0.003	-0.049
CAPSTATE	+	0.006	0.095
MAINSHARE	-	-0.180***	-2.637
<hr/>			
R ²		0.558	
RAdjusted		0.528	
F-statistic		18.428***	
Durbin-Watson		1.969	

*Significant at $0.05 < p \leq 0.10$; **significant at $0.01 < p \leq 0.05$; ***significant at $p \leq 0.01$

Our result is also consistent with the result achieved by Arcay & Vázquez (2005) for spanish companies. Their findings showed that the highest mean disclosure index corresponds to firms with widely dispersed ownership.

The hypothesis H_{1a} predicted a negative relation between managerial ownership and voluntary disclosure. Our result doesn't support the previous hypothesis. The relation of voluntary disclosure and management ownership is statistically non-significant, but revealed the expected negative sign. The hypothesis H_{1b} predicted a positive relation between government ownership and voluntary disclosure. Our result doesn't support the previous hypothesis. The relation is statistically non-significant, but also with the expected positive sign. As we can see, despite the statistical non-significance, the signs are in line with the predicted hypotheses and with previous findings. For example, Eng & Mak (2003) find that lower managerial ownership and significant government ownership are associated with increased disclosure. Despite this, in both cases, our results show that the beta coefficients are very near to zero, which give us the idea that neither of this variables have a relevant influence in what concerns to corporate disclosure decisions for Iberian Peninsula listed companies. In fact, Leech & Manjón (2002, p. 164) state that, in Spain, "*the typically highly concentrated ownership is the central ingredient in corporate governance practices, namely the disclosure ones*". A similar conclusion can be taken for Iberian Peninsula companies, having in account the results presented for the variables of ownership structure.

4.2.1.3. Model 3

The third version of the model incorporates explanatory variables associated to directors' and supervisors' structures. In this sense, regression equation³ introduces variables such as the proportion of independent directors on the board, size of the board, board compensation, board expertise and existence of monitoring and control structures. In Table 6 we present the regressions results.

$$\text{INDTOTAL} = \beta_0 + \beta_1 \text{FSIZE} + \beta_2 \text{PERFOR1} + \beta_3 \text{PER} + \beta_4 \text{LEVERAGE} + \beta_5 \text{DIRCAP} + \beta_6 \text{CAPSTATE} + \beta_7 \text{MAINSHARE} + \beta_8 \text{INDEP} + \beta_9 \text{BSIZE} + \beta_{10} \text{DIRCOMP} + \beta_{11} \text{EXPERTISE} + \beta_{12} \text{CONTROLINDEX} + \varepsilon \quad \text{Eq. (3)}$$

The hypothesis H_{2d} predicted a positive relation between management incentives and voluntary disclosure. Our result supports the hypothesis H_{2d} . We find a positive statistical significant relation ($p < 0,05$) between the variable DIRCOMP, measured by the proportion of directors' remuneration that is not fixed and the voluntary disclosure index. This result supports the association between management incentives and voluntary disclosure practices by Iberian Peninsula companies. Arcay & Vázquez (2005) found a similar result for Spanish companies. The authors showed that the mean disclosure index is significantly higher for companies that have established a stock option plan as a mean of director remuneration.

3. Durbin Watson test analyse if the residuals are independent (with values near 2 autocorrelation of residue don't exist).

Table 6 Regression results, Model 2.

	Pred. Sign	Stand. Coef. (β)	t-stat.
Constant		-0.845***	-5.460
FSIZE	+	0.743***	6.703
PERFOR1	+	0.245***	3.267
PER	+	0.129*	1.834
LEVERAGE	+ / -	-0.054	-0.446
DIRCAP	-	0.017	0.257
CAPSTATE	+	0.013	0.191
MAINSHARE	-	-0.201***	-2.665
INDEP	+	0.041	0.542
NONEXEC	+		
BSIZE	+ / -	0.038	0.438
DIRCOMP	+	0.143**	2.049
EXPERTISE	+ / -	-0.109	-1.436
CONTROLINDEX	+	0.018	0.209
R ²			0.591
RAdjusted			0.539
F-statistic			11.426***
Durbin-Watson			1.958

*Significant at $0.05 < p \leq 0.10$; **significant at $0.01 < p \leq 0.05$;
***significant at $p \leq 0.01$.

We do not find a statistical significant association between board independence, board size or the existence of monitoring structures and the voluntary disclosure index, but the coefficients are positive. In this sense, our results don't support the hypotheses H_{2a} , H_{2b} , H_{2c} . Maybe the most surprising result is the one related to board independence, presented as one of the main flags of the new philosophy of transparency and rigour of the information disclosed by listed companies. The true is that literature provides us with mixed results. For example, Lopes & Rodrigues (2006), when analysing the determinants of disclosure level in the accounting for financial instruments of Portuguese listed companies, find no relation between the proportion of independent directors and disclosure. However, the work of Arcay & Vázquez (2005), for Spanish companies, showed that the disclosure index is significantly higher for companies with higher proportion of independent directors on the board.

The board expertise, with a negative sign, did not show statistical significance. So, our result doesn't support the hypotheses H_{2e} . The statistical non-significance may be, in part, consistent with the claim of Ferris et al. (2003) that busy boards are as effective as non-busy boards at monitoring, but the negative sign is not consistent with the previous correlations' results.

The value obtained for the R square of the model 3 was 0.591. This tells us how much of the variance in the dependent variable (total voluntary disclosure index) is explained by the model. Given these results, we conclude that the variables considered in the model largely explain the voluntary disclosure of companies.

4.2.2. Dependent variable: Category of voluntary disclosure index

Table 7 provides the results of the regression models for each category. A first analysis allows us to conclude that we have less statistical significant determinants for each voluntary disclosure category than the ones resulting from the previous analysis of the total voluntary disclosure score. These determinants are also related with board compensation, ownership concentration, firm size, growth opportunities and organizational performance.

The firm size shows a positive statistical significant relation with all the categories of voluntary disclosure. As noted by Foster (1986, p. 44) "*the variable most consistently reported as significant in studies examining differences across firms in their disclosure policy is firm size*". This result confirms that firm size is significantly related to the level of information voluntarily disclosed by listed Iberian Peninsula companies. Growth opportunities show a positive statistical significant relation with the disclosure of information about market and competition (0.203) and about management and production (0.176). Organizational performance shows a positive statistical significant relation with all the voluntary disclosure categories, exception made to the future perspective category. This last category presents no more than the firm size as the major determinant. The presence of a large shareholder shows a negative statistical significant relation with the disclosure of information on strategy category (-0.159), management and production (-0.187), on marketing category (-0.291) and on human capital category (-0.191).

Finally, an interesting result is the positive statistical significant relation between the board compensation and the disclosure of information on marketing category (0.207) and human capital category (0.136). Nagar et al. (2003) argue that stock price-based incentives reduce managerial reluctance to disclose private information. Their results suggest that stock price-based compensation plays a role in providing managers with an incentive to improve price informativeness through disclosure.

5. Concluding remarks

We empirically examined the determinants of voluntary disclosure, and its different categories, on the annual reports of Iberian Peninsula listed companies. The results indicate that the main determinants of voluntary disclosure are the variables related with firm size, growth opportunities, organizational performance, board compensation and the presence of a large shareholder. The extent of the result showed that the firm size can be considered a major determinant of voluntary disclosure. We also found a negative association between the level of voluntary disclosure and the presence of a large shareholder in Iberian Peninsula companies. In an agency setting featured by ownership concentration, large insider shareholder take advantage of the benefits of private control and has direct access to information. Our results show that this characteristic of the Iberian Peninsula ownership structure have a significant impact on the adoption of rules of good governance which, in turn, affect the corporate disclosure. Compensating board members

Table 7 Regression results using each category of voluntary disclosure.

Dependent variable	Marketing (INDMARK)	Strategy (INDSTRA)	Market and competition (INDCOMP)	Management and production (INDMANAG)	Future perspective (INDFUT)	Human capital (INDHCAP)
Constant	-1.394***	-0.715***	-0.692***	-0.256	-0.729***	-1.440***
FSIZE	0.575*** (4.541)	0.696*** (5.707)	0.530*** (3.708)	0.293** (2.010)	0.528*** (3.716)	0.616*** (5.002)
PERFOR1	0.147* (1.711)	0.224*** (2.699)	0.180* (1.851)	0.209* (2.112)	0.118 (1.221)	0.185** (2.214)
PER	0.095 (1.107)	0.102 (1.235)	0.203** (2.102)	0.176* (1.791)	0.030 (0.309)	-0.032 (-0.380)
LEVERAGE	-0.113 (-1.077)	-0.049 (-0.483)	-0.008 (-0.069)	-0.056 (-0.461)	0.055 (0.467)	-0.014 (-0.139)
DIRCAP	0.106 (1.358)	-0.045 (-0.601)	-0.002 (-0.018)	0.042 (0.469)	-0.086 (-0.980)	0.083 (1.090)
CAPSTATE	0.055 (0.674)	0.003 (0.043)	0.089 (0.967)	0.133 (1.414)	0.073 (0.797)	0.050 (0.632)
MAINSHARE	-0.291*** (-3.320)	-0.159** (-1.888)	-0.039 (-0.396)	-0.187** (-1.861)	-0.021 (-0.210)	-0.191** (-2.242)
INDEP	0.000 (0.000)	0.058 (0.682)	0.004 (0.040)	0.069 (0.684)	-0.040 (-0.407)	0.068 (0.796)
BSIZE	0.001 (0.003)	-0.014 (-0.143)	0.055 (0.481)	0.172 (1.468)	-0.072 (-0.631)	0.061 (0.617)
DIRCOMP	0.207** (2.551)	0.096 (1.231)	0.123 (1.346)	0.097 (1.038)	0.001 (0.008)	0.136* (1.729)
EXPERTISE	-0.023 (-0.266)	-0.139 (-1.630)	-0.107 (-1.072)	-0.102 (-0.998)	-0.073 (-0.719)	-0.039 (-0.458)
CONTROLINDEX	0.136 (1.355)	0.018 (0.018)	0.008 (0.072)	0.035 (0.302)	0.065 (0.577)	-0.111 (-1.138)
R ²	0.446	0.486	0.293	0.266	0.303	0.475
RAdjusted	0.376	0.421	0.204	0.174	0.214	0.409
F-statistic	6.373***	7.480***	3.285***	2.872***	3.435***	7.171***
Durbin- Watson	1.803	2.009	2.141	1.978	1.913	1.832

*Significant at $0.05 < p \leq 0.10$; **significant at $0.01 < p \leq 0.05$; ***significant at $p \leq 0.01$. Test statistic below.

by aligning their interests with the firm's performance suggest that the linkage of management compensation to performance results in a transfer of risk to management and acts as an impeditive of opportunistic behaviour. We plotted several multiple regressions using as the dependent variable each one of the six categories of the voluntary disclosure index and concluded that we have less statistical significant determinants for each voluntary disclosure category than the ones resulting from the previous analysis of the total voluntary disclosure score. Despite this, in general, we have the same major corporate governance determinants. An interesting result was the positive relation between the board compensation and the disclosure of information on marketing category and human capital category.

Our results highlight the importance of corporate disclosures under concentrated ownership structures. The results in our study are consistent with the agency theory explanation of the complementary relationship between governance rules and voluntary disclosure, in a setting featured by large controlling shareholders. We hope that this research has contributed to draw conclusions on

voluntary disclosure practices, adopted by Iberian Peninsula listed companies and the determinants of these practices. Furthermore, most of the previous research studied the effect of one single corporate governance attribute and very few of them examined different governance attributes in a single study. In this study we examined, simultaneously, several corporate governance mechanisms, assuming that the different mechanisms interact with each other.

Our voluntary disclosure index was based on the information provided by the firms in their annual reports or in public websites. As a result any disclosures those firms provided in analysts meetings, conference calls and in other circumstances are not included in the final result of our index. We analysed the corporate governance determinants of voluntary disclosure and we are aware of the existence of other factors that can have influence and that were not included in the model. For future work it would be interesting to explore the interactions among the several information sources, namely the relations between firm's voluntary disclosure policies, mandatory disclosure requirements and the information produced by analysts.

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Appendix A List of items.	
Category	Voluntary disclosure items
Strategy 15 items	General presentation of the company's strategy Main corporate goals or objectives Main actions taken to achieve the corporate goals Definition of the deadline for each corporate goal Corporate position related to ethic/social questions Corporate position related to environment issues Detailed segment/unit performance Evaluation of the commercial risk Evaluation of the financial risk Evaluation of other risks Corporate I&D/Innovation policy Organizational Culture Main events of the current year Information about analysts Other important strategic information
Market and Competition 11 items	Identification of the principal markets Specific characteristics of these markets Dimension of the markets Identification of the main competitors Market shares Forecast of market growth Forecast of share market growth Impact of competition on profits Identification of markets' barriers to entry Impact of markets barriers to entry on future profits Impact of competition on future profits
Management and Production 11 items	Identification of the principal products/services Specific characteristics of these products/services Proposal for new products/services Changes in production/services methods Investment in production/services Norms of the quality of the product/service Rejection/defect rates (when applicable) Input/output rates (when applicable) Volume of materials consumed (when applicable) Change in product materials (when applicable) Life cycle of the product (when applicable)
Future perspective 8 items	Result application proposal New action/initiative/event Forecasts of sales/results/cash flows Investment forecasts Return rates for each investment project Hypothesis considered in forecast Dividend policy Macroeconomic background
Marketing 7 items	Disclosure of marketing strategy Disclosure of sales strategy Disclosure of distribution channels Disclosure of sales and marketing costs Disclosure of brand equity/visibility ratings Disclosure of the customer satisfaction level Disclosure of <i>customer mix</i>
Human capital 8 items	Description of workforce Description of the remuneration/ compensation system Qualification policy of workers Value created by worker Employee retention rates Productivity indicators Strategies to measure human capital Other measures of Human capital