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# BOARD STRUCTURE AND MODIFIED AUDIT OPINIONS: THE CASE OF THE PORTUGUESE STOCK EXCHANGE

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# **BOARD STRUCTURE AND MODIFIED AUDIT OPINIONS: THE CASE OF THE PORTUGUESE STOCK EXCHANGE**

## **ABSTRACT**

Prior research has found evidence that some characteristics of the board of directors influence the quality of accounting information (e.g., Beasley, 1996; Dechow et al., 1996; Klein, 2002a; Xie et al., 2003). In this study we extend the literature by analysing a different dimension of accounting information quality, the probability of a firm receiving a modified audit opinion. Using a sample of companies listed on Euronext Lisbon where firms can publish financial statements not in accordance with GAAP, unlike the current situation in other markets like the US, and 91 firm-year observations for the period 2002-03, we find evidence consistent with the hypotheses that board diligence and independence contribute negatively to the probability of a modified opinion, while board size is not statistically significant. Our results are robust to different specifications and also show that financial health, performance, growth opportunities and the existence of dividend payments are additional factors affecting the likelihood of a modified audit opinion.

## 1. Introduction

Accounting can be regarded as an information system through which one would report the underlying economic reality of a particular entity. If the quality of the reported accounting information is low, its recipients might make incorrect decisions (e.g., about investment or financing) with the consequence that economic resources will be sub-optimally allocated. Ideally, the financial reporting system should allow firms with better performance to distinguish themselves from less well performing ones, and in that case accounting rules would create value by ensuring that financial reports provide adequate information on the true economic performance of an organization (Healy and Wahlen, 1999, p. 366). However, due to information asymmetry between "internal" and "external" parties, the flexibility that prevails in the financial reporting system allows a degree of discretionary power to managers, which can be used either opportunistically or as a way of improving communication by releasing private information.

But particularly since Enron's financial reporting irregularities were uncovered in December, 2001, accounting scandals have gained large media visibility either in the US (e.g. Worldcom, Xerox) or Europe (e.g., Ahold, Parmalat), and catalysed the interest in the analysis of accounting quality. A particular concern that is the focus of our paper is the study of the factors that can potentially reduce or eliminate the likelihood that the financial performance of a company is masked by the aggressive usage, on the part of managers, of the discretionary allowances prevailing in Generally Accepted Accounting Principles (GAAP), or even the deliberate avoidance of those principles. The much publicised cases of irregularities in the accounts published by many corporations have caused a serious concern about the credibility of the whole system of financial reporting, with the immediate consequence of an abrupt fall in investors' confidence in the reported financial information. This loss of confidence can refrain investors' willingness to buy shares, thus potentially increasing firm's cost of capital and exerting a negative effect on productivity for the economy as a whole (IFAC, 2003, p. 5).

A response to those concerns about the quality of accounting information has been, in normative terms, and as a direct consequence of the

recent accounting scandals, the “*Sarbanes-Oxley Act*”, issued in the US in July 2002 with the purpose of increasing the level of investors' protection, and improving the truthfulness, scope and reliability of the accounting information released by companies (Klein, 2003).

Auditors have a particularly important role in monitoring the quality of the financial statements published by firms. In fact, financial reports can be seen as a joint product of managers and auditors, involving negotiations between these two parties about the accounting treatment of particular situations, with an interaction between the context and the negotiation. Such negotiated process will usually lead to a compromise between managers and auditors as it is mutually beneficial that the auditor issues an unqualified opinion so as to avoid public attention, particularly from regulators (Gibbins et al., 2001; Nelson et al., 2002).

Previous research (e.g. Beasley, 1996; Klein, 2002a; Xie et al., 2003) has shown that board characteristics have an important impact on the quality of accounting information. Our paper's major contribution to this literature is to confirm such conclusions using the auditors' opinion as a different dimension of accounting quality, a feature which is, to our best knowledge, a novelty in this context. The Portuguese Exchange is an interesting environment to test such relationship given that, unlike currently major markets like the US, listed companies in Euronext Lisbon are not required to file financial statements in compliance with GAAP. In addition, our paper extends the literature on accounting information quality and, in more general terms, the monitoring role of non-executive directors, by analysing such issues in an emerging market environment for which little research is available.

Our results show that, consistent with the importance of a monitoring role by non-executive directors, board of directors' diligence (proxied by the presence of an executive committee) and independence (measured by the proportion of non-executive members) have a negative impact on the likelihood of the auditor issuing a modified opinion. We also find evidence that the firm's financial health, performance, investment opportunities and dividend payments all have a negative impact on the probability of a modified opinion from auditors.

The paper proceeds as follows. Section 2 provides a brief review of the literature that has analysed the links between the board of directors, auditors and accounting quality. Section 3 presents the hypotheses to be tested and the methodology used. Section 4 describes the sampling procedures and sample characteristics. Section 5 presents and discusses the major results. Section 6 provides a number of robustness checks to the results. The final section concludes and summarizes the paper.

## **2. Literature review**

### *2.1. Board of Directors*

In recent papers (e.g., Klein, 2002a; Xie et al., 2003) researchers have established links between the Board of Directors' structure and earnings manipulation activities. The existing studies have suggested that board characteristics like size, power concentration, the existence of a dominating individual, the presence of audit committees with certain features, the proportion of non-executive and independent ("external") members, the number of meetings and technical competence have an influence on accounting information quality. This is usually proxied by discretionary, or abnormal, *accruals* estimated using accrual-based accounting models (e.g., Jones, 1991; Dechow et al., 1995; Peasnell et al., 2000a).

Beasley (1996) tested the hypothesis that a larger proportion of non-executive board members reduce the probability of accounting fraud, having obtained evidence consistent with this assertion.

Klein (2002a) observed the existence of a negative relationship between the presence of an independent board members majority and the occurrence of earnings management activities.

Peasnell et al. (2004) found evidence that the proportion of non-executive members is a positive influence on the integrity of firms' financial reporting. Nonetheless, the results show that such board members influence income-increasing earnings management activities but not income-decreasing. This evidence is consistent with the argument that personal costs

are higher if a firm is identified as having artificially inflated reported earnings as compared to a situation where the effect was to reduce profits.

Regarding the risk of an excessive power concentration, it is internationally recommended (e.g., FRC, 2003; OECD, 2004) that a separation is made between the *Chairman* and the *Chief Executive Officer* (CEO) as a necessary condition for the monitoring and management roles to be articulated in a simultaneous and efficient way. By separating those two functions, one might also avoid the existence of excessive power in the hands of a single individual within an organization.

Dechow et al. (1996) report that firms identified by the SEC as earnings-manipulators usually have a corporate governance structure characterized by executive directors dominating the Board, Chairmen that simultaneously act as CEOs, and are unlikely to have an audit committee.

The creation of an audit committee within the Board of Directors with a particular set of characteristics can potentially lead to better financial reporting quality. Agrawal and Chadha (2005) find evidence that the likelihood of an income restatement is lower if an independent member is present in the audit committee with accounting or finance professional expertise. In a sample of financially distressed companies, Carcello and Neal (2000) report that a larger proportion of non-independent members in the Audit committee leads to a lower probability that the auditor will issue a modified opinion expressing going-concern worries, lending support to the argument that such committees might sometimes suffer from lack of independence. Regarding the way members of the audit committee interact with external auditors in settling disagreements over certain accounting options, the results reported by DeZoort and Salterio (2001) suggest that increased audit committee members' independence and audit-reporting knowledge are positively associated with auditor support in an auditor-management dispute. Conversely, concurrent board and management experience result in less support for the auditor.

Two further empirical studies show, however, that the existence of an audit committee does not necessarily lead to better financial reporting quality. In fact, Peasnell et al. (2004) do not find evidence that the presence of an audit committee reduces the level of either income-increasing or income-

reducing earnings management. Similarly, Beasley (1996) reports that the existence of an audit committee does not reduce the likelihood of accounting fraud. A limitation, however, of the results in these papers is that no in-depth analysis was made on the characteristics of the audit committees, as the papers only take into account whether a particular firm has an audit committee or not.

Another aspect which has been analyzed in the literature is the relationship between earnings management practices and board characteristics such as size, diligence and technical competence.

Regarding the issue of board size, it is clearly difficult, if not impossible, to determine an optimal number of board members. One might argue, however, that an optimal board size should be the result of an adequate balance between professional qualification and relevant business experience of its members. Beasley (1996) reports a positive association between board size and the likelihood of an accounting fraud, while Xie et al. (2003) find, in contrast, evidence consistent with a negative relationship between the number of board members and the presence of earnings management.

If a board meets often, this might be interpreted as a signal that an active monitoring is taking place, but one might also argue that this could simply be the result of weak performance (Vafeas, 1999).

Xie et al. (2003) show that member with previous or contemporaneous experience as directors in other firms' boards or in the financial industry have a negative influence on the level of earnings management, and this is also the case with the number of board meetings.

## *2.2. External auditors*

Auditors issue their opinions over a complete set of financial statements<sup>1</sup>, based on the auditing procedures made and taking into consideration a particular financial reporting reference set (e.g., Portuguese GAAP). The auditor's opinion, as presented in its report on the financial statements, is useful for the users of such financial information as these can

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<sup>1</sup> In Portugal these are the balance sheet, profit and loss account, income statement by nature and function, cash-flows statement, and notes to the accounts (DRA-*Directriz de Revisão de Auditoria* 700, Portuguese Auditing Standard 700).



better judge the “the true and fair view in all materially relevant aspects” of published statements. Apart from being more credible, such financial information will be more easily understood when jointly analyzed with the auditor’s opinion.

Auditing reduces information asymmetries between managers and stakeholders and it can act as a monitoring device by which financial information distortions created by management can be reduced (Kinney and Martin, 1994). Auditors communicate with *stakeholders* through their opinion as expressed in the auditing report with the consequence that agency costs can be reduced when independent auditors are hired (Jensen and Meckling, 1976; Watts and Zimmerman, 1986).

A regular auditing should be undertaken by an independent, qualified and technically competent auditor so as to ensure that, to both the board and shareholders, published financial statements are a true and fair representation of the financial position and performance of the entity concerned in all materially relevant aspects (OECD, 2004, p. 22).

From the standpoint of information users, modified audit reports can be interpreted as a signal of lower quality of the financial information provided. However, it is not the role of the auditor to issue an opinion about the quality of reported income, but simply whether it conforms to GAAP or not (Bradshaw et al., 2001).

In comparison with lower quality ones, high quality auditors are more likely to detect questionable accounting options and to communicate their existence by issuing a qualified opinion (if managers do not make the required accounting adjustments). In Portugal modified opinions can contain either auditing “qualifications” or “emphases”, as will be explained later. Audit quality will depend to a large extent on the auditor’s independence.

The independence of the auditor is in fact a requirement without which audit quality will be seriously affected. Audit quality can be defined as the joint probability of detecting and reporting materially significant accounting distortions (contingent on their existence). As such, audit quality will depend on the ability of the auditor to issue a modified opinion when accounting distortions exist and managers are not willing to incorporate the accounting adjustments suggested by auditors. Such independence will be perfect when

the probability of reporting a relevant existing accounting distortion is equal to one (DeAngelo, 1981).

Payment of non-audit fees and client size are variables which have been tested in the literature as factors that could potentially affect auditor's independence. However, in this regard the reported evidence is somewhat mixed (e.g., Reynolds and Francis, 2001; Defond et al., 2002; Frankel et al., 2002; Nelson et al., 2002).

A darker perspective is that which argues that full audit independence will never be possible if the auditor is paid by the company being audited (IFAC, 2003, p. 13).

In the literature a number of studies also exist that seek to analyze the relationship between the quality of published financial statements and the characteristics of the firm's auditors. In particular, studies have been made to assess whether any differences arise when audits are carried out by any of the largest auditing companies<sup>2</sup>. In Becker et al. (1998) study, evidence is found that those companies that hired any of the so-called Big 4 auditors on average report lower discretionary accruals than firms that hired other auditing firms. The choice of one of the largest auditors (Big 4) can also be used by the firm as a vehicle for signalling a better quality of its financial information as external parties will perceive higher credibility in the information provided when this was audited by any of the Big 4. However, recent accounting scandals which have involved some of the major auditing firms may have seriously affected such perception.

Francis et al. (1999) predict that firms showing a greater endogenous propensity<sup>3</sup> to generate accruals will be more likely to hire one of the Big 4 and that companies audited by any of these will have lower discretionary accruals, that is, lower earnings management activities, the resulting financial information enjoying an overall better perceived quality. Heninger (2001, p. 117) reports evidence that the Big 4 have a lower probability of being sued

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<sup>2</sup> With the collapse of Andersen as the result of its involvement in the Enron scandal, there are currently four large international audit firms. Therefore, for text simplification purposes, every time the term Big 4 is used this means that this relates to one of those firms, although the literature has used in the past terms like Big 8, Big 6 or Big 5.

<sup>3</sup> This is related to the duration of its operating cycle and the intensity of its investment in fixed assets.

than other auditors, which can be interpreted as consistent with the view that their auditing work is of higher quality.

Francis and Krishnan (1999) show that the Big 4 are more conservative than other auditors given that, for a given high level of accruals the probability is higher that a modified opinion will be issued. This suggests that these auditors interpret the existence of a high level of accruals as more risky, leading auditors to issue a modified opinion in order to signal to third parties the existence of potential problems which may affect the value of assets and the continuity of the firm's operations.

Somewhat in contrast with the evidence mentioned above, Dechow et al. (1996, p. 21) do not find significant relationship between the fact that a firm has been audited by one of the largest auditing firms and its characterization as an earnings manipulator. In fact, the authors report that the auditor type is not statistically different between the two kinds of firms (earnings manipulators or not).

Another issue which has been studied in the literature relates to corporate governance concerns. Some authors take the perspective that an auditor should evaluate the corporate governance structure of its clients and incorporate such evaluation in their auditing planning and in the associated risk. The reasoning is that an inappropriate governance structure might be a risk factor for the auditor and even sometimes a reason for refusing a particular risky client (Cohen e Hanno, 2000; Cohen et al., 2002; Bedard e Johnstone, 2004).

### **3. Research hypotheses and methodology**

In figure 1 the major literature framework for our study on accounting is summarized with the emphasis being made on the relationship between accounting information quality and board characteristics.

We view the issuance of a modified opinion by an auditor as a symptom of lower information quality. A "clean" opinion will be that which is clear from any audit qualifications or emphases, or with emphases which can be viewed as unrelated to fundamental uncertainties as will be clarified later. In practical terms, we shall consider as a modified audit opinion the following cases:

- A qualified opinion was issued as the result of a disagreement with management or limitation on the scope of the auditor's work.
- An opinion where emphases were made regarding the applicability of the going-concern principle or material uncertainties regarding the realization value of assets or contingent liabilities (e.g., legal actions taking place). The reason why we consider such emphases as corresponding to fundamental uncertainties is due to the fact that these relate to issues whose outcome depends of future actions or events which are not controllable by the company, but which nonetheless might seriously affect the reported accounting figures. In addition, by including those emphases, the auditor is conveying his view that, according to his professional judgment, these are materially relevant<sup>4</sup>. As an illustration, this kind of

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<sup>4</sup> For an example of a going-concern opinion we reproduce the audit emphasis contained in *Lisgráfica's* audit report (2002):

"...the value of current assets is lower than short term liabilities. As mentioned in the Management's Report, the board of directors has taken several measures, and plans to take additional ones in the near future, in order to tackle the current situation. The continuity of the firm's activities will depend of the success of these steps and the future profitability of the firm's operations".

Regarding the material uncertainties related to the realization value of assets, we quote the following emphasis published in *Grão Pará's* report (2003):

"A number of significant old balances remain unsettled, totaling 5.063.000 Euros, concerning costs incurred with land preparation works, studies and architectural plans of real estate projects to be developed by the subsidiaries *Matur, S.A.* and *Autodril, Sociedade Imobiliária S.A.* The recovering of such costs will depend on the realization of a number of corporate actions that it is hoped will enable the conditions to generate income for the Group, namely the divestment of non-crucial assets and the actual development of the associated real estate projects"

As an example of emphases related to contingent liabilities, an example is that contained in *Gescartão's* report (2003):

"As mentioned in Note 38 to the accounts, *Portucel Viana—Empresa Produtora de Papéis Industriais, SA*, was notified by tax authorities in 2002 to make an additional IRC (Portuguese corporation tax) payment in the amount of approximately 2.470.000 Euros. In addition, in the year 2003, *Portucel Embalagem—Empresa Produtora de Embalagens de Cartão, SA* was also notified by tax authorities to correct its IRC taxable income by the amount of approximately 7.400.000 Euros. The board of directors of those subsidiaries believes that the reasoning brought forward by the tax authorities violates Portuguese fiscal laws so that a recourse was undertaken regarding the first notification and the same procedure shall be taken in due time for the second one as soon as the corresponding additional taxes are disclosed by the IRC services. The company made no provisions in its accounts for the possibility of an

emphases, before the issuance, in the US, of the Statement of Auditing Standards 58, automatically led to a qualified opinion (Butler et al., 2004, p. 144). In Portugal, according to Costa (2000, pp. 571-572), the existence of such uncertainties should also lead to the issuance of a qualified opinion.

A smaller board can arguably perform better its role of supervising the preparation of financial statements given that it should suffer from fewer bureaucratic problems and be more functional. On the other hand, a larger one may imply the existence of larger set of business competencies, namely in the form of independent and experienced members with adequate accounting training or knowledge. This might therefore lead to better financial information quality (Xie et al., 2003, p. 300).

Beasley (1996) finds a positive relationship between the number of board members and the probability of accounting fraud, while Xie et al. (2003) document, in contrast, results which are consistent with board size exerting a negative impact on earnings management activities. Therefore, board size (NUM) can be an important influence on the probability that a modified opinion is issued by the auditor, but with no particular expected sign. This leads us to our first hypothesis:

***H1: Board size (NUM) has a significant impact (which can be either negative or positive) on the probability that the auditor issues a modified opinion, all else constant.***

Board diligence is related to factors that include the number of meetings and its members' qualifications (Carcello et al., 2002, p. 371). Using the number of meetings as a proxy to characterize board diligence, Xie et al (2003, p. 304) find a negative relationship between such variable and the level of current discretionary accruals.

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unfavorable outcome of these tax situations, which, at this time, is uncertain, nor for any similar situations in the future. “

The number of board meetings (MEET) and the existence of an executive committee (EC) are variables whose aim is to capture the impact of board diligence on the auditor's opinion. A more diligent board will conceivably be more concerned with supervising the financial information production process and therefore devote to such task more of its time and attention. The expected sign for these variables is negative, given that a higher level of board diligence should reduce the probability of a modified opinion being issued. Our second hypothesis is therefore:

**H2: *Board diligence (as proxied by MEET and EC) has a negative impact on the probability of a firm receiving a modified opinion, all else constant.***

The proportion of non-executive members in the board (PNEXEC) and the existence of a CEO-Chairman dual-role (DUAL) are variables that seek to measure the degree of board independence. Along those lines, one can assume that a larger proportion of non-executive members or the inexistence of duality should lead to greater board independence. The literature has shown evidence that these factors are related to better financial information quality (e.g., Beasley, 1996; Dechow et al., 1996; Klein, 2002a), so that it is reasonable to expect a negative relationship between these variables and the likelihood that a firm will be issued a modified opinion. This takes us to our third research hypothesis:

**H3: *Board independence (as proxied by PNEXEC and DUAL) is a negative influence on the probability that a firm is issued a modified opinion, all else constant.***

In order for our hypotheses to be tested, we use the following logistic regression that models the likelihood that the auditor will issue a modified opinion:

$$\text{Pr ob}(OPIN = 1) = F(\alpha + \beta_1 NUM + \beta_2 MEET + \beta_3 EC + \beta_4 PNEEXEC + \beta_5 DUAL + \beta_6 LASSETS + \beta_7 LOSS + \beta_8 ER + \beta_9 ROA + \beta_{10} PBV + \varepsilon)$$

The auditors' opinion (OPIN) will take the value of 1 if the opinion is a modified one, i.e., a qualification or an emphasis associated with a fundamental uncertainty expressed by the auditor regarding the applicability of the on-going concern principle or the realization value of assets or contingent liabilities has been issued by the auditor, and 0 otherwise.

The independent variables are defined as follows:

NUM = Number of board members at year-end;

MEET = Number of board meetings during the year;

EC = 1, if an executive committee is reported at year-end, 0 in the opposite case;

PNEEXEC = Proportion of non-executive members in the board;

DUAL = 1, if the Chairman of the board is also the CEO, 0 in the opposite case;

LASSETS = Log of total assets. Assets are measured at year-end and are expressed in thousands of euros;

LOSS = 1, if the company reports a negative net income at least in the last two years, 0 if not;

ER = Equity ratio, computed as the ratio between book equity and total assets;

ROA = Operating profitability. This is computed as the ratio between earnings before interest, taxes and extraordinary income and total assets;

PBV = Price book value. This is the market value of a firm's equity (MKCAP) divided by book equity at year-end<sup>5</sup>.

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<sup>5</sup> Market capitalization (MKCAP) was computed by multiplying the firm's stock price as of 31 December by the number of outstanding shares. When such information was not available in company reports, we collected the missing data using Euronext Lisbon's DATHIS—*Base de Dados Histórica* (version 4.13.) database. For a few companies—those with lower liquidity (e.g., listed in the Second Market)—when stock prices were not available as of 31 December, the last known quote was used and collected from DATHIS.

In our model we also introduced a number of control variables designed to account for other influences which have been reported in the literature that can impact on the probability that a firm is issued a modified opinion. These are associated to firm characteristics like size, financial health, profitability and expected growth (e.g., Bartov et al., 2000; Bradshaw et al., 2001; Nelson et al., 2002; Ruiz-Barbadillo et al., 2004).

The log of total assets (LASSETS) seeks to control the influence of client size. This might affect the nature of an auditor's opinion as client size can create an economic dependence that can reduce the likelihood that a modified opinion is issued (e.g., Nelson et al., 2002). On the other hand, Reynolds and Francis (2001) find evidence that a more conservative posture by auditors is associated with larger clients, suggesting that given the greater litigation risk of such clients, the auditor will be concerned about protecting his reputation and may therefore be more cautious. Accordingly we leave the expected sign as an open question.

The LOSS variable aims to test the hypothesis that if a company reports consecutive losses this will be likely to have an impact on the auditor's opinion. As with the ER (equity-to-assets ratio) variable, the purpose is to capture the financial health of the auditor's client. Companies that report consecutive losses or which have a low equity-to-assets ratio will be characterized by greater financial risks and even its going-concern assumption might sometimes be at stake. Under those circumstances, the firms might engage in aggressive accounting practices that could reduce the visibility of those risks or avoid the violation of debt covenants (e.g., Defond e Jiambalvo, 1994). In addition, if those companies bring greater litigation risks to auditors (e.g., Heninger, 2001), greater care will be put into the auditing process so that the auditor will be more likely to issue a modified opinion regarding any aggressive accounting practices or going-concern risks.

In accordance with the above hypothesis, Bartov (2000) finds evidence that companies being issued qualified opinions are typically characterized by higher long-term debt ratios than firms with "clean" opinions.

We therefore expect that financial health indicators will have a negative impact on the probability that a firm is issued a modified opinion so that in our model a positive sign is expected for LOSS and a negative one for ER.



Asset profitability (ROA) is introduced in our model also to capture firm performance as an additional control factor. All else constant, one will expect that a larger ROA will lead to a lower probability of a firm being issued a modified opinion as the result of greater earnings persistence (Sloan, 1996) and a low-risk evaluation by the auditor. In accordance with this, Bradshaw et al. (2001) document the existence of a negative relationship between performance and the probability of a modified opinion, this last variable being defined in the same way as we do in our paper.

Growth opportunities may also influence the auditor's opinion. A high *price book value* (PBV) might indicate that the company faces growth opportunities or expects increased profitability in the future. Such companies will tend to have a greater propensity to issue new shares as the result of the larger premium that the market places over their book value of equity. This may increase the desirability of non-modified opinions in order to avoid a negative image of the firm so as to facilitate fund raising in primary capital markets to feed its growth opportunities.

On the other hand, firms with greater growth opportunities will be more interested in reaching certain performance benchmarks in order to meet analyst's expectations and avoid low profits or even losses that could seriously damage the firm's stock price (Skinner and Sloan, 2002). In a sample of firms that did not follow GAAP, Dechow et al. (1996, table 6) find a larger price-book value as compared to a control sample, suggesting that growth opportunities are related to the presence of accounting options that do not respect GAAP. Given the above, the *a priori* sign for the price-book value variable (PBV) could be either positive or negative.

#### **4. Sample selection**

One of the main purposes in this paper is to test whether board size, diligence and independence have an influence on the existence of a modification in the auditor's report on the consolidated accounts of a company.

By choosing the analysis of consolidated accounts and the corresponding auditor's report, we explicitly assume that consolidated accounts are the most useful ones to the users of financial information. This

view seems to be shared by the Portuguese Exchange Commission (CMVM-*Comissão do Mercado de Valores Mobiliários*), given that it has exempted a number of listed firms from publishing accounts on an individual basis<sup>6</sup>. The information about such exemption can be found in these firm's published consolidated accounts.

In addition, we should mention that 25 out of a total of 46 firms in our sample are formally holding companies (in Portugal called SGPS-*Sociedades Gestoras de Participações Sociais*) whose sole legal purpose, according to the Decree-Law nr. 495/88 published in 30 December, 1988, is to “manage holdings in other companies as an indirect way of running an economic activity”. Therefore, for this kind of firms it is even more clear the usefulness of consolidated accounts. One can also argue that consolidated accounts include at least as much information as individual ones and is therefore at least as useful. The relevance of consolidated accounts is also reinforced when one takes into account recent financial scandals where the firms in question took advantage of relationships with unconsolidated accounts to engage in accounting frauds (e.g, *Enron* and *Parmalat*). Finally, one should stress the fact that in just three firms in our sample (*Copam*, *Lisgráfica* and *Amieiros Verdes*) did we find only unconsolidated accounts.

The collection of data was made from published financial documents found on the information diffusion system of CMVM in this commissions' website<sup>7</sup>. Information gathered from other sources will be detailed later in this paper.

According to CMVM regulation nr. 7/2001, and further changes introduced by regulation nr. 11/2003 (from this point forward referred to simply as CMVM 7/2001), listed firms subject to the Portuguese Law must publish a report detailing information on corporate governance issues as defined by CMVM<sup>8</sup>.

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<sup>6</sup> For example, this was the case in 2003 for companies like *Caima*, *Corticeira Amorim*, *Efacec*, *Mota-Engil*, *PT Multimédia* or *Sonaecom*.

<sup>7</sup> Website: <http://www.cmvm.pt>

<sup>8</sup> Article 3, nr. 1, from CSC-*Código das Sociedades Comerciais* (Portuguese Company Law Code) states that “firms are regulated by the company law of the country where its main headquarters are situated and effective business administration takes place.”

Given the above, our first step in our sampling procedures was to verify which companies were listed in Euronext Lisbon as of 31 December, 2003 in the two major markets (MCO-*Mercado de Cotações Oficiais* – the main market -, and *Segundo Mercado* - the so-called “second market”). We found a total of 57 companies, 50 of which were listed in the MCO, and 7 in the SM. Appendix 1 details the list of firms included in our sample and shows both the official and abbreviated names of these companies.

In the case of two financial companies in our initial sample, *Banco Santander Central Hispano* and *Espírito Santo Financial Group* we found that these companies were subject to Spanish and Luxemburguese laws, respectively. For this reason, these firms did not publish a corporate governance report. However, even if this was not the case, we excluded financial companies from our sample, for reasons to be detailed further on.

Another financial firm, *Banco Comercial dos Açores*, delisted after 31 December 2003 following its acquisition by *BANIF Comercial, SGPS* so that no financial reports were available after that date (we would exclude this firm anyway for being a financial company).

Financial companies were excluded due to their regulatory and accounting specificities. Financial ratios, for instance, cannot be interpreted in the same way as those of other industries (Ruiz-Barbadillo et al., 2004). Also, corporate governance characteristics of financial companies are very much structured so as to have risk management as a corporate priority. According to Peasnell et al. (2000b), financial firms are subject to a particular legal environment and their governance mechanisms are substantially different from those of other companies. For example, one of the major Portuguese banks, *Banco BPI*, created both credit and market risk executive committees, according to the information provided in the 2003 report. In addition, banks are very much focused on meeting financial restrictions imposed by bank regulators (in this case the Bank of Portugal).

Two listed football club companies (the so-called SAD-*Sociedades Anónimas Desportivas*) were also excluded from our sample since the financial years applicable for these companies do not end, as is the case for the remaining listed firms, in December 31.

In order to create a larger sample, we also collected data regarding the financial year 2002. Our final sample therefore includes 91 observations from 46 different firms. According to our procedures, we only had one observation for the firm *Gescartão* given that we only found its corporate governance report for 2003 since the firm's shares were listed in the main market (MCO) only in that year. However, we obtained for this same firm all the necessary 2002 auditing information from the firm's listing prospectus and thus were able to avoid the loss of one observation. Such report was obtained from CMVM.

Given the above, in the following analysis of the auditing reports the sample includes 46 firms and a total of 92 observations (two observations per firm), while for the remaining analyses we have 45 companies with two observations for each and a single observation for the firm *Gescartão* for the reasons explained earlier.

We should clarify that only from 2002 onwards are corporate governance reports available so that, given the methodology and empirical model being used, we are not able to get a larger sample than the one used here.

Our study, therefore, with the exception of financial and football club companies, for the reasons already explained, include all possible firms that are subject to regulation nr. 7/2001 (requirement for corporate governance reports) in the years 2002 and 2003.

Regarding the industry structure of our sample, and according to FTSE classification, table 2 shows the distribution of firms by industry. We can observe that a total of 25 different industries are represented in the sample, the observations being quite dispersed among those industries. Nonetheless, the "Building Industry – Other", "Paper" and "Computer Services" industries account for 34.8% of the total number of observations. If one adds "Chemical Industries-Commodities", "Building and Building Materials" and "Retailers-Food and Drugs", one finds that six industries (24% of the total number of sectors) include 25 firms (54.3% of the total number), so a degree of concentration in some industries is present.

## 5. Empirical results

### 5.1. Auditing characteristics

Table 3 shows the distribution of firms per auditor, a distinction being made between the so-called “Big 4” auditors and the remaining ones.

It can be observed that Big 4 auditors are responsible, directly or through subsidiaries, for about 70% of the audit reports in the two-year period (2002 and 2003). Within such auditing firms, one should mention the importance of Deloitte accounting for 45.7% of the total number of audit reports, although with a share that declined from 47.8% in 2002 to 43.5% in 2003. Such large share is partly due to the fact that Andersen’s activities in Portugal were merged with Deloitte’s in 2002.

It should also be mentioned that (i) one of the Big 4 (KPMG) does not show up in our sample<sup>9</sup>, (ii) the residual importance in the sample of Ernst & Young (it was the auditor of a single company – SAG - during the two-year period), and (iii) the remaining two Big 4 (Deloitte and PricewaterhouseCoopers) were responsible for more than two thirds of the total number of observations, i.e., 63 auditing reports out of a maximum possible total of 92.

Among the non-Big 4, two of these are subsidiaries of international firms - BDO and Grant Thornton — and are responsible for 4 and 3 audits, respectively, a larger sample presence than two of the Big 4 (Ernst & Young and KPMG).

In Table 4 we record the distribution of audit opinions according to whether these are “clean” or “modified” and by auditor type (Big 4 or not). One can observe that the number of firms that received modified opinions was the same in each of the two years (24 firms), but the modified opinions were redistributed during the two-year period as in 2003 the non-Big 4 increased the number of modifications (in 3 cases) at the same time that the Big 4 reduced theirs by the same number. The number of clean opinions (22) was

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<sup>9</sup> In an information report filed to CMVM in September 17, 2004, the board of *EDP-Electricidade de Portugal*, announced that it had agreed with KPMG Portugal, from October 2004 onwards, the provision of external auditing services.

stable during the whole period, and its distribution by auditor type also did not change in the same period.

In relative terms, we can observe that either in 2002 or 2003, 24 out of 46 firms (52%) have a modified opinion in the auditor's report according to our criteria.

From the 48 yearly observations which were categorized as having a modified opinion, in 31 instances a Big 4 was present (64.6%). This proportion is not very different from the market shares presented in Table 3.

## *5.2. Board of directors*

From the analysis of corporate governance reports, we observed that a significant proportion of companies interpreted CMVM regulation nr. 7/2001 (requirement for corporate governance reports) in a way that classified some members as independent although these were assigned executive roles. Given that such classification is not in line with the literature (e.g., Beasley, 1996; Carcello et al., 2002), we considered these as non-independent, and restricted the independence status to situations where members of the board did not have any relationship with the firm apart from their non-executive, supervising role. That situation was found in those cases where we observed that the percentage of non-executive members was lower than the proportion of members classified by the firm as independent. In 2003, we realized that 18 firms (39%) recorded more independent members than non-executive ones.

Table 5 provides a number of descriptive statistics on the board of directors. One can observe that the average board size is 7.29 members, with a minimum of 3 and maximum of 23. In comparative terms, Peasnell et al. (2004), report that in the UK the average board has 8 members. In the US, Xie et al. (2003) and Klein (2002a) report an average size of 12.48 e 12 members, respectively. Therefore, it is clear that significant size difference exist between the average board size in our sample and that reported in the US or, to a lesser extent, UK studies.

According to Portuguese company law, the board of directors can appoint an executive committee whose role is to ensure the management of current operations. CMVM requires that all listed firms should publish

information on any executive committees which have been nominated by the board of directors<sup>10</sup>.

From the analysis of corporate governance reports, we conclude that the number of board meetings is usually lower when firms have appointed an executive committee, which suggests that a substitution effect is occurring. More precisely, the average number of board meetings when an executive committee is in place is 11.91, but that number reaches 15.69 when such committee does not exist, the difference being statistically significant (*p-values* of 0.086, assuming equal variances, or 0.055 when this is not assumed).

The mean (median) number of board meetings in each year is 14.21 (12) (minimum of 4 and maximum of 58) and the presence of an executive committee is observed in 36% of the sample (33 observations). Carcello et al. (2002) report a mean (median) of 7.54 (7) meetings while Abbott et al. (2003) documents a figure of 6.94 (6) meetings.

From the statistics above, and assuming that board diligence can be proxied by the number of meetings, one could conclude that the typical board of directors of listed Portuguese firms is more diligent than the average board reported by the two studies referred above.

For the reasons discussed earlier, PNEEXEC is a variable measuring the proportion of non-executive members according to the classification published in company reports. We view here such variable as a proxy for the percentage of independent members. We acknowledge that this proxy can be biased as it may measure by excess the real number of independent directors

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<sup>10</sup> We can assess the roles assigned to this kind of committees and their activities by analyzing the example of *Jerónimo Martins*, as taken from this firms' 2003 corporate governance report:

“The objective of the executive committee of the company is to assist the board of directors in its management functions. As a body delegated by the Board, it is up to the executive committee, according to its statutory rules, the exercise of following functions: definition of the strategic orientations of the Group, as well as the fundamental policies to be followed by its subsidiaries; controlling the implementation, by all the firms in the Group, of those strategic orientations and policies; accounting and financial control of the Group and each of its firms; general coordination of the operating activities of the firms in the Group, regardless of their integration in business units or not; following the development of new ventures during their launching phase until the full integration of those ventures in business units; implementing a human resources policy for the senior executives of the Group. Throughout the year 2003 the executive committee met 36 times.”

as some non-executive members of the board might be affiliated with management. According to CMVM regulations it is up to the board of directors to classify any of its members as independent following a number of guidelines loosely linked to FRC 2003 by CMVM. A non-executive member should be considered independent when no relationship with management, majority shareholders or the firm, can be found that could create relevant conflicts of interest that might hamper an objective judgment from his part. Independence in this regard should be based on substance instead of form, although a number of situations exist that could limit the classification of a board member as independent (see FRC-Financial Reporting Council, 2003, recommendation A.3.1).

The mean percentage of non-executive members is 35%, with 26 instances (28.5% of the sample) where all the members of the board have executive roles. Bearing in mind CMVM's (2003) recommendations on the corporate governance of listed firms, we can observe that for almost 30% of the sample the CMVM requirement that at least one member should be regarded as independent, is not met in practice.

In Xie et al. (2003) the mean percentage of external board members (non-executive and independent) is 67%. If one adds affiliated members (non-executive and non-independent) to get a figure that could be comparable to ours, the overall percentage of non-executive totals 82%; Klein (2002a) reports a mean non-executive proportion of 77.5% (58.4% external and 19.1% affiliated), while, in a different context (the UK), Peasnell et al. (2004) document a mean of 43% non-executive members.

From the number above we may infer the existence of significant differences between the characteristics of the Portuguese board of directors and the ones found in the Anglo-Saxon environment, a significantly lower percentage of non-executive members being observed in Portugal.

As in previous literature, (e.g., Klein, 2002a), we classify a board as independent when this is characterized by a majority (in excess of 50%) of non-executive members. Klein (2002a) reports that 73.8% of the boards in his sample were dominated by external members (independent and non-executive). In our study such proportion drops to 37% (34 firm-year observations).



The extant literature (e.g., Beasley, 1996; Peasnell et al., 2004) commonly views CEO-Chairman duality (our variable DUAL) as an indicator for the internal power of the chairman in the board. Whenever the chairman has executive powers (i.e., is also the CEO), there is an increased probability of him dominating the board, hampering the independence of its members. Such power can materialize in the fact that the chairman has an overwhelming influence in the board's structure and composition. According to the normative literature (e.g., FRC, 2003; OECD, 2004) it is generally considered good practice the separation between chairman and CEO roles. Following this perspective, chairmen are expected to oversee the efficiency of the board in all relevant dimensions, including setting the board's agenda, providing adequate access by board members to all relevant information, and ensuring that all non-executive members have all the necessary conditions to contribute to the board's efficiency and proper working. One of the major board objectives is to protect the relevant interests of the firm and maximize its value by supervising its management. This includes overseeing the financial information production process. Such task is, therefore, one of the major obligations of the chairman, in conjunction with the remaining non-executive members.

In 73% of the observations in our sample, the chairman also plays an executive role. Peasnell et al. (2004) reports CEO-Chairman duality in 24% of cases in their UK sample. In the US, Xie et al. (2003) observe this in 85% of their sample firms. In this regard, Portugal's reality is closer to that of the US than to the UK one.

In what concerns the creation of audit committees, only in 8% of our sample were such entities appointed, all of which in 2003. This percentage is very distant from the one reported by Peasnell et al. (2004) where audit committees were found in 85% of cases or Dechow et al. (1996) who report a 58% proportion in firms accused by the SEC of manipulating accounting numbers.

### *5.3. Financial statistics*

In Table 6 descriptive statistics are presented on the set of accounting and market variables for our sample. In terms of the firm size variables

(ASSETS, SALES and MKCAP), a significant presence of outliers is apparent (e.g., *EDP, Portugal Telecom, Sonae, Brisa*), as the mean is substantially higher than the median. In relation to the ER variable, such difference is small, the sample only experiencing here a slight positive asymmetry. Regarding ROA, one can observe a mean asset profitability of 3%, with more than 50% of the observations exhibiting profitability ratios lower than 5%. In what concerns growth opportunities (proxied by PBV), our results show that the market prices firms' equity at a mean (median) premium of 83% (28%) over its book value.

#### *5.4. Group comparisons and correlation matrix*

In table 7 a comparison is made between the two types of auditor opinions according to a number of different variables. The results point to the inexistence of significant differences between the two groups as far as board size (NUM) or the number of board meetings (MEET) are concerned.

Regarding the percentage of non-executive board members (PNEEXEC), we find that the mean and median values for this variable are lower in instances where a modified opinion has been issued, but such difference is only marginally significant (p-value of 0.15). However, if one considers a one-sided test – which is justifiable on the grounds that one would expect a larger proportion of non-executive members in the clean opinion group – the difference becomes statistically significant at the 10% level (*p-value*<0.1).

In terms of other factors that might conceivably influence the issuance by the auditor of a modified opinion, we can observe that the mean asset size (ASSETS) is larger in the clean opinion group, but such difference is not statistically significant in a non-parametric test. This result is understandable as one observes that the variable in question is strongly asymmetric and so can hardly be approximated by a normal distribution. We can therefore conclude that there are no significant differences between the two groups in terms of asset size.

The same result does not apply to the equity-to-assets ratio (ER) or asset profitability (ROA) variables as the respective means observed for the clean opinion group are higher than those observed for the group with a

modified opinion, the difference being statistically significant. We can therefore conclude that clean opinion firms enjoy on average higher profitability and stronger equity ratios, in line with previous arguments.

As far as growth opportunities are concerned, we find that the mean price-book value (PBV) of the clean opinion group is higher, but the difference is not significant in a parametric test. However, since we can reject the normality of this variable's distribution ( $p\text{-value}<0.01$ ), that difference becomes statistically significant when a non-parametric test is alternatively employed ( $p\text{-value}<0.10$ ).

Regarding the qualitative explanatory variables, contingency tables were prepared and a chi-squared ( $\chi^2$ ) test was employed to verify whether such variables are statistically independent from the audit opinion type. Results are presented in Table 8. It can be seen that the presence of an executive committee (EC) is not independent from the audit opinion type ( $p\text{-value}=0.028$ ). Also, the fact that a firm reports net losses (LOSS) is also not statistically independent from the type of opinion being granted by the auditor ( $p\text{-value}<0.01$ ).

In the case of the CEO-chairman duality (DUAL), we cannot reject the hypothesis that this variable is independent from the type of audit opinion being issued ( $p\text{-value}=0.67$ ).

In order to verify if multicollinearity problems were present, a correlation matrix is presented in table 9 for the quantitative explanatory variables. From this table we can observe that none of the correlations exceeds 60%. The highest correlation is that which is found for NUM and LASSETS. This might be due to a possible size effect. The evidence above suggests, therefore, the absence of severe multicollinearity problems in the variables in question<sup>11</sup>.

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<sup>11</sup> More formal tests for the presence of multicollinearity in the regressions reported in the following sections confirm this conjecture. Following procedures defined by Belsley et al. (1980), we computed variance inflation factors (VIFs) that were observed to be always less than 2.5 on a scale where 10.0 represents a multicollinearity problem.

### 5.5. Empirical model

Table 10 reports the logistic regression results, according to maximum likelihood estimation procedures<sup>12</sup>. Considering model 5, we find that not only is the model's adjustment quality as a whole significant ( $p\text{-value}<0.01$ ), but also that the expected signs are generally present, at the same time that the model correctly predicts 86.81% of the observations.

The model's pseudo  $R^2$  is 0.48. By comparison, when modelling the probability of a going-concern opinion being issued, Carcello and Neal (2000) obtain a pseudo  $R^2$  of 0.51 while Ruiz-Barbadillo et al. (2004) get 0.229.

A question that can be raised is whether the simultaneous introduction in the model of the explanatory variables associated with the characteristics of the board of directors significantly improves the model. Using a Wald test we concluded that the inclusion of such variables is indeed a significant improvement to the empirical specification ( $p\text{-value}$  of 0.07).

Although the sign obtained is in accordance with a positive relationship between the number of board members (NUM) and the probability of a modified opinion being issued, this is not statistically significant at either the 5% or 10% levels, leading us to conclude that board size seems to have no influence on the type of audit opinion. This contradicts evidence by Beasley (1996), who finds that board size is positively related to the likelihood of accounting fraud. We can therefore conclude that our evidence rejects H1.

Board diligence (proxied by our variables MEET and EC) has an influence on the auditor's opinion type which is signed as expected but significant only for the variable accounting for the existence of an executive committee ( $p\text{-value}<0.05$ ). The evidence, therefore, leads us to accept H2 for this variable only. If, in line with former literature (e.g., Carcello et al., 2002), MEET is the only proxy for board diligence, still this variable is not significant

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<sup>12</sup> In an unreported additional sensitivity analysis, we redefined the dependent variable OPIN by assigning to it a value of 1 if the financial statements received two or more comments from auditors. Using such transformed variable, the explanatory variables EC and PNEXEC are no longer statistically significant. This might be caused by the fact that the relevant threshold may be the inexistence of any comment (their precise number being of secondary importance). In other words, the existence of an executive committee and the proportion of non-executive board members would have an influence on whether the company is issued *any* comment leading to an audit modification. On the other hand, the fact that only in 23

( $p$ -value=0.34), at the same time that the remaining results from the model are virtually unchanged. We may therefore conclude that in the Portuguese case our evidence suggests that the existence of an executive committee (EC) is a good proxy for board diligence, but the same does not seem to apply to the number of board meetings (MEET).

Board independence (proxied by our variables PNEEXEC and DUAL) is also a significant influence on the type of audit opinion issued, with the expected negative and significant sign being found only for the proportion of non-executive members ( $p$ -value<0.05). Our evidence is thus in agreement with the proposition that the larger the percentage of non-executive members in the board the lower the probability that the firm will be issued a modified opinion by the auditor. In contrast, duality does not seem to affect the likelihood of a modified opinion ( $p$ -value=0.31). These results are in accordance, therefore, with H3 only when we use as proxy for board independence the percentage of non-executive members.

Regarding control variables, only for the firm size variable (LASSETS) can we reject the hypothesis that this influences the type of audit opinion ( $p$ -value>0.10). Additional tests using sales or market capitalization as alternative proxies for firm size yielded very similar results.

Our results show that the existence of consecutive losses (LOSS) has the expected positive impact on the likelihood of a modified audit opinion. Also in accordance with expectations, a larger equity ratio (ER) has a negative influence on the probability that the auditor issues a modified opinion. The same applies as well to asset profitability (ROA), our measure of firm performance. All of these variables are therefore signed as expected and statistically significant ( $p$ -value<0.05)<sup>13</sup>.

Finally, our findings also reveal that the larger the price-to-book value (PBV) (our proxy for growth opportunities), the lower are the chances that the firm will be issued a modified opinion ( $p$ -value<0.05). This suggests that such

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observations (25%) were two or more audit comments recorded may be causing an influence on these results.

<sup>13</sup> If the variable LOSS is redefined by assigning to it a value of 1 if the company reports negative current income for at least the two last years, and 0 otherwise, the results remain very similar. Also, when we redefine ROA as net income divided by total net assets, still no relevant changes in the results are found.

companies are deeply interested in ensuring that their financial statements will not be modified by auditors so as to maintain a good reputation in the capital markets in terms of the quality of its financial reporting.

Generally speaking, the above results are consistent with firms characterized by financial or growth difficulties being more engaged in adopting aggressive accounting options attempting to convey a more favourable image of their financial position or performance. The auditors, however, given most likely the larger litigation risks they face in those clients, try to insulate themselves from such risks by issuing modified audit opinions.

## **6. Robustness checks**

In this section we analyze the possibility that some other factors may account for the results presented earlier as well as their robustness to different variable definitions. Table 11 reports the results obtained for a number of different specifications.

### *6.1. Qualified opinions*

In model 1 we redefined the dependent variable as follows:

$QOPIN = 1$ , if a firm has been issued a qualified opinion (i.e., qualifications only), and 0 otherwise.

The reasoning for this redefinition relates to the fact that information users may lend greater importance to an opinion which has been qualified by the auditor as the result of one or more qualifications rather than mere emphases. In agreement with such perspective, CMVM, the exchange commission, seems to consider the existence of qualifications a particularly important issue since that in its analysis of audit reports for listed companies it only took in consideration the existence of qualified opinions, ignoring thus all emphases<sup>14</sup>.

Of the 91 observations in our sample 29 (32%) corresponded to qualified opinions redefined as explained above. The regression results, however, are still globally significant, albeit with a lower pseudo- $R^2$  (0.39). The existence of an executive committee (proxy for board diligence) and the

percentage of non-executive board members remain statistically significant in the regression ( $p\text{-value}<0.05$ ) and with the expected sign. Board size is still an insignificant influence on the audit opinion type.

An interesting result relates to the unexpected significant negative impact of CEO-Chairman duality (DUAL) on the likelihood of a qualified opinion ( $p\text{-value}<0.1$ ). A possible explanation for this is the potential negative impact of such duality on the auditor's independence. This in turn may be an incentive for the auditor to be ever more cautious in his work so as to avoid any suspicions of lack of independence. Our overall results in this matter thus suggest that duality is a negative influence on the probability of a firm receiving a qualified opinion but not when we consider, instead, a modified opinion (i.e., qualifications and/or emphases).

## *6.2. Auditor type*

In the context of our research, the hypothesis that auditor size increases audit quality is tested by introducing in model 2 the variable BIG 4 that takes the value of 1 whenever the auditor is one of the largest auditing firms, and 0 otherwise. Results show that the fact that the audit report was issued by a Big 4 auditor has a positive impact on the audit opinion type but not at statistically significant levels ( $p\text{-value}=0.54$ ). Therefore, such variable does not add much explanatory power to our model.

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<sup>14</sup> In <http://www.cmvm.pt> a statistical analysis undertaken by CMVM is available where it can be seen that no references whatsoever are made regarding audit emphases.

### 6.3. Dividend payments

In model 3 the variable DIVBI was introduced, assuming a value of 1 if the company paid dividends in the year in question, or 0 otherwise.

From the analysis of corporate governance reports (in the section that addresses dividend policy), we observe that under certain circumstances companies suspend their dividend payments usually with the allegation that they are facing temporary accounting profit difficulties (usually losses) or large investments (e.g., *Impresa* or *Sonae Indústria* in 2003). It is thus reasonable to assume the possibility that dividend payments may influence the audit opinion as the dividend decision is an important information regarding the availability, in practice, of distributable funds to shareholders. Therefore, the cancellation of dividend payments might be associated to liquidity problems or debt covenants, both of which may turn out to be relevant considerations for the auditor to assess the applicability of a going-concern principle (ISA 570). We would therefore anticipate a negative impact of dividend payments on the probability that a modified opinion is issued by the auditor.

In our sample we find that dividend payments occurred in 38 (41.8%) observations. When testing the hypothesis that these influence the auditor's opinion our evidence reveals that dividend payments do in fact reduce the probability of a firm receiving an audit modification ( $p\text{-value}<0.05$ ), confirming our perception that liquidity considerations associated with dividend decisions are an important consideration in this context.

Finally, for the remaining variables in this model, there are no significant changes as compared to the results in the initial specification.

### 6.4. Independent majority in the board

A potentially important concern in the issue of the influence of board of directors' characteristics on the audit opinion is the percentage of non-executive members, and whether, in particular, a majority of these is present or not. According to the Portuguese Law, the preparation of financial reports is exclusively the board's responsibility and decisions are taken according to the rule of majority voting [see articles 406, d), and 410, nr.7, of the *CSC - Código das Sociedades Comerciais*, the Portuguese Company Law Code].



Klein (2002a) finds evidence that a majority of independent members has a negative impact on earnings management activities, with the evidence being weaker when only the proportion of non-executive members is considered.

Following a similar reasoning, we redefined the variable PNEEXEC in the following manner:

NEXEC51 takes the value of 1 when the percentage of non-executive members is greater than 50%, and 0 otherwise.

In 91 observations of our sample we find that in 57 (62.6%) boards the number of non-executive members is less than 50%.

Finally, from the results reported for model 4, we can see that the variable NEXEC51 has a negative impact on the probability of a modified audit opinion ( $p$ -value=0.03), just like PNEEXEC in the initial model.

A possible interpretation for our results is that when the majority of board members are independent, the board will tend to back more often the auditor's perspective, therefore avoiding the existence of audit modifications<sup>15</sup>.

## **7. Conclusions, limitations and future research directions**

In this paper we analyze, within the Portuguese context, the relationship between board of directors' characteristics and the probability that a firm is issued a modified audit opinion. We find evidence that board diligence and independence have a negative impact on the likelihood of the firm facing an audit modification, the results being robust to a number of alternative model specifications and variable definitions. Regarding board size, we did not find evidence of a significant influence. Other factors, however, that proved to be statistically significant in determining the type of audit opinion being received were the firm's financial health, performance, growth opportunities and the existence of dividend payments.

The evidence reported in this paper is also in accordance with a number of concerns that have been expressed by several international bodies

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<sup>15</sup> In an unreported regression, we also analyzed if some industry effects were present that could alter our conclusions. Specifically, we included a dummy variable for an industry ("Building") where according to some financial analysts accounting information is allegedly

(e.g., FRC, 2003; OECD, 2004). These have drawn the attention for the relation between financial reporting quality and board structure, namely the potential importance of independent non-executive members that could help to ensure the integrity of financial reports.

In this study we acknowledge that our classification of independent board members is an imperfect one, as information needed to more rigorously classify board members in that dimension is not available in Portugal. Another related limitation is that we could not find information on the level of formal training or professional knowledge in accounting or auditing issues that characterizes each board member, thus leaving the possibility of omitted variable biases in the analysis.

A further limitation is the fact that we do not have data on the accounting adjustments that were accepted by the firm, nor the actual areas where greater disagreements with auditors existed, or the role of non-executives in settling those disputes (e.g., DeZoort and Salterio, 2001). In this paper we explicitly assume that if a disagreement arises, the non-executives are expected to support the auditor's perspective so that if a majority of independent members is present, financial reports will be less subject to audit modifications.

Regarding the issue of non-audit fees, recent regulation issued by CMVM (nr. 11/2003) imposes on firms the duty to disclose the amounts of such fees paid to their auditors in each year. Therefore, since such data was not available for 2002 and 2003, future research might analysis whether such consideration changes the results in this paper (e.g., Frankel et al. (2002) and Defond et al. (2002) find that this may have an impact on the type of audit opinion and on the existence of earnings management activities).

A final unexplored issue in this paper is the analysis of whether the professional qualification or experience, in accounting or finance fields, of the board members in our sample has an impact on the quality of published accounting information (e.g., Agrawal and Chadha, 2005). We could not address this problem given the lack of information on that regard on the

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more opaque in Portugal. Results were virtually unchanged and the dummy itself was statistically insignificant.

corporate governance reports of listed firms in Portugal. This is also best left for future research.

Notwithstanding these caveats, our paper contributes to the literature in a novel way by showing that previous research that documented the impact of board characteristics on the quality of accounting information can be extended to an additional dimension of accounting quality, the existence of audit modifications. We are able to analyze this feature in the Portuguese Exchange given that, in contrast with larger markets such as the US, listed companies are not required to publish GAAP complying accounts. In addition, the paper also extends the research on board structure and accounting quality to an emerging market environment for which few studies have been made.

**APPENDIX 1 – LISTED FIRMS IN THE INITIAL SAMPLE**  
**(MCO-Mercado de Cotações Oficiais (“main market”);**  
**SM-Segundo Mercado (“second market”))**

	<b>OFFICIAL NAME</b>	<b>ABBREVIATED NAME</b>	<b>MARKET</b>
1	Brisa —Auto Estradas de Portugal, SA	Brisa	MCO
2	Celulose do Caima, SGPS, SA	Caima	MCO
3	Cimpor —Cimentos de Portugal, SGPS, SA	Cimpor	MCO
4	CIN—Corporação Industrial do Norte, SA	CIN	MCO
5	Cofaco—Comercial e Fabril de Conservas, SA	Cofaco	SM
6	Cofina —SGPS, SA	Cofina	MCO
7	Comp. Industrial Resinas Sintéticas - Cires, SA	Cires	MCO
8	Compta —Equipamentos e Serviços de Informática, SA	Compta	MCO
9	Conduril —Construtora Duriense, SA	Conduril	SM
10	Copam—Companhia Portuguesa de Amidos, SA	Copam	SM
11	Corticeira Amorim—SGPS, SA	Corticeira Amorim	MCO
12	EDP—Electricidade de Portugal, SA	EDP	MCO
13	Efacec Capital, SGPS, SA	Efacec	MCO
14	Estoril Sol, SGPS, SA	Estoril Sol	MCO
15	Fisipe—Fibras Sintéticas de Portugal, SA	Fisipe	MCO
16	Gescartão, SGPS, SA	Gescartão	MCO
17	Grupo Soares da Costa, SGPS, SA	Soares da Costa	MCO
18	Ibersol —SGPS, SA	Ibersol	MCO
19	Imobiliária Construtora Grão Pará, SA	Grão Pará	MCO
20	Impresa, SGPS, SA	Impresa	MCO
21	INAPA—Investimentos, Participações e Gestão, SA	Inapa	MCO
22	Jerónimo Martins—SGPS, SA	Jerónimo Martins	MCO
23	Lisgráfica—Impressão e Artes Gráficas, SA	Lisgráfica	MCO
24	Litho Formas Portuguesa—Impre. Cont. e Mult., SA	Litho	SM
25	Modelo Continente, SGPS, SA	Modelo Continente	MCO

26	Mota—Engil, SGPS, SA	Mota—Engil	MCO
27	Novabase, SGPS, SA	Novabase	MCO
28	Papelaria Fernandes—Industria e Comércio, SA	Papelaria Fernandes	MCO
29	Pararede—SGPS, SA	Pararede	MCO
30	Portucel—Empresa Produtora de Pasta de papel, SA	Portucel	MCO
31	Portugal Telecom, SGPS, SA	Portugal Telecom	MCO
32	PT Multimédia—Serv. Tel. Multimédia, SGPS, SA	PT Multimédia	MCO
33	Reditus, SGPS, SA	Reditus	MCO
34	SAG Gest—Soluções Automóveis Globais, SGPS, SA	SAG	MCO
35	Salvador Caetano—Indust. Metal. Veículos Transp, SA	Salvador Caetano	MCO
36	Semapa—Sociedade Investimentos e Gestão, SGPS, SA	Semapa	MCO
37	Sociedade Comercial Orey Antunes, SA	Orey Antunes	MCO
38	Sociedade Têxtil Amieiros Verdes, SA	Amieiros Verdes	SM
39	Somague, SGPS, SA	Somague	MCO
40	Sonae—SGPS, SA	Sonae SGPS	MCO
41	Sonae Industria - SGPS, SA	Sonae Industria	MCO
42	Sonaecom—SGPS, SA	Sonaecom	MCO
43	Sumolis—Comp. Industrial de Frutas e Bebidas, SA	Sumolis	MCO
44	Teixeira Duarte—Engenharia e Construções, SA	Teixeira Duarte	MCO
45	Tertir—Terminais de Portugal, SA	Tertir	MCO
46	VAA—Vista Alegre Atlantis—SGPS, SA	VAA	MCO

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**Figure 1 – Relation between the board of directors and accounting information quality**

Transparent financial statements	Financial statements with earnings management	Financial statements with auditor modifications	Fraudulent financial reporting
	Xie et al. (2003) Klein (2002a)		Beasley (1996) Dechow et al. (1996)
+			-
<b>Accounting Information Quality</b>			

**Table 1**  
**Sample selection**

<b>Description</b>	<b>Number</b>
Companies listed in Euronext Lisbon in 2003	57
Less: firms not subject to Portuguese Law	2
Less: firms without financial reports available for 2003 (31 December)	1
Less: financial firms	6
Less: <i>Sociedades Anónimas Desportivas</i> (Football club firms)	2
<b>Final number of firms in the sample</b>	<b>46</b>

**Table 2**  
**Sample Industry Distribution**

<b>Code</b>	<b>Industry</b>	<b>Nr.</b>	<b>%</b>
113	Chemical Industries—Commodities	3	6,52
132	Building and Building Materials	3	6,52
137	Building — Other	6	13,04
156	Paper	6	13,04
252	Electrical Equipment	1	2,17
263	Commercial Vehicles and Trucks	1	2,17
318	Retail – Vehicles	1	2,17
	Domestic appliances and Domestic Use		
345	Articles	1	2,17
349	Other Textile and Leather Products	1	2,17
416	Drinks—Distilleries and Wine Producers	1	2,17
418	Soft Drinks	1	2,17
433	Agriculture and Fisheries	1	2,17
435	Food Manufacturing	1	2,17
532	Gambling	1	2,17
539	Restaurants and Bars	1	2,17
542	Television and Radio—Suppliers	1	2,17
543	Cable and Satellite	1	2,17
547	Editing and Printing	2	4,35
596	Rail, Road and Cargo Transports	1	2,17
597	Maritime/River Transports and Harbours	2	4,35
630	Retailers—Food and Drugs	3	6,52
673	Fixed LineTelecommunications	1	2,17
678	Mobile Telecommunications	1	2,17
720	Electricity	1	2,17
972	Computer Services	4	8,70
<b>Total</b>		<b>46</b>	<b>100,00</b>

Note: The industry classification for each firm was obtained directly from *Euronext Lisbon's* website ([www.euronext.pt](http://www.euronext.pt))

**Table 3**  
**Distribution of sample firms by auditor**

<b>Auditor</b>	<b>2002</b>		<b>2003</b>		<b>Total</b>	
	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>
Deloitte	22	47,8	20	43,5	42	45,7
PricewaterhouseCoopers	11	23,9	10	21,7	21	22,8
Ernst & Young	1	2,2	1	2,2	2	2,2
Other	12	26,1	15	32,6	27	29,3
<b>Total</b>	<b>46</b>	<b>100</b>	<b>46</b>	<b>100</b>	<b>92</b>	<b>100</b>

**Table 4**  
**Distribution of auditors' opinions by category**

	<b>2002</b>			<b>2003</b>			<b>2002/2003</b>		
	<b>Big 4</b>	<b>Non-Big 4</b>	<b>TOTAL</b>	<b>Big 4</b>	<b>Non-Big 4</b>	<b>TOTAL</b>	<b>Big 4</b>	<b>Non-Big 4</b>	<b>TOTAL</b>
Clean	17	5	22	17	5	22	34	10	44
Modified	17	7	24	14	10	24	31	17	48
<b>Total</b>	<b>34</b>	<b>12</b>	<b>46</b>	<b>31</b>	<b>15</b>	<b>46</b>	<b>65</b>	<b>27</b>	<b>92</b>

**Table 5**  
**Board Characteristics**

Variable	Mean	Std Dev.	1st Quartile	Median	3d Quartile	Min-Max
<b>Quantitative</b>						
NUM	7.29	3.34	5	7	9	3-23
MEET	14.32	10.10	7	12	16	4-58
PNEXEC	0.35	0.27	0	0.36	0.57	0-0.86
<b>Qualitative</b>						
<b>(a)</b>						
NEXEC51	0.37					(34)
DUAL	0.73					(66)
EC	0.36					(33)
AUDC	0.08					(7)

Notes:

The sample includes 91 year-firm observations in the period 2002-2003;

NUM = number of board members;

MEET = total number of board meetings in each year;

PNEXEC = proportion of non-executive members in the board;

NEXEC51 = 1 if the proportion of non-executive members in the board exceeds 50%, 0 otherwise;

DUAL = 1 if the Chairman of the Board and the CEO are the same person, 0 otherwise;

EC = 1 if an executive committee is reported at year-end; 0 otherwise;

AUDC = 1 if an audit committee is reported at year-end, 0 otherwise;

(a) In qualitative variables, the numbers in brackets refer to the sum, that is, the number of instances where the characteristic in question was observed.

**Table 6**  
**Accounting and market variables**

Variable	Mean	Std. Deviation	1st Quartile	Median	3rd Quartile	Min.	Max.
ASSETS	1.541.808	3.460.296	100.206	330.571	1.225.485	6.200	18.650.669
SALES	891.480	1.617.383	49.097	216.583	813.695	3.410	6.977.520
MKCAP	675.978	1.640.323	12.150	109.382	355.213	525	10.009.190
ER	0.27	0.19	0.15	0.24	0.38	-0.21	0.82
ROA	0.03	0.08	0.01	0.03	0.07	-0.35	0.34
PBV	1.83	2.06	0.68	1.28	2.26	-0.07	14.41

Notas:

ASSETS = Total assets, in thousands of euros;

SALES = Total sales, in thousands of euros;

MKCAP = Market capitalization of firm equity, in thousands of euros;

ER = Equity ratio, computed as the ratio between book equity and total assets;

ROA = Asset profitability, computed as earnings before interest, taxes and extraordinary items divided by total assets;

PBV = *Price Book Value*. This is equal to MKCAP dividend by the book value of equity;



**Table 7**  
**Mean (median) figures of variables used according to audit opinion type**

Variables	Modified opinion (n = 47)	Clean opinion (n = 44)	Difference (modified – clean)	t Test  p-value	Mann- Whitney U  p-value
NUM	6.91 (7.00)	7.68 (7.00)	-0.77 (0.00)	0.28	0.51
MEET	14.38 (12.00)	14.25 (12.00)	0.13 (0.00)	0.95	0.95
PNEXEC	0.31 (0.29)	0.39 (0.40)	-0.08 (-0.11)	0.15	0.16
ASSETS	852492 (243033)	2278122 (351247)	-1425629 (108214)	0.06	0.28
ER	0.21 (0.18)	0.34 (0.31)	-0.13 (-0.13)	0.00	0.00
ROA	-0.00 (0.02)	0.07 (0.06)	-0.07 (-0.04)	0.00	0.00
PBV	1.66 (1.19)	2.02 (1,71)	-0.36 (-0.52)	0.41	0.06

The levels of significance shown relate to two-sided tests;

Given that we rejected the hypothesis of normal distribution for the variables, a Mann-Whitney U non-parametric test was used to verify if the two groups relate to populations with the same location.

NUM = number of board members;

MEET = total number of board meetings in each year;

PNEXEC = proportion of non-executive members in the board;

ASSETS = total assets, in thousands of euros;

ER = Equity ratio, computed as the ratio between book equity and total assets;

ROA = Asset profitability, computed as earnings before interest, taxes and extraordinary items divided by total assets;

PBV = *price book value*.

**Table 8**  
**Distribution of qualitative variables according to audit opinion type (clean = 44, qualified = 47)**

Type of audit opinion	EC		DUAL		LOSS	
	p-value = 0.028		p-value = 0.67		p-value = 0.00	
	Existing	Non-existing	Existing	Non-existing	With consecutive net losses	Without consecutive net losses
Clean	21	23	31	13	3	41
Modified	12	35	35	12	21	26

Notes:

EC = 1 if an executive committee is reported at year-end; 0 otherwise;

DUAL = 1 if the Chairman of the Board and the CEO are the same person, 0 otherwise;

LOSS = 1, if a firm reports net losses in the last two years, 0 otherwise.

**Table 9**  
**Pearson and Spearman correlation matrixes**

	NUM	MEET	PNEXEC	LASSETS	ER	ROA	PBV
NUM	1	-0.21*	0.32**	0.56**	-0.06	0.02	0.21*
MEET	-0.29**	1	-0.49**	0.07	0.09	0.03	-0.21*
PNEXEC	0.28**	-0.43**	1	0.05	-0.17	-0.07	0.20
LASSETS	0.52**	-0.04	0.00	1	-0.32**	0.20	0.19
ER	-0.08	-0.03	-0.15	-0.25*	1	0.26**	-0.20
ROA	0.07	0.07	-0.08	0.24**	0.24*	1	-0.11
PBV	0.34**	-0.16	0.15	0.33**	-0.21*	0.35**	1

Notes:

Pearson correlations above the main diagonal, and Spearman correlations below.

\* and \*\* indicate significant correlations at the 5% or 1% levels of significance, respectively.

NUM = number of board members;

MEET = total number of board meetings in each year;

PNEXEC = proportion of non-executive members in the board;

ASSETS = total assets, in thousands of euros;

ER = Equity ratio, computed as the ratio between book equity and total assets;

ROA = Asset profitability, computed as earnings before taxes and extraordinary items divided by total assets;

PBV = price book value.

**Table 10**  
**Logistic regression results**

$$\text{Prob}(OPIN = 1) = F(\alpha + \beta_1 NUM + \beta_2 MEET + \beta_3 EC + \beta_4 PNEXEC + \beta_5 DUAL + \beta_6 LASSETS + \beta_7 LOSS + \beta_8 ER + \beta_9 ROA + \beta_{10} PBV + \varepsilon)$$

		<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>	<b>Model 5</b>
Variable	Expected sign	Coefficient (p-value)	Coefficient (p-value)	Coefficient (p-value)	Coefficient (p-value)	Coefficient (p-value)
Constant	?	0.63 (0.82)	0.62 (0.82)	-2.51 (0.43)	-0.36 (0.91)	-2.06 (0.60)
NUM	?	-0.04 (0.73)	-0.04 (0.75)	-0.00 (0.99)	0.07 (0.63)	0.08 (0.59)
MEET	-		0.00 (0.96)	-0.00 (0.96)	-0.04 (0.28)	-0.03 (0.32)
EC	-			-2.10 (0.01)	-2.03 (0.02)	-2.16 (0.01)
PNEXEC	-				-3.53 (0.02)	-3.14 (0.05)
DUAL	+					0.86 (0.31)
LASSETS	?	0.16 (0.48)	0.16 (0.49)	0.41 (0.13)	0.37 (0.20)	0.44 (0.15)
LOSS	+	2.11 (0.03)	2.11 (0.03)	2.87 (0.01)	3.07 (0.01)	3.33 (0.00)

**Table 10 (continued)**

		<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>	<b>Model 5</b>
Variable	Expected sign	Coefficient (p-value)	Coefficient (p-value)	Coefficient (p-value)	Coefficient (p-value)	Coefficient (p-value)
ER	-	-6.19 (0.01)	-6.21 (0.01)	-5.63 (0.02)	-7.18 (0.01)	-7.19 (0.01)
ROA	-	-17.92 (0.03)	-17.89 (0.03)	-17.43 (0.03)	-18.92 (0.03)	-20.22 (0.03)
PBV	?	-0.34 (0.05)	-0.34 (0.05)	-0.27 (0.11)	-0.29 (0.10)	-0.30 (0.09)
N=91; Clean=44; Modified=47						
Chi-Square for Model		45.61	45.61	53.47	59.59	60.65
p-value		0.00	0.00	0.00	0.00	0.00
Pseudo R <sup>2</sup>		0.36	0.36	0.42	0.47	0.48
Correct classifications (cut-off = 0.5)		80.22%	80.22%	85.71%	85.71%	86.81%

**Notes:**

The dependent variable is the auditor opinion, assuming the value of 1 when it is modified, 0 otherwise.

NUM = number of board members;

MEET = total number of board meetings in each year;

EC = 1 if an executive committee is reported at year-end; 0 otherwise;

PNEXEC = proportion of non-executive members in the board;

DUAL = 1 if the Chairman of the Board and the CEO are the same person, 0 otherwise;

LASSETS = log of total assets;

LOSS = 1, if firm reports net losses for at least two consecutive years, 0 otherwise;

ER = Equity ratio, computed as the ratio between book equity and total assets ;

ROA = Asset profitability, computed as earnings before interest, taxes and extraordinary items divided by total assets;

PBV = price book value.

**Table 11**  
**Additional regressions**

Variable	Expected sign	Model 1	Model 2	Model 3	Model 4
		Estimated parameter (p-value)	Estimated parameter (p-value)	Estimated parameter (p-value)	Estimated parameter (p-value)
Constant	?	0.86 (0.81)	-1.90 (0.63)	-1.27 (0.77)	-2.68 (0.50)
NUM	?	-0.04 (0.79)	0.08 (0.57)	0.12 (0.45)	0.10 (0.49)
MEET	-	-0.01 (0.77)	-0.03 (0.47)	-0.04 (0.32)	-0.02 (0.47)
EC	-	-1.98 (0.02)	-2.30 (0.01)	-1.98 (0.03)	-2.28 (0.01)
PNEXEC	-	-2.96 (0.04)	-3.06 (0.05)	-4.48 (0.01)	
DUAL	+	-1.47 (0.09)	0.93 (0.28)	0.84 (0.35)	1.04 (0.22)
LASSETS	?	0.29 (0.29)	0.39 (0.21)	0.50 (0.14)	0.42 (0.18)
LOSS	+	1.65 (0.07)	3.51 (0.00)	2.94 (0.02)	3.32 (0.00)
ER	-	-7.02 (0.01)	-7.56 (0.01)	8.76 (0.01)	7.20 (0.01)
ROA	-	-0.62 (0.94)	-20.99 (0.03)	-17.27 (0.06)	-23.64 (0.02)
PBV	?	-0.65 (0.05)	-0.32 (0.08)	-0.39 (0.04)	-0.28 (0.12)
BIG4	+		0.56 (0.54)		
DIVBI	-			-1.89 (0.03)	
NEXEC51	-				-1.84 (0.03)
<hr/>					
N = 91					
Chi-Square for Model		44.87	61.04	66.13	61.75
Pseudo R <sup>2</sup>		0.39	0.48	0.52	0.49
<i>p-value</i>		0.000	0.000	0.000	0.000
Correct classifications		84.62%	79.12%	83.52%	84.62%

*(continued on next page)*

**Table 11 (continued)**

Notes:

In model 1 the dependent variable was redefined by assigning it a value of 1 if a qualified opinion was issued (as the result of disagreement and/or scope limitation), 0 in the opposite case. In the remaining models OPIN=1 if qualifications or emphases were recorded whatsoever, 0 in the opposite case.

NUM = number of board members;

MEET = total number of board meetings in each year;

EC = 1 if an executive committee is reported at year-end; 0 if not;

PNEXEC = proportion of non-executive members in the board;

DUAL = 1 if the Chairman of the Board and the CEO are the same person, 0 if not;

LASSETS = log of total assets, in thousands of euros;

LOSS = 1, if firm reports net losses for at least two consecutive years, 0 if not;

ER = Equity ratio, computed as the ratio between book equity and total assets ;

ROA = Asset profitability, computed as earnings before interest, taxes and extraordinary items divided by total assets;

PBV = price book value;

BIG4 = 1, if the audit report was issued by one of the four largest international audit firms, 0 in the opposite case;

DIVBI = 1, if the company distributed dividends in the year, 0 if not;

NEXEC51 = 1, if the proportion of non-executive members exceeds 50%, 0 if this is not the case.