ANALYSIS OF THE DETERMINANTS OF DISCLOSURE PRACTICES IN THE ACCOUNTING FOR FINANCIAL INSTRUMENTS

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ABSTRACT

In this paper we analyse the determinants of disclosure level in the accounting for financial instruments of Portuguese listed companies. Considering the mandatory adoption of International Accounting Standards after 2005, our ultimate objective is to analyse the characteristics of companies that are closest to the requirements of IAS 32 and IAS 39. We have constructed an index of disclosure and computed the index score for each Portuguese listed company. We tested the relation between the index score and several firm-specific characteristics. We argue that the agency, the signalling and the political costs theories do not fully explain Portuguese reality, where there is a large degree of family ownership and bank-oriented financing policies. We therefore advocate that introducing variables related to specific characteristics of Portuguese companies and managers, in the context of other theoretical frameworks, notably the contingency theory, brings important insights to this type of analysis.

KEY WORDS: Accounting for financial instruments, Firm-specific characteristics, International Accounting, IAS, Portugal

1. Introduction

This research analyses the determinants of disclosure practices in the accounting for financial instruments by Portuguese listed companies. Considering the mandatory adoption of International Accounting Standards after 2005 by listed companies, our ultimate objective is to analyse the characteristics of companies that are closest to the disclosure requirements of the International Accounting Standards related to financial instruments – IAS 32 and IAS 39.

There are several theories that help us to develop hypotheses on the determinants of accounting practices: the positive accounting theory (Leftwich, Watts and Zimmerman (1981) and Watts and Zimmerman (1978)), the signalling theory (Ross (1977)), and legitimacy and institutional theory. These theories are the background of several accounting studies on determinants of accounting choice and disclosure.

Our main research questions are:

Do theories on disclosure and accounting choice apply to the Portuguese listed companies?
What are the factors that most influence disclosure practices in Portuguese companies?
What will 2005 really mean for Portuguese companies?

In order to address these questions, and based on background theories, prior empirical research and the data collected by the content analysis of companies' annual reports, we have developed several hypotheses relating to firm-specific characteristics that may explain disclosure practices by companies.

The remainder of the paper is organised as follows. Section 2 presents previous literature related to the determinants of disclosure and compliance. Section 3 provides a brief regulatory background. Section 4 describes the theoretical background and the development of the hypotheses. In Section 5 the research design is explained, which includes a description of the dependent and the independent variables, the sample selection process and the sample characteristics. Section 6 gives the main statistical results while Section 7 discusses the research results and draws some conclusions.

2. PREVIOUS LITERATURE

Healy and Palepu (2001) describe the theoretical background to the demand for disclosure (agency conflicts and information asymmetry) and review the empirical disclosure literature. They divide it into four categories: the role of disclosure regulation in reducing information and agency problems; the effectiveness of auditors and information intermediaries; factors affecting decisions by managers on financial reporting and disclosures; and the economic consequences of disclosures. The most relevant category to our study is the one that tries to explain managers' decisions, which has two main areas: (1) focusing on managers' accounting decisions based on the positive theory of accounting and (2) focusing on management disclosure decisions (voluntary disclosure literature, which is complementary to the first one).

Accounting research on the determinants of disclosure practices and other accounting choices based on firm characteristics is a very extensive field. In this literature review, we concentrated on the studies that have addressed the International Accounting Standards or the accounting for financial instruments[73]. We split this more specific area of research into two groups of empirical studies: one that is focused on the adoption of IAS in which the dependent variable is a dummy variable (type of adopter/non-adopter), and another that tries to quantify the extent of compliance with a single (or a group of) standard(s) and analyse its determinants using disclosure indices.

The first studies include Cuijpers, Buijink and Maijoor (2002), Ashbaugh (2001), Murphy (1999), El-Gazzar, Finn and Jacob (1999) and Dumontier and Raffournier (1998). The second group includes Chalmers and Godfrey (2004), Glaum and Street (2003), Street and Bryant (2000), Street and Gray (2001), Abd-Elsalam and Weetman (2003) and Tower, Hancock and Taplin (1999). This paper falls into the second group of studies, since we are developing a disclosure index based on the requirements of IAS 32 and 39.

Table 1 summarises these studies, showing the type of statistical analysis conducted, the explanatory variables adopted and the empirical results.

[73] There are several other studies that, although they have addressed the determinants of disclosure in general (not specifically related to IAS or financial instruments), nevertheless bring insights to our research, especially regarding the choice and measurement of explicative and dependent variables. We refer to some recent studies: Chen and Jaggi (2000)– Hong Kong; Eng and Mak (2003) - Singapore; Cooke (1989)- Sweden, Cooke (1993)- Japan; Hossain, Tan and Adams (1994) – Malaysia; Wallace and Naser (1994)– Spain; Wallace and Naser (1995)– Hong Kong; Gibbins, Richardson and Waterhouse (1990); Frost and Pownall (1994); Gray, Meek and Roberts (1995)– US and UK; Meek and Roberts (1995)– US, UK and Continental Europe; Inchausti (1997) – Spain; Raffournier (1995) – Switzerland; Watson, Shrives and Marston (2002) - UK.
Ahmed and Courtis (1999) paper is a very extensive literature review, which includes several early accounting studies on the determinants (firm's characteristics) of disclosure. It gives a thorough description of each study with respect to sample country, firms and time period, dependent variable(s), independent variables and results.

3. REGULATORY BACKGROUND

In this section we describe briefly the accounting for financial instruments rules in Portugal, highlighting the main differences relative to IAS 32 and 39[74].

Regarding measurement criteria, in non-financial companies, on-balance sheet financial instruments should be measured at cost value (or market value if it is lower). Futures contracts used in trading operations are measured at fair value. The other off-balance sheet financial instruments are not covered by specific accounting rules. This gap is covered by Accounting Directive 18, which establishes compliance with IAS whenever Portuguese standards are not available. So, it may be expected that companies are already adopting some IAS requirements in their accounting for financial instruments.

In financial companies, fair value should be applied to trading securities and to FRAs, futures, options and swaps when used in trading operations. Changes in the fair value should be registered in profits and losses in the period in which they occur. For operations that qualify for hedge accounting, the profits and losses of the hedging instruments and the hedged instruments are registered simultaneously, and the measurement criterion of the hedged position prevails. Regarding disclosure, the list of requirements is already quite demanding, particularly regarding derivatives adoption.

4. THEORETICAL BACKGROUND AND HYPOTHESES DEVELOPMENT

Given the Portuguese regulatory background described above, and bearing in mind that the European Union has been stating its goal of accounting harmonization within the member states since 2000 (through the proposed Regulation[75], requiring all listed companies to prepare their consolidated financial statements based on IAS), it is possible to analyse which companies are already anticipating IAS requirements, especially with respect to financial instruments' disclosure items. Since we are determining if companies are increasing the extent of their disclosures, the theoretical background is provided by voluntary disclosure theories. Verrecchia (2001) paper extensively reviews and categorizes theoretical accounting literature on disclosure in order to develop a theory of disclosure by companies. He concludes that asymmetry reduction is one potential starting point for a comprehensive theory of disclosure.

We argue that there is no single theory of voluntary disclosure. Instead, there are several theories that explain voluntary disclosure by companies: agency theory, political costs theory, signalling theory, legitimacy and institutional theory, proprietary costs theory and contingency theory. These theories have been widely used in a number of empirical studies on the determinants of voluntary disclosure. It has been shown empirically that voluntary disclosure is a complex function of several factors: it depends on both firm-specific factors (internal factors), and external factors, related to the environmental context of the firm, which include culture, legal system, institutional background, among others. Next we review each of these theories and present some recent empirical voluntary disclosure studies.

[74] We have followed the 2000 versions of IAS 32 and 39 because these were the versions operative for financial statements in 2001 (the year of our empirical study).
[75] Now Regulation 1606/2002.

Agency theory
The positive accounting theory (Leftwich, Watts and Zimmerman (1981) and Watts and Zimmerman (1978)) uses agency arguments (Jensen and Meckling (1976)) to develop studies on the role of financial accounting in contractual relationships between managers and shareholders. This theory provides hypotheses for testing in empirical studies on accounting method choices and voluntary disclosures. Watts and Zimmerman (1990) state that contracting costs (a wide range of costs that include, besides agency costs, other contractual costs, such as transactions costs, information costs, renegotiation costs and bankruptcy costs) are crucial to models of accounting choice.

According to this theory, accounting information can be seen as the basis for establishing contracts and for controlling these contracts.
It is possible to find several empirical studies of voluntary disclosure that are based on agency arguments. See, for example, Cooke (1989), Cooke (1993), Gray, Meek and Roberts (1995),Raffournier (1995), Inchausti (1997), Watson, Shrives and Marston (2002), Haniffa and Cooke (2002), Eng and Mak (2003).

Political costs theory
Positive accounting theory also supports the existence of political costs as an explanation for more disclosure. Companies that are politically visible and subject to high political costs are expected to disclose more information. Watts and Zimmerman (1978) argue that the magnitude of political costs is highly dependent on firm size. Size is a proxy variable for political attention. This hypothesis predicts that large firms rather than small firms are likely to use accounting choices that reduce reported profits (Watts and Zimmerman (1990)). Empirical tests of the relation between political costs and disclosure can be found on Cooke (1989), Raffournier (1995) and Inchausti (1997).

Signalling theory
The signalling theory argues that the existence of information asymmetry can also be taken as a reason for good companies to use financial information to send signals to the market (Ross (1977)). Information disclosed by managers to the market reduces information asymmetry and is interpreted as a good signal by the market.
A complementary perspective is derived by Morris (1987), who concludes that combining the agency theory and the signalling theory provides a good theoretical background for studies in accounting policy choices, with specific reference to voluntary disclosures.

Empirically, several studies have studied signalling influence on disclosure: Inchausti (1997), Raffournier (1995), Watson, Shrives and Marston (2002) and Haniffa and Cooke (2002).

Proprietary costs theory
The proprietary costs theory considers the costs of disclosures as well as its benefits. Managers take into account the costs of disclosing information and do not disclose when costs outweigh the benefits. These costs include not only those of preparing and disseminating the information, but also costs of appropriation of the information by competitors. Investors know this and do not apply adverse selection. Proprietary cost theory applied to disclosure is analytically developed by Verrecchia (1983), Dye and Shyam (2001), Darrough and Stoughton (1990) and Wagenhofer (1990). Empirically, Prencipe (2004) applies this theory to explain voluntary disclosures on segment reporting.

Cost of capital theory

This theory argues that managers have incentives to provide voluntary disclosure to reduce the information asymmetry problem and consequently reduce the firm's cost of capital. The theoretical background for establishing a relation between disclosure and cost of capital can be found on Baiman and Verrecchia (1996) and Diamond and Verrecchia (1991). For empirical results on the effects of the disclosure on the cost of capital see Leuz and Verrecchia (2000) and Joos (2000). There are several studies that use cost of capital arguments to explain disclosure levels empirically: Cooke (1989), Cooke (1993), Gray, Meek and Roberts (1995), Raffournier (1995) and Haniffa and Cooke (2002).

Table 1: Recent empirical studies on the determinants of accounting choices based on firm's characteristics

	Dependent variable										
	Disclosure indexes						Dummy variable (adopter/non-adopter)				
	Chalmers and Godfrey	**Glaum and Street**	**Abd-Elsalam and Weetman**	**Street and Gray**	**Street and Bryant**	**Tower et al.**	**Cuijpers et al.**	**Ashbaugh**	**Murphy**	**El-Gazzar et al.**	**Dumontier and Raffournier**
Type of analysis	Univ./ Multiv.	Univ./ Multiv.	Multiv. regression	Multiv. regression	Multiv regression	Multiv. regression	Multiv. (logistic)	Multiv. (logistic)	Manova + stepwise discriminant analysis	Multiv. logistic	Univariate / Multivariate
Explanatory variables		(core model)									
Size	+	**0**		**0**	**0**	**0**	+		**0**		+
Industry	**Y**		**Y/0**	**Y**	**0**	**0**	**0**				
Auditor type	**Y/0**	**Y**	**Y/0**	**Y**					**0**		**Y/0**
Listing status		**Y**	**Y/0**	**Y**	**Y**		**Y**	+		+	**Y**
Multinationality				**0**			**Y**		+	+	+
Profitability			**0**	**0**	**0**	**0**					**0**
Relationship shareholders/ creditors (leverage, gearing, D/E)	**0**		**-/0**			**0**	**0**		**0**	**-**	**0**
Relationship shareholders/managers (ownership structure, market value)	**0/+**		**Y/0**				**0**	+	**0**		+
Capital intensity											**0/-**
Country of origin				**Y**		**Y**	**Y**			**Y**	
Reputation costs (firm/managers affiliation)	**Y**										
Analysts following	+										
Length of time to report						-					

Notes: Y statistically significant relationship; + positive relationship; - negative relationship; 0 no relationship

Legitimacy theory and Institutional theory

Organizations operate within a social framework of norms, values and taken-for-granted assumptions about what constitutes appropriate economic behavior (Oliver (1991)). Conformity with community values and professional body requirements are also associated with reporting and disclosure practices. Institutional theory predicts that firms adopt structures that are considered legitimate by other firms in their industry/sector, regardless of their usefulness as a means of legitimizing their actions. Institutional theory argues that organizations are influenced by legal pressures and regulatory requirements to which they tend to conform for reasons of reputation costs (Chalmers and Godfrey (2004)). Legitimacy theory has been used to analyse social and environmental accounting by companies (Guthrie and Parker (1990)). Institutional theory has been used within public sector entities' studies by Carpenter and Feroz (2001) who provide evidence that institutional theory complements economic theory in explaining accounting choice (namely the adoption of professionally endorsed accounting innovations) within the public sector. There are several studies that test this theory empirically: Gray, Meek and Roberts (1995), Watson, Shrives and Marston (2002) and Chalmers and Godfrey (2004).

Contingency theory

This approach differs from the ones reviewed above. Contingency theory argues that there are other factors besides firm-specific factors that influence disclosure practices. Cultural and institutional environments in which firms operate are decisive in determining accounting choices and disclosure practices. This theory takes on additional importance in studies on international accounting, that is, in studies that cover several countries and study accounting diversity/harmonization among them. Most of the research on cultural influences has relied in Hofstede's framework.

Some analytical work has been done in this area. Gray (1988) developed hypotheses on the association between accounting sub-cultural values and cultural dimensions developed by Hofstede. Fechner and Kilgore (1994) developed a model in which economic and cultural factors appear as the moderators in the relationship between accounting subculture and accounting practice. Basically, this model is a review of the relationships between the variables included in Gray's model. Doupnik and Salter (1995) developed a model that includes three interacting elements which determine accounting practices: external environment, institutional structure and culture. Nobes (1998) develops a model of international differences in financial reporting based on the different purposes of reporting in each country. The purpose of reporting is determined by the financial system of the country, and disclosure items (which are related to the amount of information) are determined by the relative importance of outsiders (financers who do not belong to the board of directors, including individual shareholders) compared with insiders (financers such as governments, families and banks). In countries where outsiders are important, there is a demand for more disclosure. Nobes concludes with an important implication for our research (p.182): "In cultural self-sufficient countries with a credit-insider system, again the rule makers should think carefully before a generalized introduction of Class A (Anglo-Saxon accounting)" and continues by saying (p. 183): "the imposition of Class A might be inappropriate, particularly if done for unlisted companies… It might be better to concentrate on making Class A available by removing any legal or economic barriers to its usage".

These models that incorporate cultural and other environmental factors have been empirically tested by several researchers. Table 2 sums up the above contingency and environment–based models of disclosure practices.

Table 2: Contingency and environment-based studies on the determinants of disclosure

	Factors					
	Cultural	Economic	Equity market	Firm-specific	Political/ legal system	Corporate governance
Haniffa and Cooke (2002)	X			X		X
Adhikari and Tondkar (1992)		X	X			
Zarzeski (1996)	X			X		
Archambault and Archambault (2003)	X	X		X	X	
Gray, Meek and Roberts (1995)			X			
Roberts and Salter (1999)	X		X			
Chen and Jaggi (2000)				X		X
Gray and Vint (1995)	X					
Jaggi and Low (2000)	X		X	X	X	
Hussein (1996)	X					
Salter (1998)		X	X			
Williams (2004)	X	X	X		X	

The hypotheses and the independent variables

Based on theoretical considerations, on previous empirical research, and on the characteristics of the information reported by the sample companies, we have developed the hypotheses described below that relate some firm-specific characteristics to disclosure practices. All hypotheses are stated in alternative form indicating the expected sign of the relationship.

Size

There are several arguments that can be used to link size to disclosure. As Watts and Zimmerman (1990) argue, political costs are higher in larger companies. So larger firms are more likely to show higher levels of disclosure since it improves confidence and reduces political costs. Secondly, larger firms are supposed to have superior information systems. Consequently, additional disclosure is supposedly less costly in larger firms than in smaller ones. Moreover, proprietary costs related to competitive disadvantages of additional disclosure (Verrecchia (1983)) are smaller as firm size increases.

H1: Larger companies are expected to have higher levels of disclosure than smaller firms

Industry

The relationship between industry and disclosure can be explained by the political costs theory. Watts and Zimmerman argue that industry membership (being related to size) is related to political costs. Proprietary costs also vary according to industry.

Additionally, companies in the same industry have interest in producing the same level of disclosure as the other companies in the same industry in order to avoid being negatively appreciated by the market (competitive pressures). This argument is in line with the signalling theory.

Legitimacy and institutional theory can also support this hypothesis because some industries have higher institutional pressures than others.

H2: Disclosure practices are predicted to be related to the industry in which the company operates

Auditor Type

Chalmers and Godfrey (2004) argue that to maintain their reputation and avoid reputation costs, high profile auditing firms are more likely to demand high levels of disclosure of their clients. Dumontier and Raffournier (1998) observe that, in their own interest and for the sake of their reputation, auditors want their clients to comply with complex accounting standards.
This is also linked to the fact that major international auditing firms have greater knowledge about International Standards and so the costs of implementing and auditing them in their clients is lower than for smaller auditing companies.
Auditing is argued to be a way of reducing agency costs (Jensen and Meckling (1976), Watts and Zimmerman (1983)) and so firms that have high agency costs tend to contract high quality auditing firms.

H3: The degree of disclosure is predicted to be higher in companies audited by the Big 5 auditors than in companies with non-Big 5 auditors

Listing Status

The relationship between the firm's listing status and disclosure practices is based on the agency cost and the signalling arguments. Companies listed on multiple or foreign stock exchanges have greater agency problems. Higher disclosure reduces shareholders' monitoring costs. Additionally, in general, foreign investors are unfamiliar with national standards and so internationally listed companies tend to comply with international standards so that their accounts are understood by the majority of potential investors[76].
Companies expect that compliance with IAS and high disclosure levels are interpreted as good signals by the market and so could be a means of obtaining cheaper capital. This argument is even stronger if the company wants to raise its capital in foreign markets (capital-need hypothesis, Cooke (1989)).

H4: The degree of disclosure is predicted to be higher in companies listed on foreign exchanges than in companies listed on only one (its national) stock exchange

Multinationality

This hypothesis is linked to the last one. The more internationalised a company is the more it has to show its stakeholders (customers, suppliers, government) that it is a good company. Even a company that is not listed internationally may have an interest in showing good levels of disclosure if it has international operations.
Cooke (1989) also argues that companies operating in more than one geographical area tend to have better managerial control systems because of the greater complexity of their operations. So, they are expected to have higher levels of disclosure.

H5: The degree disclosure is predicted to increase with a company's degree of internationalisation

[76] Many stock exchanges around the world allow foreign companies to prepare their financial statements according to IAS (see IASB site).

Shareholder/creditor relationship

As higher leverage levels suggest higher agency costs (potential wealth transfers from debtholders to shareholders and managers), compliance with international standards and good disclosure levels can be used to reduce agency costs and information asymmetries[77].

H6: The degree of disclosure is predicted to be higher in companies with higher leverage

Importance of shareholders

The greater the importance of equity the greater the information needs of shareholders and the monitoring costs. So the argument is the same as the one for the agency costs reducing, given above.

H7: The degree of disclosure is predicted to be higher the more the company relies on equity markets

5. RESEARCH DESIGN

This study has three main broad research questions:
Do theories on disclosure and accounting choice apply to the Portuguese listed companies?
Which factors most influence disclosure practices in Portuguese companies?
What will 2005 really mean for Portuguese companies?
Based on these broad questions, our immediate research goals are:

- to identify the most important factors associated with the level of financial instrument disclosures and,
- to identify the characteristics of companies that are closest to IAS 32 and 39 requirements.

Next, we describe how we constructed and measured the dependent variable, the proxies for the independent variables, the sample collecting process and the sample's main characteristics.

5.1. THE DEPENDENT VARIABLE

Aiming at identifying disclosure practices concerning financial instruments, we applied the content analysis technique to listed companies' annual reports, which were comprehensively analysed. This analysis is based on a list of categories that covers all the items which help us to identify the existence and content of disclosures required by IAS 32 and IAS 39.

Based on the list of categories used in the content analysis of annual reports, we constructed a disclosure index. This index has eleven main categories of information, which are then subdivided into 54 items. The main categories are designated as follows: (1) Accounting policies (7 items); (2) Fair values and market values (9 items); (3) Securitisation and repurchase agreements (5 items); (4) Derivatives: Accounting policies (5 items); (5) Derivatives: Risks (4 items); (6) Derivatives: Hedging (10 items); (7) Derivatives: Fair value (4 items); (8) Interest rate risk (2 items); (9) Credit risk (3 items); (10) Collateral (2 items); (11) Other (3 items). The detailed components of this index are described in Appendix I.

[77] There are authors who argue exactly the opposite (Zarzeski (1996)) because it is assumed that companies with high leverage ratios belong to bank-oriented financial systems where capital markets are not seen as a primary capital source, and information about companies is more private than public. This argument, however, does not take the public debt into account.

The construction of the index follows the literature on related areas. The index has three main characteristics. It is (1) dichotomous, (2) unweighted, and (3) adjusted for non-applicable items. These characteristics are now analysed more carefully and our choices considered based on the literature.

Dichotomous

A score of one is assigned to an item if it is disclosed (disclosure index) and a score of zero otherwise (see Appendix I). The total score for a company is:

$$T = \sum_{i=1}^{m} d_i$$

where d_i is 1 if item i is disclosed and 0 otherwise; m is the maximum number of items (54).

Unweighted

The total score is calculated as the unweighted sum of the score in each item. The implied assumption is that each item is equally important for all user groups. We are conscious that this assumption may be wrong, but we think that the resulting bias is smaller than the one that would result from attributing subjective weights to each item. Support for this can be found in Robbins and Austin (1986)[78]. Other empirical studies that use the same procedure are Cooke (1989) and Cooke (1993), Meek and Roberts (1995), Raffournier (1995), Inchausti (1997) and Chalmers and Godfrey (2004).

Adjusted for non-applicable items

In assigning the score for each item, the applicability of the item to each company is taken into account. That is, we consider that a company should not be penalized if an item is not relevant. This procedure observed maximum caution[79]. We read the entire annual report and if there is no mention of a specific item, we assume that it is not relevant. So a maximum score for each company is calculated as follows:

$$M = \sum_{i=1}^{n} d_i$$

where d_i is the disclosure item, and n is the number of items applicable to that company (n is smaller than 54).
Then an adjusted index is calculated as T/M. This adjustment procedure for non-applicable items is found in most of the empirical studies reviewed (Cooke (1989) and Cooke (1993), Meek and Roberts (1995), Raffournier (1995) and Inchausti (1997)).

[78] They found that (p. 412-413) "the independent variables which were significantly associated with the simple index of disclosure (consists only of the extent of disclosure) quality were also significantly associated with the compound index (the product of the extent and relative importance of financial disclosure index)".

[79] We are aware of the subjectivity that can be introduced by this procedure. Regarding the type of instruments and transactions, which are quite new and unknown for some of the sample companies, we believe that by not adjusting for non-applicable items we would introduce a bigger result bias. This situation is the opposite of what we find on Chalmers and Godfrey (2004). There, firms not using derivatives and making no disclosure are considered as non-disclosing firms. The reason is that it is assumed that the majority of firms would be using derivative instruments based on a previous survey.

5.2. THE INDEPENDENT VARIABLES

According to our hypotheses, the independent variables are size, industry, auditor type, listing status, multinationality, shareholder/creditor relationship and importance of shareholders. Table 3 describes the proxies for measuring these variables.

Table 3: Variables proxies

Variables	Variables proxies	
Size	Total assets Total sales	Tassets Tsales
Industry	1 dummy variable	ind1: Financial (1 = yes; 0 = no)
Auditor type	1 dummy variable	d_aud: Big 5/Non Big 5 (1= yes; 0 = no)
Listing status	1 dummy variable	d_list: listed on one stock exchange or not (multilisting) (1= yes; 0=no)
Multinationality	Sales outside Portugal/ Total sales	Mult
Shareholders/creditors	Debt/Equity	DE
Shareholders	Market value/ Total assets	MV

Sample selection and characteristics

Our sample includes all companies listed on Euronext Lisbon on the 31st December 2001[80]. At the end of 2001, there were 56 quoted companies in Portugal. One company did not publish an annual report in 2001 and so it was excluded from the sample. Hence, the final sample comprises 55 companies, of which 29% are from the industrial sector and 20% from the financial sector.

6. RESULTS

Descriptive statistics

Table 4 reports the overall means and standard deviations for the dependent variable – the adjusted disclosure index (Idisc_a) and for each of its categories. The range of scores for the disclosure index varies from 16% to 64%.

[80] We chose the year 2001 because it is the year that IAS 39 became effective and it is the last year for which annual reports had been published when we started the research.

Table 4: Dependent variable

	Minimum	Maximum	Mean	Std Deviation
Idisc a	,16	,641	,44	,09
Disclosure index category				
(1) Accounting policies	,000	1,000	,804	,120
(2) Fair values and market values	,000	,500	,054	,129
(3) Securitisation	,400	,800	,600	,126
(4) Derivatives – Accounting policies	,000	1,000	,590	,334
(5) Derivatives – Risks	,000	1,000	,535	,323
(6) Derivatives - Hedging	,000	1,000	,401	,250
(7) Derivatives – Fair value	,000	,500	,171	,221
(8) Interest rate risk	,000	1,000	,345	,270
(9) Credit risk	,000	1,000	,067	,207
(10) Collateral	,000	1,000	,491	,402
(11) Other	,000	1,000	,494	,101

Analysing Table 4, we conclude that the best area in terms of closeness degree to IAS is the accounting policies adopted item (non-derivative and derivative financial instruments). The worst areas in terms of degree of closeness to IAS are the items fair/market values (non-derivative and derivative financial instruments), hedging related items, interest rate risk and credit risk item. The next table shows the mean of the index of disclosure by economic sector, by type of auditor and by listing status.

Table 5: Dependent variable means by economic sector, auditor type and listing status

	Disclosure index	
Economic sector	Mean	Std. Deviation
Basic materials	,435	,038
Consumer, cyclical	,422	,071
Consumer, non-cyclical	,465	,101
Financial	,446	,156
Industrial	,440	,081
Technology	,471	,048
Telecommunications	,394	,071

	Disclosure index	
Auditor Type	Mean	Std. Deviation
Non- big five auditor	,399	,085
Big five auditor	,451	,091
Listing Status		
One or more foreign stock exchange	,537	,056
Portuguese stock exchange	,429	,089

Multivariate results

We tested all hypotheses, entering all independent variables at once in the model, and tested several functional forms. Three independent variables prove to be statistically significant: Size (measured either as Tassets - model 1 or Tsales - model 2), listing status and leverage degree (measured by D/E). The sign of the coefficients for

Tassets and Tsales follows our expectation and suggests that larger firms show higher levels of disclosure. The coefficient of D_list also confirms our hypothesis that companies listed on more than one exchange have higher disclosure. Firms with higher leverage degree also proved to have a higher level of disclosure. In sum, our results confirm three hypotheses: H1, H4 and H6. The results of the regression do not support a type of industry (H2), a type of auditor (H3), an internationality degree (H5) and a shareholder importance (H7) effect.

Table 6: Regression results

Independent variable	**Model 1** Coefficient (Prob.)	**Model 2** Coefficient (Prob.)
TASSETS	2.55E-07 *(0.0200)*	
TSALES		3.22E-06 *(0.0178)*
IND1	-0.100311 *(0.1150)*	-0.098237 *(0.1083)*
D_AUD	0.019097 *(0.4579)*	0.017414 *(0.4971)*
D_LIST	-0.070751 *(0.0146)*	-0.061794 *(0.0501)*
MULT	-4.36E-05 *(0.9195)*	-6.51E-05 *(0.8796)*
DE	0.009964 *(0.0443)*	0.009725 *(0.0451)*
MV	0.000341 *(0.2877)*	0.000349 *(0.2781)*
	R-squared: 0.282646	R-squared: 0.291226

Note: White Heteroskedasticity-Consistent Standard Errors & Covariance

7. DISCUSSION AND CONCLUSIONS

In order to identify the determinants of disclosure by the Portuguese listed companies, we constructed an index of disclosure issues, which comprises 54 items related to financial instruments. The components of the index are based on IAS 32 and 39 disclosures. This type of analysis allows the characteristics of the firms that are closest to IAS requirements to be analysed, considering the mandatory adoption of those standards after 2005.

The findings yield interesting results. We conclude that disclosure level is significantly related to size, listing status and leverage degree. As expected, the results show a positive relation to size and leverage degree. When it comes to listing status, the results confirm that companies listed on more than one exchange show higher disclosure level. Overall, we conclude that larger companies, higher leverage companies and companies listed on more than one exchange market present higher levels of disclosure regarding their financial instrument adoption, meaning that they are closer to the IAS 32 and 39 requirements. The other independent variables were found to have no significant relationship with the disclosure level. Our sectoral dummy variable that distinguishes financial companies from non-financial ones was not found to be significant. The same was true of the hypothesis that related disclosure level to the importance of shareholders, measured by the ratio of market

capitalization to the total assets. The degree of multinationality, measured by the ratio of sales to international markets to total sales, does not influence a company's degree of disclosure.

These results suggest that the voluntary disclosure theories, originated in developed capital markets probably do not apply fully to Portugal, where there is a quite large degree of family ownership and bank-oriented financing policies. We argue that the agency theory, the signalling theory and the political costs theory cannot be completely applied in the Portuguese context. The influence of size may be explained more by other reasons, related to the proprietary costs of disclosure (larger firms have lower proprietary costs for information disclosure), than by agency reasons. We think therefore that the inclusion of other variables, which emphasized characteristics specific to Portuguese companies and Portuguese managers, in the context of other theoretical frameworks, namely, contingency theory, could bring some new insights to this study.

There are some limitations inherent to this study. First, there is the problem of the sample size. This problem, which is intrinsic to Portuguese capital market size, restricts our hypotheses testing by means of linear regression models. Another limitation results from the index construction process. We were very careful with the scoring process, but errors may have occurred. Furthermore, annual reports are not the only means by which companies disclose financial instruments. But we think that it is the most important one.

The next phase of this research will extend the study to other European countries in order to ascertain and compare the degree of financial instrument disclosure in other countries that are going to be affected by the 2005 accounting regulation. The determination of accounting practices in a multi-country sample, allowing the inclusion of explicative factors based on contingency theory, should lead to more productive conclusions.

Appendix I–Components of the disclosure index

Disclosure Index

Accounting Policies
Held for trading securities
Held-to-maturity securities
Loans and receivables originated by the enterprise
Available-for-sale financial assets
Held-for-trading liabilities
Other financial liabilities
Trade date vs Settlement date

Fair values and market values
Measurement method
Significant assumptions
Fair value changes in Available-for-sale financial assets
Amount recognised in equity
Amount removed from equity

Unability of reliability in measurement
Financial assets description
Their carrying amount
Explanation of the reason
Range of estimates within which the fair value is likely to lie

Securitisation and repurchase agreements
Accounting policy
Nature and extent
Collateral
Whether the financial assets have been derecognised
Information about the key assumptions used in calculating the fair value of new and retained interests

Derivatives – Accounting policies
Risk management policy, including hedging policy
Objectives of holding or issuing derivatives
Accounting policies and methods adopted
Monitoring and controlling policy
Financial controls

Derivatives – Hedging
Hedging description
Accounting method
Financial instruments designated as hedging instruments
Fair values
Nature of the risks being hedged

Future transactions hedging
The period in which forecasted transactions are expected to occur
The period they are expected to enter in income

Cash-flow hedging
The amount recognised in equity
The amount removed from equity and recognised in income
The amount removed from equity and added to initial measurement of the acquisition cost

Derivatives – Fair value
Fair value
Method adopted
Significant assumptions
Average fair value during the year

Interest rate risk
Future changes in interest rates
Maturity dates

Credit risk
Counterparties identification
Maximum amount of credit risk exposure
Significant concentration of credit risk

Collateral
Terms and conditions
Carrying amount and fair value

Other
Impairment losses
Total interest income and total interest expense (separately)

Derivatives – Risks

Segregation by risk categories
Principal, stated value, face value, notional value
Maturity
Weighted average/effective interest rate

In AFS, realized and unrealized gains/losses (separately)

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