



Management Research Review

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Cristina Abad, Francisco Bravo,

Article information:

To cite this document:

Cristina Abad, Francisco Bravo, (2018) "Audit committee accounting expertise and forward-looking disclosures: A study of the US companies", Management Research Review, <https://doi.org/10.1108/MRR-02-2017-0046>

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Audit committee accounting expertise and forward-looking disclosures

A study of the US companies

Cristina Abad and Francisco Bravo

*Department of Accounting and Financial Economics,
Faculty of Economics and Business, Universidad de Sevilla, Seville, Spain*

Received 16 February 2017
Revised 27 October 2017
17 January 2018
Accepted 1 February 2018

Abstract

Purpose – The purpose of this study is to examine how the accounting expertise of audit committee members is associated with the disclosure of forward-looking information.

Design/methodology/approach – Manual content analysis is used to analyze forward-looking information disclosed in annual reports as well as gather data about the accounting expertise of directors. Regression analysis is performed to study the association between the disclosure variables and the accounting expertise of audit committee members.

Findings – The results show that the accounting expertise of audit committee members is associated with forward-looking disclosure practices, particularly with information of a financial and strategic nature.

Practical implications – The evidence has direct implications for companies in the selection of directors, as stakeholders may demand nomination committees to appoint audit committees with the accounting experts. They may also request regulatory actions regarding the structure of the audit committee, as these add to the evidence on the benefits of selecting such experts.

Social implications – The evidence on the role of accounting expertise could also help the US Securities and Exchange Commission (SEC) to narrow the definition of financial expertise to specifically consider accounting expertise, as is already happening in the EU context.

Originality/value – This paper extends prior research on corporate governance and voluntary disclosure by showing the association between the company having at least one accounting expert in the audit committee and the level of disclosure of value-relevant information.

Keywords Audit committee, Corporate governance, Content analysis, Forward-looking information, Voluntary disclosure, Other management-related topics, Accounting expertise

Paper type Research paper

1. Introduction

The purpose of this paper is to investigate the association between the accounting expertise of directors and the disclosure of forward-looking information. Forward-looking information

We would like to thank participants at the 2014 and 2015 Annual Congresses of the EAA, the X Workshop on Empirical Research in Financial Accounting and the IV Financial Reporting Workshop for their helpful comments. We also specially thank to Anne Garvey. Partial funding for this research was provided by the Junta de Andalucía (Consejería de Innovación, Ciencia y Empresas) via the research project P08-SEJ-03950 and by the Gobierno de España (Ministerio de Economía, Industria y Competitividad), via the research project ECO2015-69637-R – *Programa Estatal de Investigación, Desarrollo e Innovación Orientada a los Retos de la Sociedad, Proyectos I + D + I, Convocatoria 2015*.



is shown to reduce the information gap between firms and investors by improving the anticipation of future earnings and investment decisions (Hussainey and Walker, 2009). This information is associated with corporate transparency as it is value-relevant for investors (CICA, 2004; IOSCO, 2003; SEC, 2003) and is expected to mitigate agency costs by reducing information asymmetries.

The board of directors and its committees are a relevant corporate governance mechanism in the oversight of managerial actions (Fama and Jensen, 1983) and board members have an effect on the information disclosed in annual reports (Li *et al.*, 2008). In recent years, both academics and standard setters have called for the improvement of the configuration of the audit committee. In the USA, the independence of audit committees is required for listed companies and there is an ongoing academic debate about the benefits of having financial experts in the audit committee. The US corporate governance standards establish that the audit committee must have at least one financial expert. Yet the EU standards have chosen a narrower definition of expertise, focusing on accounting and/or auditing expertise. The extant research about the role of the director's financial expertise in the disclosure process is scarce and inconclusive (Chan *et al.*, 2013; Karamanou and Vafeas, 2005; Wang and Hussainey, 2013).

Audit committee members perform their tasks through the fulfillment of two main functions, not only the managerial monitoring, but also the resource provision function (Hillman and Dalziel, 2003). In particular, accounting expertise may be necessary for the experts to better perform their monitoring and resource-provision roles because the functions performed by audit committee members require having a thorough knowledge of the accounting standards, practices and procedures. The provision of resources is a key function of directors (Pfeffer and Salancik, 1978), and independent directors with valuable human capital are in an excellent position to contribute with their advice in the formulation of corporate strategy (Pugliese *et al.*, 2009), including those decisions that have to do with the information to be disclosed to the markets.

Nevertheless, the definition of financial expertise used in previous disclosure studies is broad, as specific accounting knowledge is not considered. This research adds to this prior evidence using a more specific definition of financial expertise and specifically focusing on accounting expertise. The objective is therefore to study the association between the accounting expertise of audit committee members and the disclosure of forward-looking information. This director characteristic is expected to explain better the reasons behind disclosure decisions.

Previous research on the relationship between corporate governance and the disclosure of forward-looking information measures this information by the number sentences, or focuses on specific forward-looking disclosures, especially management earnings forecasts (Karamanou and Vafeas, 2005; Lim *et al.*, 2007; Wang and Hussainey, 2013). This paper also furthers previous studies by creating a comprehensive disclosure index, which measures forward-looking information disclosed about activity, strategy and financial topics.

Content analysis techniques are used to manually analyze forward-looking information disclosed in the annual reports of companies belonging to the Standard & Poor's 100 Index in 2007 and 2016. In addition, a unique set of data is used as the information about the financial expertise of directors is also hand-collected by examining 2,160 directors' biographies in the proxy statements.

The results of the empirical analysis show that the existence of at least one accounting expert in the audit committee is associated with a higher coverage of forward-looking information in the annual report. It is also found that this association is explained by the disclosure of forward-looking information of a financial and strategic nature. The use of two

years of data reinforces the finding that accounting experts help in reducing agency costs by influencing disclosure practices and at the same time, provide audit committees with specialized resources, as similar results are obtained for data with a difference of almost a decade.

This study takes a step forward in the academic literature with a contribution and implications that are both practical and academic. First, the evidence contributes to the corporate governance literature by shedding light on the role of directors' characteristics, such as accounting expertise, in the disclosure process. This paper is the first to examine the association between the accounting expertise of audit committee members and forward-looking information disclosure. The evidence suggests that directors who are accounting experts are aware of the need to increase the level of this kind of information. Moreover, in line with the resource-dependence theory, directors may be constrained intellectually from becoming thoroughly involved in specific and complex decisions related to the disclosure of forward-looking information if they lack the appropriate accounting expertise.

These findings have practical implications for the process of selecting board and audit committee members, as choosing accounting experts would lead to an improvement in the disclosure of forward-looking information. In addition, the paper contributes to the debate on the benefits obtained from having an accounting expert serving on the audit committee.

The paper is organized as follows. First, the institutional context is described in Section 2. The literature review and the hypothesis development are provided in Section 3. Section 4 describes the data collection process and the sample and explains the research method. Section 5 discusses the results of the empirical analysis and Section 6 summarizes the contributions of the paper.

2. Institutional background: the US context

The US corporate governance system is a well-developed system, characterized by a market orientation, a shareholder perspective (strongly protected by the law system), an active market for corporate control and a low ownership concentration (Yoshikawa *et al.*, 2014). In a dispersed ownership context, the board of directors appears as a relevant governance mechanism that acts on behalf of owners to monitor management behavior and reduce agency costs (Fama and Jensen, 1983).

NYSE's and NASDAQ's listing rules require there being a majority of independent directors in any listed company's board (NYSE Listed Companies Manual §303A.01[1]; NASDAQ Listing Rule 5600. Corporate Governance Requirements. Rule 5605). NYSE's and NASDAQ's governance requirements also establish the characteristics that an audit committee must have to be effective. Both NYSE Listed Companies Manual (§303A.07) and NASDAQ Corporate Governance rules (Rule 5605) require that the audit committee must have a minimum of three members, each of whom has to be independent and financially literate, and at least one member of the audit committee must have accounting or related financial management expertise.

Along these same lines, Section 407 of the 2002 Sarbanes-Oxley Act directed the SEC to adopt rules to require a company to disclose whether (and if not, the reason why not) its audit committee includes at least one member who is a financial expert and to define the term "financial expert". The SEC rule implementing that section (Disclosure Required by Sections 406 and 407 of the Sarbanes-Oxley Act of 2002, Release Nos 33-8177; 34-47235.) includes a definition of financial expertise that has been controversial among academia as it includes not only what is understood as accounting expertise ("education and experience as a principal financial officer, principal accounting officer, controller, public accountant or auditor or experience in one or more positions that involve the performance of similar

functions”) but also other financial expertise that directors can obtain through: experience actively supervising a principal financial officer, principal accounting officer, controller, public accountant, auditor or person performing similar functions; experience overseeing or assessing the performance of companies or public accountants with respect to the preparation, auditing or evaluation of financial statements; or other relevant experience.

As the SEC’s definition of financial expertise encompasses both accounting and non-accounting financial expertise, prior research has claimed that the SEC’s definition is too broad (DeFond *et al.*, 2005; Dhaliwal *et al.*, 2010; Krishnan and Visvanathan, 2008; Zhang *et al.*, 2007). From an international point of view, the growing importance of accounting expertise can also be seen in the approval by the European Union of the new auditing rules (Directive 2014/56/EU) that seek to reinforce the independence and technical competence of the audit committee. This rule requires that a majority of the members of the audit committee be independent and that at least one member have competence in auditing and/or accounting, therefore choosing a much narrower definition of expertise than the SEC.

3. Previous literature and hypothesis development

The interactions between the audit committee, the external and internal auditors and the board of directors are crucial to improve the quality of financial reporting (Cohen *et al.*, 2004). The task of monitoring the financial reporting process is delegated by the board to the audit committee. In the US context, all members of the audit committee must be independent and financial expertise of at least one audit committee member is considered as necessary for the committee to be effective. However, little attention has been paid by the literature to the role played by financial experts in the voluntary disclosure of US companies.

From an agency perspective, independent directors provide advice about strategic decisions and improve the monitoring of managers’ decisions and activities, thus reducing opportunism (Fama and Jensen, 1983). Independent directors in the audit committee monitor management on behalf of shareholders and will make efficient strategic decisions, such as improving the disclosure process with the aim of increasing the firm value. Nevertheless, it is not necessarily true that independence - without knowledge - leads to better director performance than knowledge (Ben-Amar *et al.*, 2013). The effect of knowledge and expertise on voluntary disclosure practices within a firm still remains an open question. As discussed by Dhaliwal *et al.* (2010), empirical evidence suggests that the financial experts who are more effective in reducing agency costs by monitoring financial reporting quality are the accounting experts (Krishnan and Visvanathan, 2008). In addition, a positive relationship between financial reporting quality and the presence of audit committee members with accounting expertise has been documented in previous research (Abernathy *et al.*, 2014; Dhaliwal *et al.*, 2010; Liu *et al.*, 2014; Tanyi and Smith, 2015).

On the other hand, recent research proposes that both monitoring function and provision of resources function contribute toward an improvement of board capital and corporate strategy (Hillman and Dalziel, 2003; Pugliese *et al.*, 2009). From a resource dependence view, directors’ expertise appears to be a crucial source of skills and abilities to deal with the complexity of the decision-making process in a firm (Barroso *et al.*, 2011). As DeFond *et al.* (2005, p. 155) indicate, accounting expertise may be important for audit committee members because best practices suggest that the kind of tasks which they are responsible for require “a relatively high degree of accounting sophistication”. To improve the financial reporting process, the audit committee members need to be able to understand and correctly interpret the information (Karamanou and Vafeas, 2005).

Despite the relevance of this issue, empirical evidence on the effect of the financial expertise of directors who sit on the audit committee on voluntary disclosure practices is

limited. For a sample of UK firms, Wang and Hussainey (2013) find no significant relationship between the level of voluntary disclosures of forward-looking statements in the narrative sections of annual reports and the proportion of audit committee members who have relevant financial experience. In the US context, Karamanou and Vafeas (2005) indicate that the likelihood of a company issuing an earnings forecast is not influenced by the financial expertise of its audit committee members. More recently, Chan *et al.* (2013) find, for Australian firms, that the financial expertise of audit committee members positively influences the likelihood of issuing management earnings forecasts, but only in the presence of high growth options. Furthermore, forecasts are more specific and accurate.

In these previous disclosure studies, financial expertise is defined in broad terms. Karamanou and Vafeas (2005) characterize financial expertise as the fraction of committee members who served on another Fortune 500 audit committee during the sample period. Wang and Hussainey (2013, p. 43) use “relevant financial experience” and Chan *et al.* (2013, p. 319) define financial expertise as “an independent director being a qualified accountant, a former CEO, investment banker, analyst, commercial banker, or having or had a financial management role”, including both accounting and non-accounting financial expertise. As Salehi and Shirazi (2016) suggest, the expectation is that “audit committees should encourage or contribute to management to provide financial information of higher quality”. In our paper, nevertheless, accounting expertise is specifically considered. The conjecture is that this high level of accounting sophistication, as well as its role in overseeing the accounting and reporting process and assuring the financial reporting quality, contributes to a higher awareness of the need of disclosing forward-looking information. Furthermore, these directors bring valuable resources to a firm, and it is also expected that this will contribute to an enhancement of voluntary forward-looking information.

The main hypothesis is formulated as follows:

- H1.* There is a positive association between the accounting expertise of directors who serve in the audit committee and the coverage of forward-looking information disclosure.

4. Sample and research method

The sample was made up of the companies included in the Standard & Poor’s 100 Index in 2007 and 2016. The selection of 2007 is motivated by the publication of guidance by national and international organisms (CICA, 2004; IOSCO, 2003; SEC, 2003) to encourage companies to adopt a more forward-looking orientation in their financial reports. Moreover, using 2007 and 2016 prevents the data from being influenced by the most recent financial crisis and allows a comparison of the results obtained from the estimation in the two years to observe if results hold for this extended period. As firms in the sample are large firms that are usually widely owned and exhibit a great separation between ownership and control, voluntary disclosure is likely to play an important role in reducing the information gap between their management and shareholders (Karamanou and Vafeas, 2005). The documents analyzed to obtain the disclosure scores were the voluntary annual reports downloaded from the companies’ websites. Mandatory documents are excluded from our analysis. These documents tend to be standardized and they are likely to show less difference in the level of disclosure of forward-looking information among companies (Hussainey and Walker, 2009). As a result, our paper analyzes voluntary sources of information. In particular, the voluntary annual report (also called annual review) includes narrative sections such as: Financial Highlights, Summary Results, Chairman’s Statement, Chief Executive Officer’s Review, Operating and Financial Review, Financial Review,

Financial Director's Report, Finance Review, Business Review and Operating Review. Every annual report was individually examined and manually coded. Data about independence and financial expertise were also hand-collected by examining 2,160 directors' biographies in the proxy statements. The financial variables were downloaded from the Osiris and Datastream databases. The continuous variables were truncated by removing extreme values at the 1.0 and 99.0 percentile levels. In addition, some companies were lacking data concerning some of the variables. As a result, the final sample was made up of 87 firms in 2007 and 84 firms in 2016. Although the samples used by researchers who employ hand-collected techniques are traditionally small, and a number of previous studies analyze samples of less than 100 companies (Barako *et al.*, 2006; Donnelly and Mulcahy, 2008; Jindal and Kumar, 2012; Castilla-Polo and Ruiz-Rodríguez, 2017; Neifar and Jarboui, 2017), the use of two years of data contributes to a larger sample size when estimating the models for the pooled sample (171 observations). Moreover, a manual analysis enables an enhancing of the reliability in the coding process and contributes toward an increase in the quality of the results. Manual analysis allows disclosures to be fully understood by the consideration of the whole context (Milne and Adler, 1999). What is more, machine-based procedures introduce problems related to subjectivity in the identification of key words, with synonyms and words with multiple meanings (Beattie and Thomson, 2007).

To analyze the association between the accounting expertise of directors and the disclosure of forward-looking information, an OLS regression analysis is carried out wherein the disclosure measures are the dependent variables. The dependent, explanatory and control variables used are defined in the following sections.

4.1 Forward-looking information disclosure index

A coverage index was designed to measure the disclosure of forward-looking information following the suggestions from professional organisms (CICA, 2004; IOSCO, 2003; SEC, 2003) and the previous literature (Botosan, 1997; Bozzolan *et al.*, 2009; Robb *et al.*, 2001). Coverage indices are a partial form of content analysis and they have been implicitly employed as proxies for disclosure quality (Beattie *et al.*, 2004). The index used is made up of 19 items and three main categories: activity, strategy and financial information. This coverage index was obtained by dividing the number of items disclosed by a company by the total number of items that a company may disclose (19 items). The list of the specific information items for each category is shown in Table I.

Next, other additional measures of forward-looking disclosures were designed to capture the forward-looking information disclosed in each information category: the activity index, the strategy index and the financial index. These measures consider the coverage of each type of forward-looking information. This will help better understand the role of directors in the disclosure process of forward-looking information, as it is expected that not all kinds of information disclosure will have the same impact on capital markets.

To obtain the index values, content analysis techniques were used to analyze the voluntary forward-looking information disclosed in annual reports. Each annual report was individually examined and all the sentences with forward-looking information were coded in accordance with specific criteria. Several sentences as examples of the coding procedure are provided in the Appendix. Forward-looking disclosure refers to current plans and future forecasts that enable investors and other users to assess a company's future financial performance (Aljifri and Hussainey, 2007). The sentence was chosen as a recording unit because it is considered to be a more reliable unit of analysis than the number of pages or paragraphs (Hackston and Milne, 1996). Content analysis involves classifying text units into categories. For valid inferences to be drawn, it is important that the classification procedure

Categories	Items
I. Activity	Products share and market share Description of activities, warehouses or production process Products and innovation Impact of production on results
II. Strategy	Environmental actions affecting companies' activities Investment in R&D, human resources and other intangibles Investment in capacity Quality controls and commercial policies Company market analysis and competitors' analysis Discussion about corporate strategy Investment/Financing by segments or geographical location Risk exposure Dividends distribution Intellectual capital
III. Financial	Profitability ratios Cash-flows and earnings Financial structure Costs evolution/distribution Shares and market capitalization

Table I.
Forward-looking
disclosure index

be reliable (Milne and Adler, 1999). Therefore, the main criteria for the coding process were initially discussed by the two researchers and several instructions were set up to minimize ambiguity (Linsley and Shrivess, 2006). Several initial attempts were made to ensure that the classification of every piece of information was unambiguous. In addition, this paper uses both stability and reproducibility tests to check the reliability of forward-looking disclosures. The stability test was conducted by one researcher through two rounds, carried out on different dates, of coding of annual reports. To conduct the reproducibility test, we use Scott's pi coefficient, which is defined by Krippendorff (1980). As each sentence is coded according to the three dimensions of the index, reproducibility is tested with reference to the content of the forward-looking disclosures. At the end of the coding process, three annual reports were again analyzed by these independent researchers, and the value for Scott's pi indicator (0.88) was adequate[2].

4.2 Explanatory and control variables

Information about the directors' characteristics was hand-collected from proxy statements.

Accounting expertise is defined as a dummy variable that takes the value of 1 if there is at least one accounting expert in the audit committee and 0 otherwise. To create this variable, the directors that were termed as "audit committee financial experts" according to the SEC's definition were classified into two groups. First, an "accounting expert" is considered to be a person who has a professional certification in accounting, including CPAs, CFOs, CAOs, controllers and auditors. The CEO position was excluded as it does not provide accounting expertise (Bédard *et al.*, 2004; Krishnan and Lee, 2009). Second, the remaining audit committee financial experts were classified as "non-accounting financial experts". A director was classified as an accounting expert or non-accounting financial expert from the analysis of his/her biography as disclosed in the proxy statement.

Based on meta-analyses of disclosure studies and the prior literature on forward-looking information disclosure (Ahmed and Courtis, 1999; Chavent *et al.*, 2006), several control variables are considered to be related to the disclosure of this information: audit committee

size, board independence, firm size, leverage, ROA and industry. Audit committee size (defined as the number of audit committee members) is introduced as a control variable, as the likelihood of a firm having an accounting expert may be higher for larger audit committees. In relation to board independence, previous studies suggest that independent directors may influence the disclosure of voluntary information (Barako *et al.*, 2006; Lim *et al.*, 2007). The variable board independence represents the percentage of members on the board who are considered to be independent directors. A director was classified as independent when disclosed as such in the proxy statement. A positive association between firm size and the disclosure of forward-looking information is expected, as larger firms tend to attract financial analysts and have greater demands for voluntary disclosures (Wang and Hussainey, 2013). The log of total assets is used as an indicator of firm size. Moreover, companies with a high leverage ratio may reduce agency costs by reporting forward-looking information (Jensen and Meckling, 1976), yet empirical evidence fails to provide conclusive results (Eng and Mak, 2003; Lakhil, 2005). The ratio of total debt to total assets was used to measure the companies' leverage. In addition, firms with a high profitability can disclose more information to increase investors' confidence (Singhvi and Desai, 1971), but they could also hide forward-looking information to minimize proprietary costs derived from the disclosure of relevant information to competitors (Prencipe, 2004). ROA was used to measure profitability. Finally, the disclosure of forward-looking information could be influenced by general disclosure practices within specific industries (Wang and Hussainey, 2013). Industry dummies were created using the SIC codes.

5. Results and discussion

The descriptive statistics are reported in Table II. The results show a significant variability in the disclosure of forward-looking information (*Coverage index*). On average, companies release about 40 per cent of the items included in the disclosure index in 2007 and 25 per cent in 2016. The maximum is 68 per cent in 2007 and 73 per cent in 2016. In 2007, firms have over 4 non-accounting financial experts in their audit committee, which is made up of 4.73 members on average. Nevertheless, an accounting expert is found in only 53 per cent of the firms analyzed. In 2016, the average committee size is 4.34 members, and most of them (about three) are non-accounting financial experts. Again, an accounting expert is found in nearly 50 per cent of the firms from our sample. Board independence indicates that the proportion of independent directors is around 80 per cent on average. This confirms the compliance with the recommendation of the US corporate governance principles.

Table III shows the Pearson coefficients for the main variables included in the model. The disclosure of forward-looking information is associated with the presence of an audit committee's accounting expert. In addition, the correlation coefficients in Table III show that the variables accounting expertise and non-accounting financial expertise are not correlated. Moreover, the number of non-accounting financial experts is not associated with the measure of forward-looking information disclosure. These results highlight the role of the accounting experts in the disclosure process, as they are the only kind of financial experts who appear to be associated with the disclosure of forward-looking information. Of the control variables, we fail to find a positive bivariate correlation between board independence and forward-looking information. In particular, in 2007, there is a negative correlation between these variables. Second, audit committee size is positively correlated with the number of non-accounting financial experts but not with the presence of at least one accounting expert. Given that non-accounting financial expertise is highly correlated with audit committee size, but audit committee size and accounting expertise are not correlated,

Variables	Mean	SD	Maximum	Median	Minimum
<i>Year 2007 (N = 87)</i>					
Coverage_index	0.410	0.168	0.684	0.421	0.000
Accounting_expertise	0.534	0.502	1.000	1.000	0.000
Non-accounting_financial_expertise	4.034	1.685	12.000	4.000	1.000
Audit_committee_size	4.730	1.452	12.000	4.500	1.000
Board_independence	0.846	0.074	1.000	0.861	0.625
Firm_size	14.088	4.247	21.506	11.873	8.318
Leverage	0.498	0.241	0.970	0.482	0.025
ROA	0.106	0.071	0.293	0.092	0.009
<i>Year 2016 (N = 84)</i>					
Coverage_index	0.257	0.247	0.737	0.263	0
Accounting_expertise	0.488	0.503	1	0	0
Non-accounting_financial_expertise	2.940	1.226	7	3	0
Audit_committee_size	4.345	1.146	8	4	3
Board_independence	0.792	0.144	0.978	0.822	0.338
Firm_size	8.387	0.905	11.474	8.147	7.073
Leverage	0.509	0.227	0.867	0.578	0.054
ROA	0.066	0.059	0.198	0.058	-0.057

Notes: *Coverage_index* is measured by the number of items disclosed over the total number of items that a company might disclose. *Accounting_expertise* takes the value of 1 if there is at least one accounting expert in the audit committee and 0 otherwise. *Non-accounting_financial_expertise* is measured by the number of non-accounting financial experts in the audit committee. *Audit_committee_size* is the number of audit committee members. *Board_independence* is measured by the percentage of independent directors on the board. *Firm_size* is measured by the log of total assets. Leverage is the ratio of total debt to total assets. ROA is measured by the return on assets

Table II.
Descriptive statistics

the variable non-accounting financial expertise was removed from the regression models to avoid multicollinearity problems.

Table IV contains the results obtained in the multivariate analysis. Several regression models were estimated with ordinary least squares (OLS) to individually test the effect of accounting expertise on the disclosure of forward-looking information. The formulation of each specific model is included in the tables. Variance inflation factors (VIFs) were calculated to test for signs of multi-collinearity between the explanatory and control variables. As no VIF factor was over five, the absence of collinearity was confirmed. Model 1 considers only control variables, and the results are in line with the previous literature. Audit committee size is not associated with the coverage index. In addition, no association between board independence and forward-looking disclosure is found. As in several previous studies (Barako *et al.*, 2006; Eng and Mak, 2003), a possible explanation for this result is that external directors can play a substitute monitoring-role for the disclosure of information. In addition, a higher proportion of independent directors can interfere with the disclosure process. According to Haniffa and Cooke (2002), independent directors lack business knowledge to make certain actions effective. In terms of the disclosure process, independent directors may also prevent managers from disclosing verifiable information to prevent the risk of facing a greater accountability and reputation costs (Ajinkya *et al.*, 2005). Therefore, independent directors can have incentives to withhold forward-looking information to minimize these costs, as it is verifiable ex-post. Other possible explanations have to do with directors' tenure and remuneration. Long-tenured independent directors

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Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
<i>Year 2007</i>							
(1) Coverage_index	1.000						
(2) Accounting_expertise	0.333***	1.000					
(3) Non-accounting_financial_expertise	-0.005	0.005	1.000				
(4) Audit_committee_size	-0.029	0.076	0.713***	1.000			
(5) Board_independence	-0.220**	-0.128	0.022	0.011	1.000		
(6) Firm_size	0.464***	0.252**	0.049	0.031	-0.375***	1.000	
(7) Leverage	0.198*	0.104	0.196*	0.103*	-0.151	0.680***	1.000
(8) ROA	0.057	-0.105	-0.095	-0.077	0.109	0.395***	-0.337***
<i>Year 2016</i>							
(1) Coverage_index	1.000						
(2) Accounting_expertise	0.208*	1.000					
(3) Non-accounting_financial_expertise	-0.109	-0.089	1.000				
(4) Audit_committee_size	0.0101	0.087	0.427***	1.000			
(5) Board_independence	0.069	0.011	0.047	0.089	1.000		
(6) Firm_size	0.384***	0.120	-0.363***	-0.166	-0.1081	1.000	
(7) Leverage	-0.233**	0.021	0.005	0.036	-0.059	-0.333***	
(8) ROA	0.300***	-0.072	0.271**	0.149	0.074	-0.419***	0.405***

Table III.

Pearson's correlation matrix

Notes: See Table II for the definition of the explanatory variables; p -value < 0.1; ** p -value < 0.05; *** p -value < 0.01

may become closer to managers and, therefore, their monitoring role can be compromised (Vafeas, 2003). On the other hand, directors' remuneration and equity compensation may affect the way that independent directors carry out their monitoring activities (Lynch and Williams, 2012). These results confirm that the association between the disclosure of forward-looking information and board independence remains an unclear issue.

Finally, firm size shows a positive association with the disclosure of forward-looking information. Moreover, in 2007, leverage and profitability (*ROA*) present a positive and negative relation to the disclosure of forward-looking information, respectively.

Model 2 adds the explanatory variable – accounting expertise – to control variables. In 2007, the presence of an accounting expert in the audit committees is positively associated with the disclosure of forward-looking information. In 2016, this association remains, although the significance level is lower. The results of the pooled model also confirm the positive association between accounting expertise of audit committee members and forward-looking disclosures. The results are not influenced by the audit committee size. As the audit committees are made up of a majority of non-accounting financial experts, the results might also indicate that these non-accounting experts fail to exert an influence on the disclosure of forward-looking information. Therefore, the main hypothesis is accepted. From an agency perspective, audit committee members are required to reduce agency costs by increasing the monitoring role of directors. According to Dhaliwal *et al.* (2010), accounting experts are highly effective in enhancing this role. Accounting experts can monitor financial reporting quality, but they can also reduce agency costs by improving disclosure practices. In addition, in line with the resource-dependence theory (Hillman and Dalziel, 2003), accounting experts provide audit committees with specific human capital. They complement the knowledge and abilities of the other directors and lead to an improvement

Variables	ES (Expected sign)	Year 2007		Year 2016		Both years	
		Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Intercept	?	-0.056 (0.829)	-0.136 (0.596)	-0.506 (0.207)	-0.471 (0.238)	0.300 (0.071)	0.259 (0.115)
Accounting_expertise	+		0.073** (0.027)		0.073* (0.171)		0.077*** (0.014)
Audit_committee_size	?	-0.007 (0.555)	-0.008 (0.488)	0.016 (0.499)	-0.017 (0.458)	0.003 (0.821)	-0.003 (0.813)
Board_independence	?	0.122 (0.602)	0.143 (0.532)	-0.001 (0.678)	-0.001 (0.238)	-0.002 (0.273)	-0.002 (0.290)
Firm_size	+	0.028*** (0.000)	0.027*** (0.000)	0.090*** (0.011)	0.083** (0.019)	0.022*** (0.004)	0.021*** (0.006)
Leverage	?	-0.204** (0.046)	-0.177* (0.075)	-0.001 (0.995)	-0.020 (0.915)	-0.147 (0.116)	-0.148 (0.107)
ROA	?	0.733*** (0.004)	0.765*** (0.002)	-0.564 (0.297)	-0.524 (0.330)	0.011 (0.731)	-0.005 (0.879)
Year effect		Yes	Yes	Yes	Yes	Yes	Yes
Industry effect		Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2		0.303	0.341	0.102	0.113	0.208	0.233
F (p -value)		3.70*** (0.000)	4.00*** (0.000)	1.95* (0.052)	1.97** (0.045)	3.99*** (0.000)	4.25*** (0.000)

Notes: Model 1:

$$Coverage_index_i = \alpha + \beta_1 Audit_committee_size_i + \beta_2 Board_independence_i + \beta_3 Firm_size_i + \beta_4 Leverage_i + \beta_5 ROA_i + \beta_6 Industry_i + \varepsilon$$

Model 2:

$$Coverage_index_i = \alpha + \beta_1 Accounting_expertise_i + \beta_2 Audit_committee_size_i + \beta_3 Board_independence_i + \beta_4 Firm_size_i + \beta_5 Leverage_i + \beta_6 ROA_i + \beta_7 Industry_i + \varepsilon$$

See Table II for the definition of the explanatory variables. The industry effect is controlled with industry dummies. Coefficients of industry dummies are not included for parsimony. P -values are shown in parentheses. P -values for variables with an expected sign are one-tailed. The p -values for the other variables are two-tailed. * p -value < 0.1; ** p -value < 0.05; *** p -value < 0.01

Table IV.
Multiple regression
analysis (coverage
index)

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committee
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of disclosure quality by providing more forward-looking information. This evidence extends the existing knowledge about the relationship between directors' expertise and voluntary disclosure of forward-looking information (Karamanou and Vafeas, 2005; Lim *et al.*, 2007; Chan *et al.*, 2013; Wang and Hussainey, 2013). We specifically consider accounting expertise while previous studies look at more broadly defined financial expertise. In addition, we manually collect sentences with forward-looking information to create a comprehensive disclosure index, whereas previous studies use management earnings forecasts.

Next, additional analyses were performed to test the relationship between board accounting expertise and each category of information included in the disclosure score (activity, strategy and financial). Table V reports the results of estimating the models with the variable *Activity_index* (coverage of forward-looking information in the activity category of the disclosure index) as the dependent variable. Table VI has the *Strategy_index* (strategy category), and Table VII shows the *Financial_index* (financial category).

These results highlight that accounting expertise is significantly associated with the disclosure of both strategic and financial forward-looking information for both years, but not with the activity index. Strategic and financial disclosures are mainly oriented to investors, but non-financial information (for example, about the activity of the company) is also directed at other stakeholders (Lim *et al.*, 2007). In addition, verifiable disclosures, such as financial information, are more effective at improving accuracy and reducing the dispersion of analysts' forecasts. Hence, accounting experts play an important role in influencing managers to develop disclosure strategies that provide forward-information that is more useful for investors. Specifically, there is a stronger association between the presence of accounting experts in the audit committee and the disclosure of financial forward-looking information. Accounting experts are expected to be aware of the relevance of financial forecasts. This may explain that the presence of accounting experts will also encourage management to improve the disclosure of this type of information.

The estimated coefficients for most of the control variables, however, are non-significant. This can be attributable to the specificity of the measures of forward-looking information disclosure. Previous evidence has shown that disclosure theories fail to fully explain the disclosure of specific dimensions of the information (Bravo Urquiza *et al.*, 2010) and this may explain why firms' characteristics are not associated with the disclosure of specific forward-looking information for all the models. Finally, a robustness check was conducted using an alternative measure for accounting expertise (results are not shown in the tables). A new variable was constructed by considering the number of accounting experts in the audit committee. The results confirm that the presence of accounting experts in the audit committee is positively associated with the disclosure of forward-looking information.

6. Concluding remarks

This paper provides a new empirical evidence about the effect of accounting expertise on the disclosure of value-relevant information using a disclosure index of forward-looking information. Our study extends the literature on corporate governance and disclosure by analyzing the potential association between forward-looking information disclosure and specific directors' characteristics, such as accounting expertise.

The results suggest that accounting experts influence managers in improving the disclosure of forward-looking information. The use of two years of data, 2007 and 2016, confirms that these results hold for an extended period of analysis. These findings have direct implications for the selection of board and audit committee members as the disclosure of forward-looking information is a mechanism to reduce information asymmetries in capital markets. From a resource-dependence view, accounting experts bring specific and

Variables	ES	Year 2007		Year 2016		Both years	
		Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Intercept	?	0.227 (0.950)	0.079 (0.859)	-0.125 (0.754)	-0.114 (0.792)	0.475** (0.022)	0.470** (0.024)
Accounting_expertise	+		-0.047 (0.400)		0.367 (0.521)		0.010 (0.794)
Audit_committee_size	?	-0.024 (0.202)	-0.023 (0.214)	-0.001 (0.963)	0.002 (0.940)	-0.016 (0.280)	0.016 (0.281)
Board_independence	?	0.462 (0.243)	0.449 (0.258)	-0.001 (0.605)	-0.001 (0.596)	-0.003 (0.164)	-0.002 (0.168)
Firm_size	+	0.022** (0.072)	0.023** (0.068)	0.049* (0.191)	0.045 (0.233)	0.011 (0.246)	0.045 (0.233)
Leverage	?	-0.268 (0.117)	-0.284* (0.099)	0.130 (0.520)	0.121 (0.554)	0.033 (0.977)	0.003 (0.978)
ROA	?	0.584 (0.160)	0.564 (0.177)	-0.760 (0.191)	-0.740 (0.205)	0.016 (0.665)	0.016 (0.682)
Year effect		Yes	Yes	Yes	Yes	Yes	Yes
Industry effect		Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R ²		0.167	0.164	0.010	0.032	0.312	0.247
F (p-value)		2.25** (0.013)	2.14** (0.017)	0.81 (0.620)	0.77 (0.670)	4.86*** (0.000)	4.54*** (0.000)

Notes: Models 1 and 2 are the same as in Table IV. See Table II for the definition of the explanatory variables. Activity_index is measured by the number of items disclosed over the total number of items in the "activity" category of the forward-looking disclosure index. The industry effect is controlled with industry dummies. Coefficients of industry dummies are not included for parsimony. P-values are shown in parentheses. P-values for variables with an expected sign are one-tailed. The p-values for the other variables are two-tailed. *p-value < 0.1; **p-value < 0.05; ***p-value < 0.01

Table V.
Multiple regression
analysis (activity
index)

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committee
accounting

Table VI.
Multiple regression
analysis (strategy
index)

Variables	ES	Year 2007		Year 2016		Both years	
		Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Intercept	?	-0.006 (0.985)	-0.107 (0.744)	-0.452 (0.339)	-0.410 (0.383)	0.447** (0.026)	0.398** (0.045)
Accounting_expertise	+		0.093** (0.027)		0.086* (0.170)		0.083*** (0.014)
Audit_committee_size	?	-0.001 (0.939)	-0.002 (0.870)	0.005 (0.847)	0.007 (0.797)	-0.004 (0.794)	-0.004 (0.786)
Board_independence	?	0.031 (0.917)	0.057 (0.845)	-0.002 (0.470)	-0.001 (0.447)	-0.002 (0.205)	-0.002 (0.227)
Firm_size	+	0.023*** (0.014)	0.023*** (0.015)	0.105*** (0.012)	0.097** (0.021)	0.019** (0.038)	0.017** (0.056)
Leverage	?	-0.143 (0.270)	-0.110 (0.385)	-0.073 (0.741)	-0.096 (0.666)	-0.186 (0.198)	-0.187* (0.090)
ROA	?	0.826*** (0.010)	0.865*** (0.006)	-0.383 (0.547)	-0.335 (0.595)	0.002 (0.968)	0.006 (0.877)
Year effect		Yes	Yes	Yes	Yes	Yes	Yes
Industry effect		Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2		0.071	0.120	0.112	0.123	0.160	0.192
F (p-value)		1.48** (0.010)	1.79* (0.053)	2.04** (0.041)	2.05** (0.035)	1.98** (0.020)	2.30*** (0.004)

Notes: Models 1 and 2 are the same as in Table IV. See Table II for the definition of the explanatory variables. *Strategy_index* is measured by the number of items disclosed over the total number of items in the "strategy" category of the forward-looking disclosure index. The industry effect is controlled with industry dummies. Coefficients of industry dummies are not included for parsimony. P -values are shown in parentheses. P -values for variables with an expected sign are one-tailed. The p -values for the other variables are two-tailed. * p -value < 0.1; ** p -value < 0.05; *** p -value < 0.01

Variables	ES	Year 2007		Year 2016		Both years	
		Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Intercept	?	-0.254 (0.583)	-0.426 (0.340)	-0.823** (0.023)	-0.802** (0.029)	-0.147 (0.462)	-0.213 (0.275)
Accounting_expertise	+		0.159*** (0.006)		0.103** (0.032)		0.123*** (0.001)
Audit_committee_size	?	-0.000 (0.989)	-0.002 (0.902)	0.052 (0.019)	0.054** (0.012)	0.012 (0.406)	-0.012 (0.395)
Board_independence	?	-0.039 (0.926)	0.006 (0.988)	-0.001 (0.507)	-0.001 (0.604)	0.000 (0.824)	0.001 (0.737)
Firm_size	+	0.042*** (0.002)	0.041*** (0.001)	0.090*** (0.006)	0.089*** (0.013)	0.039*** (0.000)	0.037*** (0.000)
Leverage	?	-0.244 (0.172)	-0.188 (0.273)	-0.005 (0.907)	-0.032 (0.852)	-0.220* (0.052)	-0.222** (0.043)
ROA	?	0.769* (0.080)	0.838** (0.047)	-0.792 (0.122)	-0.954* (0.058)	0.019 (0.604)	0.010 (0.787)
Year effect		Yes	Yes	Yes	Yes	Yes	Yes
Industry effect		Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R ²		0.212	0.282	0.172	0.223	0.233	0.280
F (p-value)		2.68*** (0.003)	3.27*** (0.000)	2.92*** (0.005)	3.39** (0.001)	4.47*** (0.000)	5.16*** (0.000)

Notes: Models 1 and 2 are the same as in Table IV. See Table II for the definition of the explanatory variables. *Financial index* is measured by the number of items disclosed over the total number of items in the “financial” category of the forward-looking disclosure index. The industry effect is controlled with industry dummies. Coefficients of industry dummies are not included for parsimony; *P*-values are shown in parentheses. *P*-values for variables with an expected sign are one-tailed. The *p*-values for the other variables are two-tailed. **p*-value < 0.1, ***p*-value < 0.05, ****p*-value < 0.01

Table VII
Multiple regression
analysis (financial
index)

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committee
accounting

valuable resources to a firm and contribute to disclosure strategies. Accounting experts have an important role in overseeing the accounting and reporting process and they are more likely to be aware of the financial reporting quality and the disclosure quality. In particular, the presence of accounting experts in the audit committee is associated with the disclosure of forward-looking information of a strategic and financial nature, which is oriented to investors and expected to lead to an improvement in financial analysts' estimates. The insights obtained contribute to extend prior research in corporate governance and voluntary disclosure in two important ways. First, we specifically consider the association between the accounting expertise of audit committee members and the disclosure of forward-looking information, while previous studies use a broader definition of expertise (financial expertise). Second, we add to the literature the design of a specific forward-looking disclosure index which considers three categories (activity, strategy and financial) in the measurement of disclosure.

The evidence documented in the paper contributes to the academic debate on the benefits obtained from having a financial expert serving on the audit committee. It could also help the SEC to narrow the definition of financial expertise to specifically consider accounting expertise, the same as in the EU. Furthermore, stakeholders may therefore demand nomination committees to appoint audit committees with accounting experts.

The main limitation of the empirical study is that the level of forward-looking information in annual reports is measured with a disclosure index. However, reliability tests were carried out to minimize the subjectivity of this measure. The evidence provides several interesting insights about how audit committees can improve the disclosure of forward-looking information. These findings create encouraging opportunities for future research. First, research on this topic may be extended by analyzing different institutional contexts. Second, additional measures for the disclosure of forward-looking information could be considered, for example, focusing on the tone of these disclosures (good news versus bad news). Researchers may also examine the influence of other directors' characteristics in the disclosure process.

Notes

1. There is an exception, however, for controlled companies (paragraph 303A.00). A listed company of which more than 50% of the voting power for the election of directors is held by an individual, a group or another company is not required to comply with this requirement.
2. Scott's pi indicator is one of the common measures in the disclosure literature for inter-coder reliability. Values over 0.75 are considered satisfactory (Beattie *et al.*, 2004).

References

- Abernathy, J.L., Beyer, B., Masli, A. and Stefaniak, C. (2014), "The association between characteristics of audit committee accounting experts, audit committee chairs, and financial reporting timeliness", *Advances in Accounting*, Vol. 30 No. 2, pp. 283-297.
- Ahmed, K. and Courtis, J.K. (1999), "Associations between corporate characteristics and disclosure levels in annual reports: a meta-analysis", *The British Accounting Review*, Vol. 31 No. 1, pp. 35-61.
- Ajinkya, B., Bhojraj, S. and Sengupta, P. (2005), "The association between outside directors, institutional investors and the properties of management earnings forecasts", *Journal of Accounting Research*, Vol. 43 No. 3, pp. 343-376.

- Aljifri, K. and Hussainey, K. (2007), "The determinants of forward-looking information in annual reports of UAE companies", *Managerial Auditing Journal*, Vol. 22 No. 9, pp. 881-894.
- Barako, D.G., Hancock, P. and Izan, H.Y. (2006), "Factors influencing voluntary corporate disclosure by kenyan companies", *Corporate Governance: An International Review*, Vol. 14 No. 2, pp. 107-125.
- Barroso, C., Villegas, M.M. and Perez-Calero, L. (2011), "Board influence on a firm's internationalization", *Corporate Governance: An International Review*, Vol. 19 No. 4, pp. 351-367.
- Beattie, V. and Thomson, S.J. (2007), "Lifting the lid on the use of content analysis to investigate intellectual Capital disclosures", *Accounting Forum*, Vol. 31 No. 2, pp. 129-163.
- Beattie, V., McInnes, B. and Fearnley, S. (2004), "A methodology for analysing and evaluating narratives in annual reports: a comprehensive descriptive profile and metrics for disclosure quality attributes", *Accounting Forum*, Vol. 28 No. 3, pp. 205-236.
- Bédard, J., Chtourou, S.M. and Courteau, L. (2004), "The effect of audit committee expertise, independence, and activity on aggressive earnings management", *Auditing: A Journal of Practice & Theory*, Vol. 23 No. 2, pp. 13-35.
- Ben-Amar, W., Francoeur, C., Hafsi, T. and Labelle, R. (2013), "What makes better boards? A closer look at diversity and ownership", *British Journal of Management*, Vol. 24 No. 1, pp. 85-101.
- Botosan, C. (1997), "Disclosure level and the cost of equity Capital", *The Accounting Review*, Vol. 72, pp. 323-349.
- Bozzolan, S., Trombetta, M. and Beretta, S. (2009), "Forward-looking disclosures, financial verifiability and analysts' forecasts: a study of cross-listed european firms", *European Accounting Review*, Vol. 18 No. 3, pp. 435-473.
- Bravo Urquiza, F., Abad Navarro, C. and Trombetta, M. (2010), "Disclosure measures and disclosures theories", *Spanish Journal of Finance and Accounting/Revista Española De Financiación y Contabilidad*, Vol. 39 No. 147, pp. 393-415.
- Castilla-Polo, F. and Ruiz-Rodríguez, M.C. (2017), "The disclosure of intangible assets in financial institutions: a content analysis", *Spanish Journal of Finance and Accounting/Revista Española De Financiación y Contabilidad*, pp. 1-43.
- Chan, H., Faff, R.W., Khan, A. and Mather, P.R. (2013), "Exploring the moderating role of growth options on the relation between board characteristics and management earnings forecasts", *Corporate Governance: An International Review*, Vol. 21 No. 4, pp. 314-333.
- Chavent, M., Ding, Y., Fu, L., Stolowy, H. and Wang, H. (2006), "Disclosure and determinants studies: an extension using the divisive clustering method (DIV)", *European Accounting Review*, Vol. 15 No. 2, pp. 181-218.
- CICA (2004), *Management's Discussion and Analysis: Guidance on Preparation and Disclosure*, Canadian Institute of Chartered Accountants, Toronto.
- Cohen, J., Krishnamoorthy, G. and Wright, A. (2004), "The corporate governance mosaic and financial reporting quality", *Journal of Accounting Literature*, Vol. 23, pp. 87-152.
- DeFond, M.L., Hann, R.N. and Hu, X. (2005), "Does the market value financial expertise on audit committees of boards of directors?", *Journal of Accounting Research*, Vol. 43 No. 2, pp. 153-193.
- Dhaliwal, D.S., Naiker, V. and Navissi, F. (2010), "The association between accruals quality and the characteristics of accounting experts and mix of expertise on audit committees", *Contemporary Accounting Research*, Vol. 27 No. 3, pp. 787-827.
- Donnelly, R. and Mulcahy, M. (2008), "Board structure, ownership and voluntary disclosure in Ireland", *Corporate Governance: An International Review*, Vol. 16 No. 5, pp. 416-429.
- Eng, L.L. and Mak, Y.T. (2003), "Corporate governance and voluntary disclosure", *Journal of Accounting and Public Policy*, Vol. 22 No. 4, pp. 325-345.

- Fama, E.F. and Jensen, M.C. (1983), "Separation of ownership and control", *Journal of Law and Economics*, Vol. 26 No. 2, pp. 301-325.
- Hackston, D. and Milne, M.J. (1996), "Some determinants of social and environmental disclosures in New Zealand companies", *Accounting, Auditing & Accountability Journal*, Vol. 9 No. 1, pp. 77-108.
- Haniffa, R.M. and Cooke, T.E. (2002), "Culture, corporate governance and disclosure in Malaysian corporations", *Abacus*, Vol. 38 No. 3, pp. 317-349.
- Hillman, A.J. and Dalziel, T. (2003), "Boards of directors and firm performance: integrating agency and resource dependence perspectives", *Academy of Management Review*, Vol. 28, pp. 383-396.
- Hussainey, K. and Walker, M. (2009), "The effect of voluntary disclosure and dividend propensity on prices leading earnings", *Accounting and Business Research*, Vol. 39 No. 1, pp. 37-55.
- IOSCO (2003), *General Principles Regarding Disclosure of Management's Discussion and Analysis of Financial Condition and Results of Operations*, International Organization of Securities Commissions.
- Jensen, M.C. and Meckling, W.H. (1976), "Theory of the firm: management behaviour, agency costs and ownership structure", *Journal of Financial Economics*, Vol. 3 No. 4, pp. 305-360.
- Jindal, S. and Kumar, M. (2012), "The determinants of HC disclosures of Indian firms", *Journal of Intellectual Capital*, Vol. 13 No. 2, pp. 221-247.
- Karamanou, I. and Vafeas, N. (2005), "The association between corporate boards, audit committees, and management earnings forecasts: an empirical analysis", *Journal of Accounting Research*, Vol. 43 No. 3, pp. 453-486.
- Krippendorff, K. (1980), *Content Analysis: An Introduction to Its Methodology*, Sage Publications, Beverly Hills, CA.
- Krishnan, G.V. and Visvanathan, G. (2008), "Does the SOX definition of an accounting expert matter? The association between audit committee directors' accounting expertise and accounting conservatism", *Contemporary Accounting Research*, Vol. 25 No. 3, pp. 827-857.
- Krishnan, J. and Lee, J.E. (2009), "Audit committee financial expertise, litigation risk, and corporate governance", *Auditing: A Journal of Practice & Theory*, Vol. 28 No. 1, pp. 241-261.
- Lakhal, F. (2005), "Voluntary earnings disclosures and corporate governance: evidence from France", *Review of Accounting and Finance*, Vol. 4 No. 3, pp. 64-85.
- Li, J., Pike, R. and Haniffa, R. (2008), "Intellectual Capital disclosure and corporate governance structure in UK firms", *Accounting and Business Research*, Vol. 38 No. 2, pp. 137-159.
- Lim, S., Matolcsy, Z. and Chow, D. (2007), "The association between board composition and different types of voluntary disclosure", *European Accounting Review*, Vol. 16 No. 3, pp. 555-583.
- Linsley, P.M. and Shrive, P.J. (2006), "Risk reporting: a study of risk disclosures in the annual reports of UK companies", *The British Accounting Review*, Vol. 38 No. 4, pp. 387-404.
- Liu, M.H.C., Tiras, S.L. and Zhuang, Z. (2014), "Audit committee accounting expertise, expectations management, and nonnegative earnings surprises", *Journal of Accounting and Public Policy*, Vol. 22, pp. 145-166.
- Lynch, L.J. and Williams, S.P. (2012), "Does equity compensation compromise audit committee independence? Evidence from earnings management", *Journal of Managerial Issues*, Vol. 24, pp. 293-320.
- Milne, M.J. and Adler, R.W. (1999), "Exploring the reliability of social and environmental disclosures content analysis", *Accounting, Auditing & Accountability Journal*, Vol. 12, pp. 237-256.
- Neifar, S. and Jarboui, A. (2017), "Corporate governance and operational risk voluntary disclosure: evidence from Islamic banks", *Research in International Business and Finance*.
- Pfeffer, J. and Salancik, G. (1978), *The External Control of Organizations: A Resource-Dependence Perspective*, Harper and Row, New York, NY.

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- Prencipe, A. (2004), "Proprietary costs and determinants of voluntary segment disclosure: evidence from Italian listed companies", *European Accounting Review*, Vol. 13 No. 2, pp. 319-340.
- Pugliese, A., Bezemer, P., Zattoni, A., Huse, M., Van den Bosch, F.A.J. and Volberda, H.W. (2009), "Boards of directors' contribution to strategy: a literature review and research agenda", *Corporate Governance: An International Review*, Vol. 17 No. 3, pp. 292-306.
- Robb, S.W.G., Single, L.E. and Zarzeski, M.T. (2001), "Nonfinancial disclosures across Anglo-American countries", *Journal of International Accounting, Auditing and Taxation*, Vol. 10 No. 1, pp. 71-83.
- Salehi, M. and Shirazi, M. (2016), "Audit committee impact on the quality of financial reporting and disclosure: evidence from the Tehran stock exchange", *Management Research Review*, Vol. 39 No. 12, pp. 1639-1662.
- SEC (2003), *Commission Guidance Regarding Management's Discussion and Analysis of Financial Condition and Results of Operations*, Securities and Exchange Commission, Washington, DC.
- Singhvi, S. and Desai, H. (1971), "An empirical analysis of the quality of corporate financial disclosure", *The Accounting Review*, Vol. 46, pp. 129-138.
- Tanyi, P.N. and Smith, D.B. (2015), "Busyness, expertise and financial reporting quality of audit committee chairs and financial experts", *Auditing: A Journal of Practice & Theory*, Vol. 34 No. 2, pp. 59-89.
- Vafeas, N. (2003), "Length of board tenure and outside director independence", *Journal of Business Finance & Accounting*, Vol. 30, pp. 1043-1064.
- Wang, M. and Hussainey, K. (2013), "Voluntary forward-looking statements driven by corporate governance and their value relevance", *Journal of Accounting and Public Policy*, Vol. 32 No. 3, pp. 26-49.
- Yoshikawa, T., Zhu, H. and Wang, P. (2014), "National governance system, corporate ownership, and roles of outside directors: a corporate governance bundle perspective", *Corporate Governance: An International Review*, Vol. 22 No. 3, pp. 252-265.
- Zhang, Y., Zhou, J. and Zhou, N. (2007), "Audit committee quality, auditor independence and internal control weaknesses", *Journal of Accounting and Public Policy*, Vol. 26 No. 3, pp. 300-327.

Sentence	Category	Item
“When complete in 2018, this project will make ExxonMobil the first large-scale producer of Group II lube basestocks in Europe” (Exxon Mobil)	I. Activity	1. Products share and market share
“In early 2017, we will also complete the exit of formaldehyde donors as ingredients in our products.” (Colgate-Palmolive)	I. Activity	2. Description of activities, warehouses or production process
“This expansion at our Beaumont, Texas, will increase the facility’s polyethylene production capacity by 65 percent.” (Exxon Mobil)	II. Strategy	7. Investment in capacity
“In 2017 and beyond, we will focus on five strategic imperatives: accelerating the growth of our consumer-centric brand portfolio, driving revenue growth, strengthening our global system, digitizing our enterprise and unlocking the power of our people.” (The Coca Cola Company)	II. Strategy	10. Discussion about corporate strategy
“United Technologies remains on track to return more than \$22 billion to shareowners through dividends and share repurchases from 2015 through 2017.” (United Technologies Corporation)	II. Strategy	13. Dividends distribution
“If we buy back a big block of stock this year (using analyst earnings estimates for the next five years), we would expect earnings per share in five years to be 3-4% higher. . . .” (JP Morgan)	III. Financial	15. Profitability ratios
“Additive manufacturing can reduce GE’s product cost by \$3 billion to \$5 billion over the next decade and create new performance entitlement.” (General Motors)	III. Financial	18. Costs evolution/distribution

Table A1.
Examples of the
coding procedure

About the authors

Dr Cristina Abad is an Associate Professor at the Departamento de Contabilidad y Economía Financiera in the Universidad de Sevilla, Spain. She was a Visiting Scholar at the University of Southampton (UK) and the University of Texas at Dallas (USA). She has a PhD in Business Administration. Professor Abad’s research focuses on corporate governance and voluntary disclosure, financial analysis and the usefulness of accounting information in capital markets and data envelopment analysis (DEA). Cristina Abad is the corresponding author and can be contacted at: cabad@us.es

Dr Francisco Bravo is an Associate Professor at the Departamento de Contabilidad y Economía Financiera in the Universidad de Sevilla, Spain. He was a Visiting Scholar at the University of Glasgow (UK), and the Cass Business School in London (UK). He has a PhD in Business Administration. Professor Bravo’s research focuses on voluntary disclosure, corporate governance and the usefulness of accounting information in capital markets.

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