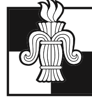

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AMINAH NALIKKA

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Evidence from Finland and the United Kingdom

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Esseitä informaation esittämisestä yrityksien vuosikertomuksissa: Tutkimustuloksia Suomesta ja Yhdistyneistä kuningaskunnista

Tiivistelmä

Tämä väitöskirja tutkii informaation esittämistä yrityksien vuosikertomuksissa. Väitöskirja koostuu johdantoluvusta ja neljästä itsenäisestä esseestä, jotka yhdessä tarkastelevat yrityksen informaation esittämistä eri näkökulmista.

Ensimmäisen esseen tarkoituksena on selittää, miten yrityskulttuuri vaikuttaa informaation määrään yrityksien vuosikertomuksissa. Tiedot yrityskulttuureista kerättiin kyselylomakkeen avulla. Tulokset paljastavat, että informaation esittäminen lisääntyy kun yrityskulttuurissa esiintyy joustavuutta, mutta vähenee kun yrityskulttuurissa esiintyy kontrollia. Kaiken kaikkiaan tulokset viittaavat siihen, että yrityskulttuuri pitkälti määrää ja selittää yrityksen valintoja tiedottamisen suhteen.

Toinen essee tutkii, mitä vaikutusta yrityksen johtajien sukupuolella on yrityksen vapaaehtoisen informaation määrään vuosikertomuksissa. Essee keskittyy erityisesti toimitusjohtajien, talousjohtajien ja yrityksen hallituksen jäsenien sukupuoleen. Tulokset viittaavat siihen, että yritykset, joilla on naispuolinen talousjohtaja, esittävät enemmän vapaaehtoista informaatiota vuosikertomuksissaan. Tulokset paljastavat myös, että naispuolisella toimitusjohtajalla ja naispuolisilla hallituksen jäsenillä ei ole merkittävää vaikutusta vapaaehtoisen informaation esittämisen määrään.

Kolmas essee tutkii informaation esittämisen, taloudellisen ahdingon ja sukupuolisen moninaisuuden välistä yhteyttä. Kun otetaan huomioon hallituksen koko ja yrityksen toimiala, tulokset paljastavat, että informaation esittäminen lisääntyy, kun hallituksessa on naispuolisia jäseniä ja kun yrityksellä on naispuolinen talousjohtaja, mutta vähenee, kun yrityksellä on naispuolinen toimitusjohtaja. Tulokset paljastavat myös, että naispuoliset hallituksen jäsenet vähentävät taloudellisen ahdingon todennäköisyyttä, kun taas naispuolinen toimitusjohtaja lisää sen todennäköisyyttä. Kaiken kaikkiaan tulokset viittaavat siihen, että se mikä pätee naispuoliseen toimitusjohtajaan, ei päde naisten hallitukseen osallistumiseen.

Neljäs essee analysoi sitä, miten tilintarkastuskomitean kokoonpano mitattuna jäsenien itsenäisyydellä ja asiantuntemuksella vaikuttaa tilintarkastuskomiteaan liittyvän informaation esittämisen määrään. Essee osoittaa, että yritykset, jotka on listattu Lontoon pörssissä, suhtautuivat tilintarkastuskomitean tiedottamisvaatimuksiin vakavasti. Esseessä huomautetaan, että vaikka komitean jäsenten itsenäisyydellä on positiivinen riippuvuus koko tiedottamisen määrään sekä pakollisen ja vapaaehtoisen tiedottamisen määrään, komitean jäsenten asiantuntevuudella on positiivinen riippuvuus koko tiedottamisen ja pakollisen tiedottamisen määrään. Tulokset osoittavat myös, että komitean jäsenten asiantuntevuudella on positiivinen mutta merkityksetön vaikutus tilintarkastuskomiteoihin liittyvän pakollisen informaation esittämiseen.

Asiasanat
Informaation esittäminen, yrityskulttuuri, sukupuolinen moninaisuus, taloudellinen ahdinko, tilintarkastuskomitean kokoonpano, vuosikertomus, pörssiyhtiö

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Abstract

This dissertation examines information disclosures in corporate annual reports. The dissertation consists of an introductory chapter and four independent essays that collectively explore aspects of company information disclosures.

The first essay of the dissertation aims to explain corporate cultures as drivers of the extent of disclosure in company annual reports. The information about corporate cultures was collected by questionnaire. The findings of the essay reveal that disclosure increases with corporate cultures associated with flexibility values but decreases with cultures associated with control values. Overall, the results suggest that, to a great extent, corporate culture determines and explains a firm's choices on disclosure.

The second essay examines the impact that the gender of firms' directors has on the extent of corporate voluntary disclosures in company annual reports. The essay particularly focuses on the gender of Chief Executive Officers, Chief Financial Officers and the board of directors. The results indicate that firms with female Chief Financial Officers are associated with higher voluntary disclosures in annual reports. The findings also reveal that having a female Chief Executive Officer and a proportion of female board members has no significant impact on the extent of voluntary disclosure.

The third essay investigates the association between disclosure, financial distress and gender diversity. After controlling for board size and industry the results of this essay reveal that disclosure increases when there are female members on the board and a female Chief Financial Officer, but decreases with a female Chief Executive Officer. The results further reveal that female members on the board diminish distress probability while having a female Chief Executive Office increases distress probability. Overall, the results suggest that what holds for a female Chief Executive Office may not hold for female participation on the board.

The fourth essay analyzes how the composition of an audit committee measured in terms of member independence and expertise, affects the extents of disclosure as it relates to the audit committee. The essay shows that companies listed on the London Stock Exchange responded adequately to the audit committee disclosure requirements. The essay notes that while committee member independence is positively related to total, required and voluntary disclosures, committee member expertise is positively related to total and required disclosures. Further, the findings show a positive but insignificant effect of member expertise on required disclosure related to audit committees.

Keywords

Disclosure, corporate culture, gender diversity, financial distress, audit committee composition, annual reports, listed companies

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This doctoral dissertation has been a process and an experience; one I acknowledge has come to an end as a result of the work of numerous remarkable individuals. I am glad to complete it by acknowledging their contributions in various ways. First of all, I owe my deepest gratitude to my supervisor Professor Erkki K. Laitinen for his guidance, encouragement, patience and support at all stages of my doctoral studies. Throughout the research process, his knowledge, positive outlook and supervision have inspired me into pursuing my doctoral studies with confidence. I consider myself very privileged for being able to work with a very considerate, caring and encouraging professor like him. One simply could not wish for a better or friendlier supervisor. I am also grateful to the pre-examiners of my dissertation, Professor Heli Hookana from the University of Turku and Professor Merridee Bujaki from the University of Ottawa. Their valuable comments drastically improved this dissertation.

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Vaasa, September 2012

Aminah Nalikka

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This dissertation consists of an introductory chapter and the following four essays:

[1] Nalikka, Aminah (2008). Corporate disclosure practices by business firms: a corporate cultural approach. *International Journal of the Academic Business World* 2:2, 9–19. 45

[2] Nalikka, Aminah (2009). Impact of gender diversity on the extent of voluntary disclosure in annual reports. *Journal of Accounting and Taxation* 1:1, 101–113. 69

[3] Nalikka, Aminah (2010). Association between disclosure, financial distress and gender diversity: Finnish evidence (in review process). 87

[4] Nalikka, Aminah (2010). Association between audit committee composition and disclosure extents: UK evidence (in review process). 111

The published articles are revised versions of the articles published in the journals "*International Journal of the Academic Business World* 2:2, 9–19" and "*Journal of Accounting and Taxation* 1:1, 101–113". The text of the original articles are slightly altered according to the reviewers' comments. The findings are unaltered.

1 INTRODUCTION

1.1 Background to and purpose of the dissertation

The dissertation examines information disclosure[1] in company reports in four different essays. Information disclosures in company reports are important to information users including investors, researchers, creditors, financial analysts, debtors, government and security consultants because they provide them with information that is useful when making investment and regulatory decisions (Cooke 1989; FASB 2010). Concerns regarding the relationship between the information disclosed and the role of corporate directors have been on the rise in the last decade. Such concerns have partly arisen as a result of corporate failures that have revealed companies to have disclosed insufficient and unrepresentative information on their operations and performance, consequently the role of company directors in such companies has been brought into question. Given this background, very few disclosure studies conducted in recent years have taken an approach which examines the information providers' characteristics that affect information disclosures in company reports (e.g. Zarzeski 1996; Chau and Gray 2002; Haniffa and Cooke 2002; Matsunaga and Yeung 2008). Moreover, prior literature has noted that disclosure is an "…accounting activity involving both human and non-human resources or techniques as well as the interaction of the two" (Perera 1994: 268).

Bearing in mind the above discussion, a study on both the information and the information providers is important in creating a better understanding of information disclosures. Corporate governance (used interchangeably with information providers in this thesis) is worth considering since it is company directors that manage information disclosures in annual reports (Gibbins 1990) and therefore disclosure may be a function of the composition of the board. In this thesis, corporate governance related issues believed to influence directors' decision-making during the information disclosure process are examined (essays 2, 3 and 4). The selection of the corporate governance related issues investigated in this thesis is supported by Hopwood's (2000) acknowledgement that the focus of accounting research gradually moved towards an interest in how the functioning of accounting is related to wider cultural practices. This acknowledgement highlights that it is not only the information disclosed in company reports and accounting systems

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[1] This thesis uses two concepts of information disclosure namely mandatory and voluntary disclosure (see definitions in section 1.3.)

that are of interest but also the information providers. In this context, a study on both the information and the information providers is important in creating a better understanding of information disclosures.

In relation to the above, this dissertation takes a step further to study how company related factors particularly corporate culture[2] and performance affect the decisions of the information providers and hence the information disclosed (essays 1 and 3 respectively). The corporate cultural aspect (essay 1) is important for two reasons: (1) Because accounting is a socio-technical activity involving the interaction of both human and non-human resources, accounting practices cannot be culture-free (Violet 1983) particularly in the case of information disclosure. (2) At corporate levels, values[3] clearly help companies and their members determine work-related attitudes (since the traditions of the company are instilled in its members) in addition to presenting essentials criteria for work related behavior and therefore (depending on how companies and their members view their work and its importance) certain values and ways of working will be emphasized. Moreover, the performance aspect investigated together with gender diversity and disclosure (essays 2 and 3) focuses on investigating how director characteristics, and in particular gender diversity influence both the extent of disclosure and company performance (which is evaluated in terms of financial distress) and how this company performance affects the disclosed information. The view in essay 3 is that company successes and failures have been linked to management characteristics for example gender diversity, which, in this dissertation, is one of the director characteristics investigated to assess its effect on the extent of information disclosure.

Based on the above discussion, the figure below illustrates the various constructs examined in this dissertation. On the left are the four independent variables grouped into two namely 1. The governance characteristics including: gender diversity and Audit committee composition and 2. The company characteristics including: corporate culture and financial distress. On the extreme right is the dependent variable disclosure examined in all essays. The control variables examined in the different essays are shown at the top of the independent variable in the

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[2] Corporate culture is used interchangeably with organizational culture.

[3] The definition of values is broad for example, in accordance with Hofstede's (1980)'s 'social programming' values are seen as 'abstract social cognition' that help people's adaptation to the environment (Claxton and Mclntyre 1996). This thesis uses this definition partly to identify values that organizational members believe are important within the organization – for example, that it is important to seek opportunities, identify problems, and make improvements, or maintain the status quo and stay out of trouble.

figure and these include company size, profitability, company age, ownership structure, multinationality, leverage, industry type, liquidity, board size and board meetings.

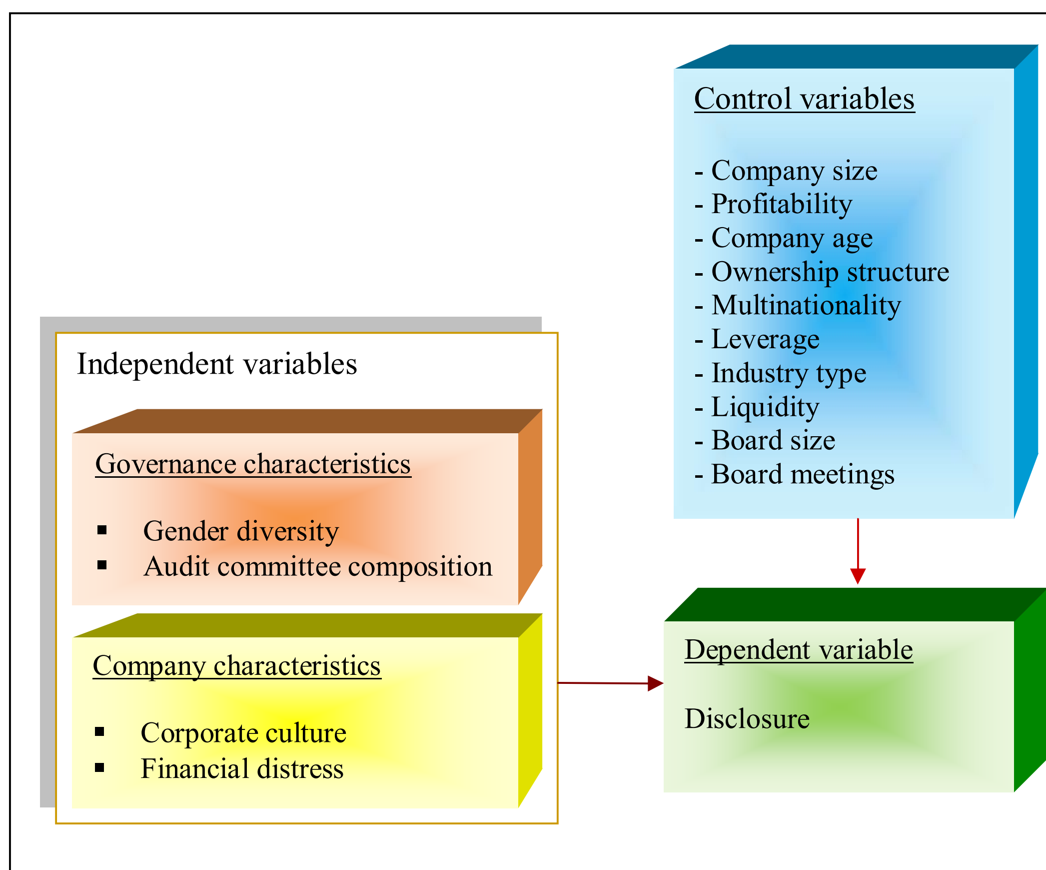

Figure 1. Examined constructs in the dissertation

1.2 Contribution of the dissertation

This dissertation contributes to accounting literature through its four inter-related essays on information disclosure. The first essay contributes to the growing extensive literature examining disclosure in relation to corporate culture. Specifically, several recent studies provide evidence that the environment in which the company operates affects financial reporting and disclosure (e.g. Mueller et al 1991; Gray 1988; Jaggi and Low 2000; Zarzeski 1996). The environmental element looked at in these studies has been culture but specifically national culture. Corporate culture not been extensively studied in disclosure studies even though recent authors recognized that corporate culture is linked to organization theory in a way that not only are organizations culture-bound, theories about organizations are equally culture-bound (Hofstede 2001). This essay therefore extends this line

of research and thus provides new evidence on disclosure in relation to corporate culture from a competing-values perspective.

The second essay contributes to disclosure literature on the determinants of the extent of disclosure in company annual reports by providing a new and economically logical explanation for the extent of information disclosure in relation to gender diversity in the work place. In other words, this is the first study to examine gender diversity as an explanation for information disclosure, and thereby corroborates the notation by Perera (1994: 268). Further still, this study contributes to: (1) existing literature by presenting support for the existence of gender-based difference in performance, ethics and managerial behavior, (2) the continuing debates and regulatory policy implementations regarding gender issues for example in the work place.

The third essay contributes to disclosure literature in the following ways. First, while prior research documents the existence of a relationship between corporate governance mechanisms and the life cycle of enterprises (Wright 2000) and also the constraints financial distress imposes on management's abilities during information disclosure (Holder-Webb and Cohen 2007), no study has examined the potential for an association between disclosure, financial distress and corporate governance. The results of this essay therefore shed light on these two study areas of interest in this dissertation. Second, the essay extends the prior finance and accounting literature on financial distress (e.g. Altman 1993; Wruck 1990; Laitinen 2005; Whitaker 1999; Beller 2003; Laitinen and Kankaanpää 1999; Altman and Hotchkiss 2006; Balcaen and Ooghe 2006; Lensberg et al. 2006; Holder-Webb and Cohen 2007). Studies in this area usually focus on prediction of financial distress. The results of this essay contribute to this stream of literature by highlighting an administrative procedure that can be applied in mitigating occurrences of financial distress and increasing the extent of disclosure.

The fourth and final essay of the dissertation contributes to earlier literature in the following ways. First, the study is the first to examine disclosures related to audit committees (hereafter AC) following (1) the requirement by the European Directive for all public-interest entities in the European Union to have an AC and (2) the imposition of AC disclosure requirements by the Combined Code on Corporate Governance and the Financial Services Authority's Disclosure and Transparency Rules particularly in the United Kingdom. Second, while Carcello et al. (2002) examine AC disclosures with a particular focus on AC activity and only one corporate governance characteristic of director independence, this study extends their study by investigating AC disclosures with a focus on AC membership, activity and findings in addition to investigating both director independence

and financial expertise. The essay also contributes to AC and corporate governance literature by extending earlier work on AC responsibilities through documenting the current state of AC responsibilities and activities (DeZoort 1997) and providing more insights into the relation between corporate governance mechanisms and company characteristics (Beasley et al. 2000). Finally, some important issues in the corporate governance debate from both academicians and practitioners have for a long time been related to issues regarding the role of ACs and how to improve AC performance. The findings of this study contribute to this debate by highlighting what the ACs are currently doing through the analysis of AC disclosures.

In general, following the notation by Gibbins et al. (1990) that disclosure is a managed activity which can be explained by a study of the specific context in which it occurs, this dissertation contributes to information disclosure studies by identifying variables from various theoretical perspectives which include economics, organization theory and institutional theory which can be used for studying and measuring disclosure related behavior (why companies disclose the information they disclose) and corporate disclosure. In addition, this dissertation contributes to several disclosure frameworks attempting to deal with the growing concern that financial reporting policies are inadequate and the approaches taken by policy makers and researchers concerning the relevance of information for decision making (e.g. ICAEW 2003)

1.3 Theoretical fundamentals

Corporate disclosure has been defined by different writers (Wallace 1988; Marston and Shrives 1991; Gibbins et al. 1990; Botosan 1997; Owusu-Ansah 1998) as the release of information concerning the economic performance, position or prospects of the organization. The theoretical framework underlying this release of information referred to as information disclosure in the current research, originates from the market forces perspective and school of the regulatory theory. Market forces theory argues that it is in the interest of managers to maximize the information disclosed to the market in order to maximize the firm's investment resources. This is mainly so because the managers are considered to be competing for limited resources in the prevailing market. The advocates of regulatory theory on the other hand argue that markets are more likely to fail. Regulation is therefore necessary to smooth the imperfections of a free market system by regulating information disclosure by companies. The regulation theory includes public interest theory, the interest group "capture" theory and economic theory (Jackson and Price 1994). Under the public interest approach, an argument for regulation is that

firms are monopolistic suppliers of information about themselves[4]. The second argument for regulation under the public interest approach is to reduce the chances of misleading information disclosures (that may arise as a result of the competitive nature of the market) by companies at least in the short term[5]. Under the capture theory approach, the group being regulated is seen as using the regulatory process as a means of promoting its own interest. In the event of this occurring, the regulatory process is considered captured and thus regulation becomes an instrument for protecting the regulated group as the interests of the regulator and regulated converge.

Corporate information disclosure involves not only measurement, adjustment, qualification and application of accounting and disclosure rules but also data and information organizing and interpretation prior to its release. Disclosure takes two major forms namely, mandatory and voluntary. Mandatory disclosure is the minimum standard of disclosure in corporate reports that is expected by the regulatory forces. Mandatory disclosure implies the presentation of a minimum amount of information in corporate reports, sufficient to permit a reasonable evaluation of the relative risks facing an organization (Owusu-Ansah 1998). Regulatory forces have been identified as consisting of the stock market, legislation and accounting practice (Ahmed and Nicholls 1994). Voluntary disclosure on the other hand refers to the additional information that is disclosed over and above the mandatory disclosure requirements which are defined by national accounting regulations (Gray et al. 1995). Unlike mandatory disclosure where companies are obliged to provide certain information, with voluntary disclosure, companies are seen as voluntarily providing information for a number of reasons. The next discussion in this dissertation is related to the above.

It is worth noting that voluntary disclosure, in theory as well as practice, has been discussed intensively. One of the theories considered important in encouraging sufficient disclosure of information by companies to society as well as other users by companies is the legitimacy theory. This is because this theory is seen to require companies to show and also convince society that the activities in which they are involved are acceptable by and have contributed to society (e.g. Watts and Zimmerman 1979; Rousseau 1975). Watts and Zimmerman (1979) argue that companies might disclose voluntary information as a way of proving to the socie-

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[4] According to Wolk et al. (2001), this constitutes market failure and it is therefore cheaper for society to demand mandatory free disclosure, rather than to have investors privately contracting for the same information, and paying monopolistic prices.

[5] This is done in such a way that company managers are penalized for manipulating and thus disclosing misleading information.

ty that they are operating and acting as society needs. Rousseau (1975) also argues that organizations are bound by a social contract with society, and in order for the organizations to fulfill this contract, their actions and activities have to be legitimized and enhance social welfare. Another theory is the information asymmetry theory. The theory argues that firms have various incentives to disclose information voluntarily. One of the incentives of voluntary disclosure is to reduce the cost of capital by reducing the information asymmetry between managers and shareholders/stakeholders (e.g. Diamond and Verrecchia 1991).

1.3.1 Economic view of disclosure

This dissertation looks into the economic view of disclosure and thereby suggests that a firm's information disclosures are explained by asymmetric information (Verrecchia 2001; Jensen and Meckling 1976). Disclosure attempts to mitigate the problem of unequal distribution of information referred to as information asymmetry[6] (Hendriksen and VanBreda 1992) between firm management and investors (Bushman and Smith 2001). As noted by Fields et al. (2001), the information asymmetry problem crops up as a result of differences in information between the management (well informed managers) of the firm and the investors (less informed investors). This is because managers, relative to investors, have superior information about the firm's business. Furthermore, under normal conditions investors do not have information about management's work and so cannot control management directly (Mathews and Perere 1996). As noted by Diamond and Verrecchia (1991), information asymmetry impairs the efficient allocation of capital and also entails higher costs of capital (Botosan and Plumlee 2002). Reductions in information asymmetry soften communication between firm management and information users for example shareholders, lenders, and financial analysts and that allows investors to evaluate the performance and effectiveness of the company managers. This would result in increased disclosures which in turn will lead to reductions in cost of equity capital (Verrecchia 2001), debt (Clarkson et al. 1996; Sengupta 1998), agency and political costs that might otherwise arise (Bushman and Smith 2001; Healy and Palepu 2001).

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[6] For a comprehensive discussion see Akerlofs (1970) work on information asymmetry using the market for lemons as an example.

1.3.2 Motives for disclosure

Companies disclose information that allows information users to compare numbers and other information with other companies and between years by describing the company's accounting policies and practices, unusual transactions, the effects of an unusual transaction in a prior year, or portion of a period (e.g. Barth and Murphy 1994). This enables information users to become aware of the economic environment surrounding their investments thereby further enabling them to make quick and timely investment decisions. Although companies provide voluntary disclosures describing a company's accounting policies especially when employing complicated and/aggressive accounting methods that require more clarifications and explanations, Gietzmann and Trombetta (2003) note that firms employing conservative accounting policies need not provide extensive and/or costly voluntary disclosures.

Management in possession of "good news" (resulting, for example, from better performance) is more likely to disclose more information since this news can lead to increases in share price valuations on the stock market, and can support a continuance of the company's positions, remuneration and ultimately their stock-related compensation plans (e.g. Inchausti 1997; McKnight and Tomknis 1999). Previous studies have noted that managers appear to plan the timing of disclosing good and bad news in order to maximize their compensation (Aboody and Kaznik 2000). For example, Dye (1998) points out that in order for managers to avoid extreme variability in stock returns and their compensation during periods of uncertainty, managers tend to provide earnings forecasts as a way of reassuring and restoring the confidence of their investors. On the other hand however, Owusu-Ansah (1998) argues that unprofitable companies are also inclined to release more information in order to defend their poor performance.

Companies are inclined to provide voluntary disclosures in order to reduce the monitoring costs for creditors. Managers particularly of those companies with public debt are more likely to voluntarily disclose information about the company's level of indebtedness because in the event of high leverage, creditors will urge the firm to disclose more information to help them handle their own credit risk (Hossain et al. 1994). Furthermore, when companies have high levels of public debt, the debt-holders are more likely to have close relationships with the firms and consequently require detailed information disclosure to ensure observance of the terms of debt contracts.

Managers are more likely to disclose adequate and extra information in their reports in order to mitigate risks and costs (for example in form of penalties) of litigation (e.g. Skinner 1994). In relation to the above, firms that pre-disclose bad

news may be subject to lower litigation costs than firms that do not (Skinner 1994) implying that litigants would concentrate on whether there are deliberate delays in disclosure of bad news (Healy and Palepu 2001).

1.3.3 Prior studies on corporate disclosure

There is an extensive amount of accounting literature on information disclosure in company reports. Most of the studies have explained variations in the extent of disclosure using corporate-specific factors while others have introduced corporate governance and corporate environmental (for example national culture) factors. Some of the corporate-specific factors investigated are company size, profitability, company age, leverage, listing status, liquidity, audit firm size and industry type (e.g. Belkaoui and Kahl 1978; Raffournier 1995; Jaggi and Low 2000; Owusu-Ansah 1998; Hossain 2000; Archamdault and Archamdault 2003; Akhtaruddin 2005).

Studies have documented six main findings: (1) a positive association between company size and disclosure extents (e.g. Hossain 2000; Archamdault and Archamdault 2003; Akhtaruddin 2005). This finding can be explained by agency theory which postulates higher agency costs for larger companies as a result of operating in more complex organizational structures causing them to resort to more information disclosures as a measure to reduce the agency costs. Moreover larger firms have high competitive cost advantages (Lang and Lundholm 1993; Lobo and Zhou 2001) which motivates them to disclose more information in their reports. (2) Owusu-Ansah (1998) and Hossain (2000) reported a positive association between disclosure and a firm's profitability. (3) Company age was found to be associated to disclosure by Owusu-Ansah (1998). (4) Jaggi and Low (2000) and Wallace et al. (1994) reported that leverage leads to disclosure level increases. On the other hand, Zarzeski (1996) argues that disclosure declines with leverage (5) Raffournier (1995) revealed that manufacturing firms disclose more information than companies in other industrial groups. (6) Belkaoui and Kahl (1978) revealed that companies that are able to meet their short-term obligations without recourse to liquidation of their assets desire to make that fact known through increased disclosures.

Other studies have explained the extent of disclosure through corporate governance factors such as the number of independent directors and the existence of an AC (e.g. Karamanou and Vafeas 2005; Cheng and Courtenay 2005; Haniffa and Cooke 2002; Chen and Jaggi 2000). In the study by Haniffa and Cooke (2002), the relationship between corporate governance, culture and disclosure are examined. They document that a greater extent of disclosure is associated with having

a non-executive chairperson and boards dominated by family. Chen and Jaggi (2000) find a positive association between the ratio of independent directors and mandatory disclosure. Cheng and Courtenay (2005) also provide evidence of a greater extent of voluntary disclosure by companies with higher proportions of independent directors as compared to those with balanced boards. Karamanou and Vafeas (2005) investigate the association between corporate boards, ACs and management earnings and find that effective corporate governance is associated with higher financial disclosure quality. Since the board and AC behave consistently towards shareholders benefits, findings of research on disclosure and corporate boards also hold for characteristics of the AC on disclosure.

A number of studies have explained disclosure variations in relation to culture. In studying work-related values at a societal level, Hofstede (1980) identified four dimensions of culture: power distance, individualism-collectivism, uncertainty avoidance, and masculinity. The general finding was an existence of national cultural differences across countries. Hofstede's cultural dimensions serve well in explaining the differences in the values of different countries (Routamaa et al. 2007) and have thus been used in accounting research among other research disciplines. Jaggi and Low (2000) suggest that there is a positive association between disclosure and individualistic societies as individuals in these societies are seen to care for themselves in addition to having competitive and less secretive environments. They further argue that companies operating in countries which rank high in masculinity will be likely to disclose higher levels of information since such societies are more business oriented with individuals valuing the achievement of goals. Gray (1988) applies Hofstede's (1980) societal values to his model and notes that managers in countries with strong uncertainty avoidance are expected to be more secretive implying a negative relationship between uncertainty avoidance and disclosure. Zarzeski (1996) suggests a negative relationship relating to information disclosure in societies ranking high in power distance. This is because these societies are likely to have fostered businesses that discourage extensive information sharing because people recognize an unequal and hierarchical distribution of power.

1.4 Summary of the essays

1.4.1 Corporate disclosure practices by business firms: a corporate cultural approach

There has been increasing interest in investigating the relationship between accounting and culture. Existing literature recognizes that corporate culture is linked to organization theory in that not only are organizations culture-bound, theories about organizations are equally culture-bound (Hofstede 2001) and cultural aspects are related to accounting practices (Jaggi and Low 2000; Zarzeski 1996; Salter 1995; Jaggi 1975; Gray 1988; Sudarwan and Fogarty 1996). While the influence of culture on accounting has been extensively examined, very few studies have examined the impact of culture on disclosure (e.g. Zarzeski 1996; Jaggi 1975). Interestingly, most of these studies have adopted a general focus on national culture. This research on the other hand focuses on showing how companies with different corporate cultures respond to disclosures.

The first essay of the collection investigates corporate disclosure practices in relation to corporate culture. This essay elaborates on disclosure by examining how specific corporate cultural types in addition to corporate characteristics impact the amount of information disclosures in company annual reports. The essay postulates that disclosure levels are dependent on and thus driven by corporate cultures and corporate characteristics in addition to other factors. To investigate the study aim, the essay utilizes two corporate culture variables (flexibility and control values) operationalized by Henri (2006) and eight corporate characteristic variables (company size, multinationality, leverage, company age, profitability, company ownership liquidity and industry type).

Using a sample of companies listed on the Helsinki Stock Exchange and data from company reports for the fiscal year 2005, the results reveal systematic differences in the extent of disclosure by firms with different corporate cultural types. The empirical findings indicate that managers of companies with corporate cultures reflecting flexibility values tend to disclose more information in the company reports, while those belonging to companies with corporate cultures reflecting control values tend to disclose less information. These results are consistent with literature on organizational culture which highlights that control values promote tight control of operations, restricted flows of information and highly structured channels of communication throughout the organization while flexibility values promote loose and informal controls, open lateral communication channels and free flow of information. The findings further reveal that with the exception of multinationality, company size and profitability, other corporate

characteristics such as age, liquidity, leverage, shareholders and industry type do not affect the disclosure levels of the sample companies.

1.4.2 Impact of gender diversity on the extent of voluntary disclosure in annual reports

The second essay examines the impact of gender diversity within corporate boards on the extent of information voluntarily disclosed in corporate reports. Literature shows that differences do indeed exist between men and women regarding decision-making, risk taking, managing, ethical behavior, leading, information processing, communicating and general performance in business enterprises (e.g. Johnson and Powell 1994; Peni and Vähämaa (2010); Pierce and Sweeney 2010; Powell and Ansic 1997; Rose 2007; Schmitt et al. 2008; Chell and Baines 1998; Peterson et al. 2010; Burke 1999; Peterson and Philpot 2006; Walt and Ingley 2003). Among other reasons, this could be part of the explanation for the increases in both female representation and the number of women in top management and corporate boards. Moreover, gender diversity literature emphasizes that diversity may for example benefit the board's decision making process as new perceptions on various issues are presented and combined with a mutual exchange of ideas stemming from board members having diverse backgrounds and experience (e.g., Alvarez and McCaffery 2000) and enhances board strategic involvement (Nielsen and Huse (2010). This may broaden the knowledge base, creativity and innovation, and therefore become a competitive advantage (Watson et al. 1993).

The essay proposes that because gender diversity leads to improvements in company performance (e.g. Erhardt et al. 2003; Siciliano 1996) and that better company performance leads to increases in the number of disclosures (e.g. Owusu-Ansah 1998), then gender diversity should have a positive impact on the extent of disclosure. This essay specifically investigates this proposition and thus examines whether information disclosure increases when there are more female directors on corporate boards. The impact between gender diversity and disclosure is examined using the 2005 to 2007 annual reports of 108 companies listed on the Helsinki Stock Exchange during the fiscal year 2008. The main findings of the essay suggest that the female Chief Financial Officer (CFO) measure is significantly positively associated with the extent of disclosure. Further still, no association between disclosure extents and the other two gender diversity measures of female board of directors and female Chief Executive Officers (CEOs)is observed.

The negative sign revealed on the finding of female CEOs on disclosure although not significant can be explained by the differences in corporate roles performed by CEOs in comparison to CFOs during the information disclosure process. This finding may therefore indicate that company CEOs as compared to CFOs are more involved in corporate strategic planning matters than they are with preparation of company reports and therefore have less influence on the information disclosed in the reports.

1.4.3 Association between disclosure, financial distress and gender diversity: Finnish evidence

The results from essay 2 give some partial explanation for the extent of voluntary disclosure by revealing that despite the lack of association between the extent of disclosure and the number of women on the board of directors and as female CEOs, female CFOs are significantly positively associated with the extent of disclosure. The results do not however provide an answer as to whether the results would be the same in situations where information is negative or performance is poor. According to Holder-Webb and Cohen (2007), in such situations where information is negative or performance is poor, management is faced with difficulties in abiding by the ethics of their obligation to disclose sufficient and full information. Moreover, a stream of psychology research has been directed to the differences evident between men and women in risk perception and tolerance. Most of these studies have examined relationships between gender differences in relation to financial decision-making and reported women as having lower preferences for risk (example when making investment decisions) than men (e.g. Meier-Pesti and Penz 2008; Eckel and Grossman 2002; Powell and Ansic 1997; Johnson and Powell 1994; Stinerock et al. 1991), Extant research also indicates that women have a reduced willingness to accept financial risk (Barsky et al. 1997), have a higher degree of anxiety when making financial decisions and a stronger desire to use financial advisors (Stinerock et al. 1991). Since these differences between men and women influence decision-making in general and financial decision-making in particular as well as risk perceptions and tolerance, it is likely that they affect disclosure and financial distress.

The aim of the essay is to investigate the association that may exist between disclosure, financial distress and gender diversity. This essay is based on three main assumptions. First, a negative relationship between annual statement information disclosure and financial distress is assumed. Second, it is assumed that a negative relationship exists between gender diversity and financial distress. Third, a positive relationship between gender diversity and disclosure is assumed. The hypoth-

eses are presented in a form of a structural equation model (SEM) estimated by the maximum likelihood (hereafter ML) method. The results show that disclosure is strongly negatively affected by financial distress. The female CEO dummy has a positive effect on financial distress, which contradicts the research hypothesis but supports the female underperformance hypothesis. It is worth noting that the positive finding on the female CEO dummy and financial distress can also be explained by the literature on the "glass cliff" which argues that women are often more likely to be appointed into leadership positions in periods when organizations are already facing poor performance (Bujaki and McConomy 2010; Ryan and Haslam 2005, 2007). However, female members on the board and a female CFO have a positive effect on disclosure. In addition, female members on the board diminish the probability of distress. Thus, what holds for a female CEO, may not hold for the participation of women on the board.

1.4.4 Association between audit committee composition and the extent of disclosure: UK evidence

The essay examines the association between audit committee (AC) composition and AC related disclosures. The impact of corporate governance as a whole on disclosure has been extensively investigated in existing literature (e.g., Haniffa and Cooke 2002; Lim et al. 2007). In general, the studies in this line of research have focused on corporate boards with very limited emphasis on the link between disclosure and board committees such as the AC (Carcello and Neal 2003; Carcello et al. 2002; Ho and Wong 2001) and these committee disclosures (Carcello et al. 2002). Existing literature suggests that ACs are monitoring mechanisms that enhance the audit attestation function of external financial reporting (e.g., Bradbury 1990) in addition to enhancing transparency. Furthermore, ACs convey important signals to the market about the company's monitoring of the financial reporting and audit process.

The main aim of the essay is to investigate the relationship between AC composition in terms of director independence and financial expertise on disclosures pertaining to ACs. Fama and Jensen (1983) suggest a greater proportion of independent directors on corporate boards results in more effective board monitoring and hence limits managerial opportunism. Forker (1992) also suggests that the inclusion of independent directors is seen to improve a firm's compliance with regulations on disclosure and hence the comprehensiveness and quality of disclosures. Moreover, directors with financial experience are viewed to be more proactive in their monitoring, control and oversight activities, putting them in a better positions to reduce occurrences of information asymmetry as well as leading to

improvements in the quality of information flow between corporate owners and managers, especially in the financial reporting environment where the two have disparate information levels.

Using a sample of 332 companies listed on the London Stock Exchange during the fiscal year 2008, the essay reveals the findings summarized below. First, the findings document that in general the sample companies have responded adequately to the disclosure requirements by the Combined Code on Corporate Governance and the Financial Services Authority's Disclosure and Transparency Rules. Second, the results document support for the view that AC independence is significantly positively associated with total, required and voluntary information disclosures pertaining to ACs. This finding is consistent with Forker (1992) who suggests that the inclusion of independent directors is seen to improve a firm's compliance with regulations regarding disclosure and hence the comprehensiveness and quality of disclosures. The finding implies that AC disclosures in relation to compliance with disclosure regulations improve trust and confidence in corporate governance, the financial reporting process and the audit functions. Third, it is found that AC expertise is significantly positively associated with total and required information disclosures pertaining to ACs.

1.5 Design of the dissertation

1.5.1 Data sources and collection methods

This section details the sources of the data used in the dissertation and the data collection methods employed. The only primary source[7] of data employed in the dissertation is the questionnaire by Henri (2006) that is used to measure corporate culture (see Appendix 3). The questionnaire and cover letters (see Appendices 1 and 2) were sent out to the respondents who include company board members, using the E-Form program. The cover letter sent out to the respondents has a number of objectives. First, to provide respondents with brief information about what they were being requested to respond to. Second, to motivate them to participate in the survey. Third, to provide them with a uniform resource locator (URL) as well as the username and password which give them access to the questionnaire. The responses were received through the same program. After three weeks

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[7] In this dissertation referred to as data collected directly from first-hand experience.

from the date of the first contact, a reminder letter (see Appendix 2) was sent out to the respondents who had not answered.

The two main secondary data sources used in all essays of the dissertation are company annual reports (fiscal years 2005 for essay 1, 2005 to 2007 for essays 2 and 3, and 2008 for essay 4) and the Thomson Financial Worldscope database. The annual reports are used mainly because they are considered the main source of disclosing information for different parties (Akhtaruddin 2005; Deegen and Rankin 1997) and are viewed as the major official and legal document that a firm produces on a regular basis and acts as a significant forum for the presentation of the firm's communication with political, social and economic systems (Gray 1995). The annual reports are used for collection of data used in scoring the disclosure indices for all the essays of the study (see Appendix 4, 5 and 6), gender diversity data (essay 2 and 3), and AC composition data (essay 4). The Thomson Financial Worldscope database is on the other hand used for collection of company financial information (used as measures of financial distress for essay 3 and control variables in all essays) and industry related information. Financial information is not collected directly from the annual reports for two reasons namely, (1) To save time and therefore be more efficient (i.e. since data used in scoring the indices, gender diversity and AC composition were hand collected), (2) Financial information on the sample companies is available in the database and thus facilitating a more efficient and flexible way of retrieving the large amounts of this kind of information.

1.5.2 Motivation for the sample selection

In general, the European Union (hereafter EU) as an economic and political union has grown in size through the accession of new member states (from 6 member states in 1952 to 27 in 2007. This number still holds as of 2012). The EU member states have recently attracted increasing interest both from researchers and practitioners. It is worth noting that both unique features and similarities exist amongst these member states. Despite the growth in literature relating disclosure and corporate governance and developments in legislation governing the Union, there is still very limited research is conducted on EU member states in the field. From the above, both research and assessments of the similarities and differences in disclosure behavior are likely to be insightful. Taking the above into consideration, this dissertation uses two countries from the EU namely Finland and the UK.

Why Finland and the UK as well as Finnish and UK data? First and foremost, these two countries are selected because both are members of the EU and are believed in the context of this study to exhibit some of the differences and similari-

ties that can be found in other EU member states. In other words, these two countries act as a representative sample of other EU member states in this dissertation and therefore the results from either sample country are considered representative of other countries with features that are to some degree similar. Second, all companies in the sample are public companies and are therefore by law (with effect from the year 2005) to prepare their annual financial statements in accordance with the International Financial Reporting Standards (hereafter IFRS). Using these countries as samples for this dissertation suggests that the results reported are representative not only to EU member states in particular but also to the rest of the world in cases where similarities exist in regulations relating to disclosure of information.

On the other hand, these two countries are different in the following ways (it is important to mention that these differences have an impact on disclosure levels): - First, in comparison to Finland, the UK is one of the biggest developed European markets. Second, accounting in the UK has a longer tradition driven by professionalism. As noted by Gordon et al. (2005), in the UK, unlike in most of the European countries, the accounting profession and professional accounting bodies set the accounting regulations. Third, according to Hofstede's (1980) cultural dimensions, Finland is rated low on power distance (score of 33), low on masculinity (score of 26), high on individualism (score of 63) and high on uncertainty avoidance (score of 59). On the other hand, the UK is rated low on power distance (score of 35), high on masculinity (score of 66), high on individualism (score of 89) and low on uncertainty avoidance (score of 35). It is worth noting that these differences are common within other EU countries. This implies that the two countries as mentioned earlier act as a suitable sample for the generalization of the findings of this thesis.

In the dissertation essays, there are no assessments of the similarities and differences in disclosure behavior made by the two sample countries. This is because legislation on the disclosures under investigation varies, and that variation runs from marginal to complete (as indices are constructed on a particular country's legislation) making it difficult to combine the samples for comparison purposes.

1.5.3 The disclosure index

The four essays of this dissertation investigate voluntary disclosure of information while required information disclosure is investigated in only the fourth essay. Four different approaches have been identified as measures of corporate disclosure in company annual reports. The choice of any particular approach is determined by two factors: First the appropriateness of the technique in relation to the

data at hand and second, the objective for which the measurement is being undertaken. These approaches are (1) the perceived disclosure deficiency approach measuring perceived deficiencies in accounting information needs of users of annual reports. This approach was first employed by Carpenter et al. (1971). (2) The content approach used to assess the adequacy of information presented in annual reports based on the number of words used to describe an information item. This approach was employed by Copeland and Fredericks (1968). (3)The frequency distribution approach measures the information that appears most commonly in the company annual report. The approach was developed by Morris (1984). (4) Finally, the index approach applied in this study measures the extent of information disclosed in an annual report.

In all the essays, the level of each firm's disclosure was measured using the disclosure index approach[8]. The disclosure index approach combines several variables of interest into one single measure. Two index types have been used in prior disclosure studies for measuring disclosure, namely the self-constructed index and the pre-developed index. The self-constructed index is however the most common index used in disclosure studies (e.g. Cooke 1989; Camfferman and Cooke 2002) and is used in this dissertation. Although time consuming to construct, this index type is advantageous and thus the most appropriate choice for this dissertation in such a way that it specifically seizes the information the researcher wants allowing the researcher to feel confident in the reliability of what is being measured.

The indices were constructed in two main stages. First, the items were selected for inclusion in the indices from several descriptive studies which refer to the amount of information provided in company annual reports was done. This involved two steps the first being to follow reviews and examinations of previous disclosure indices (e.g. Lim et al. 2007; Akhtaruddin 2005; Chau and Gray 2002) and the second being to thoroughly reviewing the regulations stipulated in the laws applicable to the studies in question. Those laws included Finnish laws (i.e. for essays 1, 2 and 3) such as the Limited Liabilities Companies Act of Finland (2007) and the rules of the Helsinki Stock Exchange (2006) and the UK laws on ACs (requirements under both the Combined Code on Corporate Governance and the Financial Services Authority's Disclosure and Transparency Rules) and voluntary information (essay 4). The next stage was the assignment of weights to the items in the indices. This involved carefully reading the annual reports and scor-

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[8] In this dissertation, essays 1 uses a different index than essays 2 and 3 mainly because the index used in essay 1 necessitated revision and expansion to reflect the factors examined in essays 2 and 3.

ing them in order to obtain a level of disclosure for each company. Scoring of disclosure communication vehicles like annual reports can be either weighted or unweighted. The weighted approach is based on the assumption that the users of the annual reports attach different importance to the different items in the index. An item is therefore weighted for example on a Likert-type scale on the basis of its importance as perceived by the information user or author. This approach has been criticized for introducing the problem of subjectivity. The unweighted approach is based on the assumption that all items are of equal quality and importance to the information users. This means that an item is scored 1 if disclosed and 0 if not. The approach has been credited for accruing less measurement error (e.g. Adrem 1999). Accordingly, this dissertation employs the unweighted approach to measure disclosure.

1.5.4 Reliability and validity of disclosure indices

A disclosure index is dependent on replication–that is, whether the results it generates can be replicated by another researcher. This is not usually considered a problem given the fact that the contents of the annual reports do not change much over time. However, the problem that has been noted in review studies is that of partial scores arising from the researchers subjectivity as to whether an item is disclosed or not (e.g. Ahmed and Courtis 1999; Marston and Shrives 1999) in addition to making decisions as to whether an undisclosed item was applicable to a particular company. This interpretation depends totally on the judgement of the researcher using the index and could lead to difficulties in replicating the results. Ways of solving the reliability issue are:- to use indices that are understood without difficulty and items that are easy to interpret, provide instructions on problem areas (Buzby 1974) and last but not least provide rules for determining whether a specific item is relevant or not (Cooke 1989). This dissertation tried to address the subjectivity issue by using items that are free from ambiguity. Further still, other researchers are free to gather the data (upon request) for replication purposes.

The validity[9] of a disclosure index is dependent on whether it measures what the research intends to measure. There are different types of validity. This dissertation takes into consideration two types of validity namely, content validity[10] and

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[9] Validity is defined as "the extent to which any measuring instrument measures what it is intended to measure" (Carmines and Zeller 1999).

[10] Content validity is assessed through seeking subjective judgment from non-experts and/ or professionals on how well the instrument measures what it is intended to measure.

context validity[11]. Because the self-constructed index is constructed by the researcher, it is designed on the basis of the researcher's needs and so brings advantages in the sense that it measures exactly what the researcher intends to measure. The researcher therefore does not need to depend on other researchers for information on for example problem areas and relevance of the items included in the index. To ascertain content validity of the disclosure indices used in this dissertation, self-constructed indices (in all essays) were employed. In the fourth essay, content validity was further ascertained by sending the preliminary list of selected items for screening to three individuals for screening. These individuals were identified and selected on the basis of their knowledge and expertise in addition to working with or being members of institutions influencing issues related to the subject under investigation. This also aided in the evaluation of the relevance of the index to the disclosure requirements on AC's related issues (content validity). On the other hand, testing for construct validity involves an investigation of a correlation between a measure of disclosure quantity and a number of company characteristics. Further still, testing for construct validity of a disclosure measure requires a pattern of consistent findings with prior studies. In this dissertation therefore, a test used by earlier disclosure studies in which one or more determinants of disclosure are regressed as control variables is employed (e.g. Lang and Lundholm 1996; Leuz and Verrecchia 2000). Since prior studies have proven a correlation between company size and disclosure, company size is used as a control variable for this purpose in this dissertation.

1.6 Limitations of the dissertation and directions for future research

1.6.1 Limitations of the dissertation

The communication tool used in this dissertation relies on disclosure being provided by the company annual reports. Disclosures provided by the sample companies in other forms such as magazines, press releases and company web pages were not taken into consideration. The omission of information released in such forms and communication tools may limit the findings somewhat.

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[11] Construct validity focuses on the extent to which a measure works in accordance with the underlying theoretical expectation. According to Carmines and Zeller (1991), "if the performance of the measure is consistent with theoretically derived expectations, then it is concluded that the measure is construct valid".

This dissertation investigates disclosures specifically from public companies in Finland and the United Kingdom and consequently does not take into account private companies as well as those outside the European Union. This could affect generalization of the results. However, the samples used from public firms consisted of over half of the population of companies and, therefore, the results are likely to be accurate presentations of the entire population.

The approach used in scoring disclosure may have affected the results. This relates to the probability of introducing subjectivity when evaluating the adequacy of disclosure for the companies. Moreover, each disclosure was scored 1 if disclosed and 0 if not, and so the scoring assumes that all items carry the same importance and quality to information users. It is important to recognize however that, specific items might and/or are clearly of more importance to some information users than others. Thus, a weighting approach could have been employed to resolve this issue regarding importance. However, it is difficult to decide on the equality of the items. Therefore, in order to avoid the risk of introducing more subjectivity, the quality of each item was not measured (e.g. Rimmel 2003).

The study could have suffered from the issue of design. For the subject of this dissertation, a more appropriate design would have been one that enabled the researcher to observe how organizational members involved in the disclosure decisions relate to the disclosure processes. Such an approach would have at least reduced and perhaps eliminated, any bias that might have been introduced by such issues as respondents trying to answer the questionnaire favorably for example even when their organizations had not achieved an appropriate level of flexibility (essay 1).

As noted by Henri (2006) that even if measurement instruments have reflected satisfying reliability and validity, organizational culture is a broad concept for which richness cannot fully be captured by a survey instrument. It is worth mentioning that this study is no exemption and therefore organizational culture was not fully captured by the survey instrument used.

The gender related essays looked at female executives. Because the number of female executives and thus observations are small and low respectively, the results may not be applicable to companies operating in countries with higher numbers of female executives in management and the statistical power of the conducted tests may reduce. It should however be noted that the female executives population of the sample companies appears to be as was measured in the study and could therefore not have been changed.

1.6.2 Directions for future research

The empirical findings, experience gained from compiling the current dissertation, and the limitations identified above, gave rise to some suggestions for future research which are outlined below. First, this dissertation, like many studies on disclosure, uses a statistical approach to investigate those factors affecting disclosure levels by companies and also focuses on general disclosure. The first suggestion is the application of a different approach employing case studies. This approach has not been commonly applied in this area of research and it seems an interesting avenue for future research. This is because it will allow for observation of those factors studied in this dissertation during the disclosure decision making process to ascertain if the results from this dissertation might be found in the case study approach. The second suggestion is navigating away from a general disclosure outlook to an investigation of the information types disclosed by companies with more female, independent and financially experienced directors. This is important as there might be differences among the different information types; for example, in terms of financial and non-financial information.

Another important area for future research suggestions is one of a comparative study (on disclosure behavior) especially when investigating issues of specific disclosure regulations outside those investigated in the fourth essay. An example for this future research suggestion is an elaboration using the first three essays of this dissertation. These three essays studied voluntary disclosures of firms listed on the Helsinki Stock Exchange. As country-specific differences are likely to exist because of differences in institutional and cultural settings (Hope 2003; Hofstede 2001), it would be interesting to find out if the findings reported in this dissertation can be applied to other countries through a comparative study for example by looking at a number of countries in the EU or the Nordic countries.

The reported results in essays 2 and 3 raise some questions and thus avenues for future research regarding gender-based differences and performance as well as behavior. For instance, the negative empirical findings reported on female Chief Executive Officer and distress as well as disclosure provide possibilities for future research examining (1) whether the management style needed and/or required differs during distress times (2) how female Chief Financial Officers and Chief Executive Officers differ in terms of their qualifications, and (3) whether female Chief Executive Officers are responsible for distress or are brought in during times of distress.

Essay 3 focused on public companies, it would be interesting to conduct a study using data on private and small-sized companies to see whether the results are consistent with a sample of companies of a different size. It would also be inter-

esting to investigate changes in disclosure before and during distress as well as during recovery from distress and compare what happens to disclosure during all the three periods.

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APPENDICES

APPENDIX 1. The cover letter of the email sent to the questionnaire respondents.

Dear respondent,

This contact is an invitation to participate in my doctoral dissertation research project titled, "corporate disclosure practices by business firms: a corporate cultural approach" under the supervision of Professor Erkki K. Laitinen at the University of Vaasa.

My research project endeavors to generate knowledge to be utilized in understanding information disclosures by companies in annual reports. The research specifically focuses on determining how organizational culture among other factors can be used to explain corporate disclosures by companies. As a representative of your company, your views are of importance in this research area.

At the extreme end of this page is the link, your user name (tunnus) and password (salasana) which will enable you to have access to the questionnaire to which I kindly request your response as soon as possible. Responding to the questionnaire will take approximately 10-15 minutes to complete.

Information provided in this questionnaire will be kept confidential without any form of it being revealed anywhere and to anyone in whatever form to enable identification of any individual company.

I will be delighted to respond to any inquiries regarding the questions and any related issues. so please feel free to contact me.

Thanks for your time and contribution to my research. I shall be pleased to send you a copy of the findings of the study if you desire so.

Best Regards,

Aminah Nalikka
Department of Accounting and Finance
University of Vaasa
Email: aminal@uwasa.fi
Tel: (GMS) +358407088037

http://forms.uwasa.fi/lomakkeet/207/lomake.html

tunnus:
salasana:

APPENDIX 2. The cover letter of the reminder sent to the questionnaire respondents.

Dear recipient,

This is a follow-up reminder to my email of November requesting for your assistance in responding to my doctoral dissertation research project on corporate disclosure by companies and their organizational cultures. Perhaps you have a calendaring implementation and have not yet got time to respond.

I hereby kindly contact you for the second time as every response is very important to the success of my research project. Please find the questionnaire to which I kindly request you to complete with regards to your company at the following link: http://forms.uwasa.fi/lomakkeet/210/lomake.html. Please also find at the extreme end of this page your user name (tunnus) and password (salasana) which will enable you to have access to the questionnaire.

In case of any difficulties regarding your username and password as well as the link to the questionnaire, please contact me and I send you either of them by email. Your prompt response will be highly appreciated, not later than 31st January 2008.

I look forward to your participation in my doctoral research project.

Best Regards,

Aminah Nalikka
Department of Accounting and Finance
University of Vaasa
Email: aminal@uwasa.fi
Tel: (GMS) +358407088037

http://forms.uwasa.fi/lomakkeet/207/lomake.html

tunnus:
salasana:

APPENDIX 3. Corporate culture survey questionnaire (Source: Henri 2006).

These questions relate to the type of organizations that your firm most resembles. Each of these items contains four descriptions of firms. Please distribute 100 points among the four descriptions depending on how similar the description is to your business. None of the descriptions is any better than the others; they are just different. You may divide the points in any way you wish. Most businesses will be some mixture of those described.

For example: In question 1, if the organization A seems very similar to yours, B seems somewhat similar, and C and D do not seem similar at all, you might give 70 points to A and the remaining 30 points to B.

1. Institutional characteristics (please distribute 100 points)

______ Organization A is a very personal place. It is like an extended family. People see to share a lot of themselves.
______ Organization B is very dynamic and entrepreneurial place. People are willing to stick their necks out and take risks.
______ Organization C is very formalized and structured place. Bureaucratic procedures generally govern what people do.
______ Organization D is a very production oriented. A major concern is with getting the job done. People are not very personally involved.

2. Institutional leader (please distribute 100 points)

______ The head of Organization A is generally considered to be a mentor, a sage, or a father or mother figure.
______ The head of Organization B is generally considered to be an entrepreneur, an innovator, or a risk taker.
______ The head of Organization C is generally considered to be a coordinator, an organizer, or an administrator.
______ The head of Organization D is generally considered to be a producer, a technician, or a hard-driver.

3. Institutional cohesion (please distribute 100 points)

______ The glue that holds Organization A together is loyalty and tradition. Commitment to this organization runs high.
______ The glue that holds Organization B together is commitment to innovation and development. There is an emphasis on being first.
______ The glue that holds Organization C together is formal rules and policies. Maintaining a smooth-running organization is important here.
______ The glue that holds Organization D together is the emphasis on tasks and goal accomplishment. A production orientation is commonly shared.

4. Institutional emphasis (please distribute 100 points)

______ Organization A emphasizes human resources. High cohesion and morale in the organization are important.
______ Organization B emphasizes growth and acquiring new resources. Readiness to meet new challenges is important.
______ Organization C emphasizes permanence and stability. Efficient, smooth operations are important.
______ Organization D emphasizes competitive actions and achievement. Measurable goals are important.

APPENDIX 4. Disclosure index (used in essay 1)

General corporate information

1. A brief history of the company
2. The country of incorporation and address of the registered office
3. Main events by month/quarter for the calendar year
4. Main events of geographical segments by year
5. Organizational structure
6. Changes in organizational structure

Employees

7. Geographical distribution of employees
8. Business segment distribution of employees
9. Employees by function
10. Categories of employees by sex
11. Education levels of employees
12. Age structure of employees
13. Number of employees for a period five years
14. Reasons for changes in employee numbers or categories
15. Nature of training
16. Amount of time spent on training
17. Number of employees trained
18. Geographical location where training was conducted
19. Categories of employees trained

Board structure

20. Educational qualifications of Board members
21. Commercial experience of board members
22. Age/ date of birth of board members
23. Position of office held
24. Other board memberships held
25. Fees paid to the board of directors

Segment information

26. Brief description of the business segments
27. Geographical expenditure
28. Geographical net assets
29. Market share analysis

Financial review

30. Financial key indicators for two years with percentage change
31. Financial history (key figures) of over three years
32. Break down of sales by activity/function
33. Break down of sales by geographical area
34. Break down of sales by business segment
35. Disclosure of other intangible assets valuations except for goodwill

Information about Executive Directors

36. Photo display
37. Age/ date of birth of directors
38. Educational qualifications
39. Commercial experience
40. Period of employment in company
41. Salaries, fringe benefits and incentive plan based payments for the executive team(quantitative)

Research and development (R&D)

42. Description of R&D
43. Company policy on R&D
44. Location of R&D activities
45. Phase in R&D
46. Number of employees in R&D
47. Expenditure on R&D

Social policy

48. Charitable donations
49. Community programs
50. Environmental protection programs

Others

51. Ways of interacting with stakeholders
52. Quality information
53. Information related to Advertising and publicity
54. Customer groups
55. Contact information by geographical location
56. Information relating to the general outlook of the economy
57. Company's contribution to national economy
58. Information relating to competition in the industry

Future prospects

59. Forecast of market growth
60. Forecast of growth capacity (both qualitative and quantitative)
61. Factors predicted to affect future performance
62. Planned expenditure on publicity
63. Planned expenditure on research and development
64. Disclosure of more than 20 major shareholders

APPENDIX 5. Disclosure index (used in essays 2 and 3)

Strategic information

General Corporate Information

1. Brief history of the company
2. Organizational structure

Corporate Strategy

3. Statement of strategy and objectives – general
4. Statement of strategy and objectives – financial
5. Statement of strategy and objectives – marketing
6. Statement of strategy and objectives – social
7. Impact of strategy on current results
8. Impact of strategy on future results

Acquisitions and Disposals

9. Reasons for the acquisition/s
10. Reasons for the disposal/s

Research and Development

11. Corporate policy on research and development
12. Description of research and development
13. Location of research and development policies
14. Number of employees in research and development

Future Prospects

15. Qualitative forecast of sales
16. Quantitative forecast of sales
17. Qualitative forecast of profits
18. Quantitative forecast of profits
19. Qualitative forecast of cash flows
20. Quantitative forecast of cash flows

Non-financial information

Information about directors

21. Age/date of birth of directors
22. Educational qualification of directors
23. Position of office held
24. Commercial experience of directors

25. Other directorships held by executive directors
26. Period of employment in the company by executive directors

Employee Information

27. Geographical distribution of employees
28. Business segment distribution of employees
29. Employees by function
30. Categories of employees by sex
31. Education levels of employees
32. Age structure of employees
33. Number of employees for a period five years
34. Reasons for changes in employee numbers or categories
35. Identification of senior management and their functions
36. Nature of training
37. Amount of time spent on training
38. Number of employees trained
39. Categories of employees trained
40. Geographical location where training was conducted
41. Categories of employees trained

Social Policy and Value Added Information

42. Safety of products
43. Environmental protection programs
44. Charitable donations
45. Community programs

Financial information

Segment Information

46. Geographical capital expenditure – quantitative
47. Geographical production – quantitative
48. Competitor analysis – qualitative
49. Competitor analysis – quantitative
50. Market share analysis – qualitative
51. Market share analysis – quantitative

Financial Review

52. Financial key indicators for two years with percentage change
53. Financial history (key figures) of over three years
54. Break down of sales by activity/function

55. Break down of sales by geographical area
56. Break down of sales by business segment
57. Profitability ratios
58. Liquidity ratios
59. Cash flow ratios
60. Advertising information – qualitative
61. Advertising information – quantitative

Stock Price Information

62. Market capitalization at year end
63. Market capitalization trend
64. Size of shareholders
65. Type of shareholders

Others

66. Ways of interacting with stakeholders
67. Quality information
68. Information related to Advertising and publicity
69. Customer groups
70. Contact information by geographical location
71. Information relating to the general outlook of the economy
72. Company's contribution to national economy
73. Information relating to competition in the industry

APPENDIX 6. Disclosure index (used in essay 4)

MEMBERSHIP

Membership Required

1. At least one independent member
2. At least one member with competence in accounting and/or auditing
3. Committee composition of at least three Independent non-executive members
4. At least one committee member with recent and relevant financial experience
5. List/names of committee members

Membership Voluntary

6. Details on qualifications and/or financial & Accounting experience of committee members
7. Date of appointment and/or period on committee of at least one member
8. Date of expiration of/resignation from committee membership of at least one committee members
9. Outline of the areas the board expects the committee members to be familiar with
10. Information regarding periods of appointments on committee membership

ACTIVITY

Activity Required

11. Disclose which body carries out the audit committee functions (it could be the full board or another body) and how it is composed.
12. Summary of the key roles of the committee
13. Availability of the terms of reference of the committee
14. An overview of the actions taken by the committee to discharge its duties (i.e. a summary of the work undertaken by the committee)
15. Information regarding whistle blowing i.e. review of arrangements by which company staff raise concerns about improprieties in financial reporting and other matters
16. Information regarding the audit committee's monitoring and reviewing of the effectiveness of the internal audit process and explanation regarding the reasons for the absence of such a function
17. Description of the procedures adopted and applied in reviewing the independence of the external auditors, including disclosures of the policy on the provision of non-audit services
18. Information regarding external auditor appointment, reappointment and removal
19. Number of meetings held during the financial year
20. Meeting attendance by each committee member

Activity Voluntary

21. Meeting attendance by the executive committee members e.g. Chairman, CFO etc

22. Meetings with external auditors in the absence of management
23. Frequency of meetings held by the committee with external auditors
24. An overview of the main areas of focus in general during the meetings
25. Description of the activities carried out during the financial year in order to monitor the integrity of the financial statements.
26. Description of the activities carried out during the financial year in order to review the integrity of the company's internal financial control, and where requested to do so by the board, risk management systems
27. Description of the oversight of the external audit process and confirmation that an assessment of the effectiveness of the external audit was made
28. Specifications regarding external auditors scope of work and non-audit services
29. Information on audit and non-audit service fees
30. Report/details on the effectiveness of the external audit function
31. Reasons provided for decision made regarding reappointment or removal of external auditor
32. Information on induction of committee members
33. Form of induction and training provided
34. Information relating to training of committee members
35. Committee performance evaluation/assessment
36. Information regarding the review of the committee's own effectiveness/ findings from the committee's performance evaluation
37. Confirmation by the committee on meeting the requirements of the combined code [confirmation by the board not the committee]

CORPORATE DISCLOSURE PRACTICES BY BUSINESS FIRMS: A CORPORATE CULTURAL APPROACH*

Abstract

This paper focuses on corporate culture and corporate disclosures in the annual reports of companies listed on the Helsinki Stock Exchange. The primary objective of the study is to examine the effect of the corporate cultures of the sample companies besides other corporate characteristics such as corporate size, age, liquidity, leverage and profitability on corporate disclosures in the annual reports. The results of the study reveal that in addition to corporate characteristics such as profitability, size and multinationality, corporate cultures associated with flexibility values are positively associated with corporate disclosure while those associated with control values are negatively associated with corporate disclosure. Other attributes such as age, liquidity, leverage, shareholders and industry type are found to be insignificant to corporate disclosure. The study therefore contributes to earlier literature by considering corporate culture as another attribute influencing corporate disclosures in annual reports.

Key words: Corporate disclosure, corporate culture, disclosure practices, annual reports, listed companies.

1 Introduction

The essence of corporate disclosure is to ensure that users are provided with sufficient explanations to enable them to assess the performance and financial position of a company. Existing literature on corporate disclosure is filled with studies based on the research that uses structural performance and market-related variables such as firm size, listing status, sales, audit firm status, leverage, profitability and liquidity to explain the extent of disclosure in annual reports. Most of these studies have proceeded from a market or regulatory theories' standpoint which postulates that disclosure is a function of the incentives or disincentives that it generates (Owusu-Ansah 2000). The role of organizational culture in explaining corporate disclosure has not been addressed in disclosure literature given the fact that disclosure is an "…accounting activity involving both human and non-human resources or techniques as well as the interaction of the two" (Perera 1994: 268).

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This paper therefore investigates the relationship between corporate culture, disclosure and corporate characteristics such as corporate size, profitability, company age, ownership structure, multinationality, leverage, industry type and liquidity on corporate disclosures in the corporate annual reports of companies listed on the Helsinki Stock Exchange.

Understanding why certain companies disclose the information they disclose and the cultures behind these companies is potentially useful to the users of this information and for the policy makers involved in specifying the form and content of accounting and reporting by companies. For example, it is important to the information users as they form expectations about the information provided by companies and for policy makers such as the stock exchanges and the International Accounting Standards Committee who set disclosure rules and regulations in targeting the efforts of disclosures and thus find possible ways of enhancing company disclosures.

Hofstede (2001) recognized that corporate culture is linked to organization theory in a way that not only organizations are culture-bound, theories about organizations are equally culture-bound. Organizations are specific collectivities of people whose activities are coordinated and controlled in and for the achievement of defined goals (Ashkanasy et al. 2000: 58). The emphasis here is on the socio-cultural qualities that develop within an organization, even though organizations themselves are fixed in a wider cultural context which has a bearing on organizational qualities. This conception of culture can be based on a structure in which patterns of dependent relationships are expressed to explain corporate disclosure as an alternative for survival. Organizations exist in a largely dependent relationship with their environment which presents essentials for behavior that managers perform in their organizations and later contributes to its overall systemic balance and effectiveness. If this study can identify how culture influences corporate disclosure, then it should be able to predict organizations with strong or weak task environments that enhance or reduce corporate disclosure. This study therefore contributes to accounting literature particularly on corporate disclosure by introducing corporate culture as another attribute influencing corporate disclosure. It also contributes to the general accounting literature by proving the argument raised by Violet (1983) that accounting practice cannot be culture-free since accounting is a socio-technical activity involving the interaction of both human and non-human resources.

The reminder of this paper is organized as follows. Section 2 reviews earlier literature on corporate culture, corporate characteristics and disclosure. Additionally the research hypotheses are drawn on the basis of this literature review. Section 3

presents the methodology and data employed in the study. Section 4 reports the results of the study and finally Section 5 provides the conclusions of the study.

2 Literature review and hypothesis development

Earlier studies combining accounting and culture have found that cultural aspects are related to accounting practices (Jaggi and Low 2000; Salter 1995; Jaggi 1975; Gray 1988; Hofstede 1990; Zarzeski 1996). Jaggi (1975) examined the impact of the cultural environment and individual value orientations on the reliability of information disclosures and thus hypothesized that the reliability of disclosure is not expected to be high in developing countries unless legal disclosure standards are set. Another study is that associated with Gray's (1988) theorization of a connection between Hofstede's (1990) cultural values and accounting values. Gray identified four accounting values; namely, professionalism, uniformity, conservatism and secrecy. He hypothesized that societies which have strong power distance and uncertainty avoidance cultures are bound to display low levels of professionalism as opposed to highly individualistic cultures. Those societies exhibiting strong power distance and uncertainty avoidance cultures are however bound to be highly secretive. He further hypothesized that the higher a country ranks in terms of uncertainty avoidance and power distance, and the lower it ranks in terms of individualism and masculinity, then the more likely it is to rank highly in terms of secrecy. Hofstede (2001) quoted Salter and Niswander (1995) to have operationalized and tested Gray's hypotheses on data from 29 countries and found that secrecy was positively related to uncertainty avoidance but negatively related to individualism.

Sudarwan and Fogarty (1996) examined the relationship between the cultural characteristics and reporting practices of Indonesian firms. They found that an empirical relationship exists between cultural values and accounting values. Power distance, uncertainty avoidance and individualism were found to have significant relationships with one or more accounting values. Specifically, uncertainty avoidance was found to be significantly associated with secretive accounting practice. Individualism is negatively and significantly associated with secrecy – a decreasing trend in individualism was found to be associated with an increasing trend in secrecy.

At a cultural level, values clearly help organizations and their members determine work-related attitudes and behavior and, therefore, depending on how organizations and their members view their work and its importance will place emphasis on certain value types. Organizational culture is a very important aspect within

companies because the corporate values are instilled in its workers and these help in explaining why certain things are done the way they are done. Different organizational cultures are associated with particular value types in relation to disclosure of information. These cultures are, rational culture (which reflects an orientation toward efficiency and profit with an emphasis towards planning, productivity and goal clarity), hierarchical culture (reflects bureaucracy and stability and emphasizes the enforcement of roles, rules and regulations), developmental culture (relies on adoptability and readiness to attain growth, innovation, and creativity) and group culture (which sees cohesion, team work and morale as a means of increasing development, empowerment and commitment of human resources). Rational and hierarchical cultures are associated with control values (referring to predictability, stability, formality, rigidity, and conformity) while developmental and group cultures are associated with flexibility values (referring to spontaneity, change, openness, adaptability and responsiveness). Control and flexibility values represent two competing values which are considered to be attributes of organizational culture (Quinn 1988; Quinn and Rohrbaugh 1983). As described in the existing literature, control values promote tight control of operations, restricted flows of information and highly structured channels of communication throughout the organization. It is from this description therefore that this study considers control values to be an indicator of less information disclosure. On the other hand however, flexibility values promote loose and informal controls, open lateral communication channels and free flow of information throughout the organization and thus this study considers them to be associated with high disclosures. It is hypothesized from the above discussion that:

H1a: Organizations operating under cultures associated with flexibility values disclose more information in their annual reports.

H1b: Organizations operating under cultures associated with control values disclose less information in their annual reports.

Corporate attributes have been used by a number of writers as a basis for explaining disclosure levels in corporate annual reports. As predictors of disclosure comprehensiveness, Wallace et al. (1994) classified them into three categories. The categories are structure related, performance related and market variables. Structure related variables describe a firm on the basis of its underlying structure (size and gearing). Corporate size variables commonly studied are total assets and sales. Performance related variables vary from time to time and represent information that may be of interest to accounting information users. These variables include liquidity, earnings return, and profit margin. Market related variables are qualitative in nature (Wallace et al. 1994) unlike the previous two categories

which are quantitative. Market related variables might be time-period specific and/or relatively stable over time. They refer to a firm's behavior which results from its association with other firms in its operational environment. Variables identified in this category include industry type, listing status and auditor type. In the accounting context these corporate attributes are demand-side variables because they are a function of the need to report desirable or undesirable results. These attributes are discussed in the following text.

1. Corporate size

Prior studies have indicated that the size of a firm has a strong influence on corporate annual reports disclosures (e.g. Archamdault and Archamdault 2003; Akhtaruddin 2005; Hossain 2000; Low 1998; Wallace and Naser 1995; Zarzeski 1996; Inchausti 1997; Lang and Lundholm 1993; Chow and Wong-Boren 1987; Cooke 1989, 1992; Raffournier 1995; Owusu-Ansah 1998). The size variables considered in these studies include sales, total assets and number of employees. It has been argued that, in comparison to small firms, large firms are more motivated to provide higher disclosure levels in their annual reports because of such reasons as having high competitive cost advantages (Lang and Lundholm 1993; Lobo and Zhou 2001), having the expertise and resources for producing sophisticated reports, having a broad-based ownership and finally having the desire of enhancing their value (Lobo and Zhou 2001. This study therefore follows the hypothesis that larger firms disclose more information than smaller firms.

H2a: There is a positive relationship between the size of the company and the extent of disclosure.

2. Profitability

The association between corporate disclosure in annual reports and profitability has been of attention to many previous studies (Wallace and Naser 1995; Inchausti 1997; Hossain 2000; Akhtaruddin 2005; Owusu-Ansah 1998; Wallace et al. 1994). These studies have used net profit of sales, return on assets and return on equity as proxies for profitability to measure disclosure. Form the agency theory perspective, Inchausti (1995) argues that management of a very profitable company will use information to obtain personal advantages. Therefore, they will disclose more detailed information as a way of justifying their position and compensation package (Singhvi and Desai 1971). Other studies have argued that profitable companies are more likely to signal to the market its superior performance by disclosing more information in its annual reports than those with lower profitabil-

ity (e.g. Owusu-Ansah 1998; Wallace and Naser 1995; Hossain 2000). However, a counter argument is that poorly performing companies are inclined to release more information to defend their poor performance (Owusu-Ansah 1998; Wallace et al. 1994). Wallace et al. (1994) on the other hand found no relationship between profitability and corporate disclosure. Lang and Lundholm (1993) suggested that the direction of the relationship between profitability and disclosure is not clear. However, it is more likely that management when in possession of "good news" will voluntarily disclose more information to the market to enhance the value of the company, as this leads to an increase in share price valuation on the stock market and also supports a continuance of companies' positions and remuneration. In light of the above discussion, the following hypothesis is examined:

H2b: There is a positive relationship between the profitability of the company and the extent of disclosure.

3. Company age

The age of a company has also been considered as one of the corporate attributes influencing corporate disclosure. Owusu-Ansah (1998) in his study argues that older, more experienced and well-established companies are likely to disclose more information in their annual reports in order to enhance their reputation and image in the market than younger companies. He states that younger companies may suffer competitive disadvantage if they disclose certain items such as information on research expenditure, capital expenditure and product expenditure which may then be used by other competitors to disadvantage them. He further highlights that older companies may alternatively be motivated to disclose such information as their presentation may not affect their competitive position. Contrary to other studies, Akhtaruddin (2005: 410) found no support for age as an attribute influencing disclosure levels. The current study follows the hypothesis that older companies disclose more information in their annual reports than younger companies.

H2c: There is a positive relationship between company age and the extent of disclosure.

4. Ownership structure

Distribution of ownership is assumed to be associated with disclosure of information. Investors owning large percentages of a company are more in position to

obtain information directly from the company. Thus, a wider dispersion of share ownership is assumed to be associated with more disclosure (Cooke 1989; Owusu-Ansah 1998). This assumption is based on agency theory of accounting in which companies are characterized by a separation of ownership and management. This generates agency costs resulting from conflicting interests between management and owners and across classes of owners. Agency costs tend to be higher for companies with a large number of shareholders as they press for more adequate information for monitoring purposes. Such companies also employ professional managers who have an incentive to make adequate information disclosures. This professionalism also comes with the technical ability to produce such information disclosures as shareholders may demand. A contrary argument to the agency theory postulation above was expounded by Zeckhauser and Pound (1990) cited in Owusu-Ansah (1998). They argue that dispersed individual shareholders are not a frightening influence on corporate outcomes including disclosure policies and practices, even if the net benefits are great enough to provide significant incentives to become informed. Individual public shareholders, where share ownership is widely dispersed, do not have the power to access internal information of the company. Thus the following hypothesis is set.

H2d: There is a positive relationship between the number of shareholders and the extent of disclosure.

5. Multinationality of the firms

Multinational corporation status is yet another attribute believed to have an influence on corporate disclosure level. Multinational companies are expected to demand more information because as a result of the internationalization of businesses and of capital markets, firms are being challenged to meet the information needs of diverse groups of investors with different cultural backgrounds and in order to do so, firms will be required to disclose more detailed information. Related to the above, Depeors (2000) also highlights that, operating in a number of geographical areas including countries other than the country of incorporation increases the amount of information controlled by a company. Further still Cooke (1989) noted that, the more international the operations of a company, the greater the amount of information necessary for the mangers' bonding activities. This attribute has had mixed results from earlier researchers. Some studies have revealed that multinationality increases disclosure levels (e.g. Depeors 2000; Raffournier 1995; Cooke 1992, 1989) while others have found no relationship between multinationality and disclosure levels (e.g. Garcia-Benau and Monterrey-Mayoral 1992). This study therefore follows the preceding arguments as to why

multi-national companies are inclined to provide more disclosures and assumes a positive association between multi-nationality and disclosure.

H2e: There is a positive relationship between the multinationality of a company and the extent of disclosure.

6. Leverage

Corporate information disclosure is often considered an instrument to reduce the monitoring costs for creditors. Because of this, there is an expectation of a positive link between a firm's disclosure level and its indebtedness because, in the event of high leverage, creditors will urge the firm to disclose more information to help them handle their own credit risk (Hossain et al. 1994). Leverage as one of the corporate attributes influencing disclosure levels has had mixed results. A positive relationship between leverage and corporate disclosure levels has been reported in a number of previous disclosure studies (e.g. Ahmed and Courtis 1999: 51; Prencipe 2004; Jaggi and Low 2000; Wallace et al. 1994). Most of the studies in the above category have analyzed the influence of agency theory and highlighted that companies with more debt have greater agency costs and in order for these companies to reduce their agency costs and any possible conflicts of interest between owners and creditors they increase the amount of information disclosed in their reports. Zarzeski (1996) however argues that disclosure decreases with leverage on the ground that debtors would have direct access to information. This argument would however be valid if firms have private debt rather than public debt because in cases where firms have a higher level of public debt, debt-holders are more likely to have close relationships with the firms, consequently leading to an agency problem and hence requiring detailed information disclosure to ensure observance of debt contracts. Based on the above discussion, this study therefore hypothesizes as below.

H2f: There is a negative relationship between leverage and the extent of disclosure.

7. Industry type

Association between the level of disclosure and industry type also provides mixed results. The relationship between industry type and disclosure was not found to be significant in many disclosure studies (e.g. Raffournier 1995; Watsonet al. 2002; Owusu-Ansah 1998). On the other hand, Cooke (1992) found a significant relationship between industry type and disclosure and reported that manufacturing

industries disclose more information in their annual reports than other industries. In the case of Finland, the key economic industry in respect to foreign trade is manufacturing. In 2004 for example, technology manufacturing in Finland ranked second after Ireland in the European Union. Further still, the industry employees a significant number of about 400,000 people (Source: Statistics in Finland, Labor Force Survey). Since manufacturing is of fundamental importance to Finland, it is possible that the levels of disclosure in the annual reports of manufacturing companies may differ from those of non-manufacturing companies. Accordingly, companies included in this study are categorized as manufacturing or non-manufacturing. Based upon the above discussion and previous research findings by cooke (1995), this study assumes that manufacturing companies disclose more information in their reports than those companies in the non-manufacturing industry.

H2g: There is a positive relationship between the industry type and the extent of disclosure.

8. Liquidity

Wallace et al. (1994: 49) have argued for an association between liquidity and the level of disclosure in the corporate annual report. According to Wallace and Nasar (1995), regulatory bodies, investors and lenders are particularly concerned with the going-concern status of companies. Companies that are able to meet their short-term obligations without recourse to liquidation of their assets, desire to make this fact known through disclosure in their annual reports (Belkaoui and Kahl 1978). Liquidity is usually measured by the quick ratio as it is a more stringent measure of corporate liquidity (Owusu-Ansah 1998). This study follows the same discussion on disclosure and liquidity above and hypotheses as below.

H2h: There is a negative relationship between liquidity and the extent of disclosure.

3 Methodology

3.1 Selection of the sample

The research population of this study is based on companies listed on the Helsinki Stock Exchange. The total number of companies listed on the exchange is 135. Following prior research (e.g. Owusu-Ansah 1998; Akhtaruddin 2005), this study

is limited to non-financial companies and therefore excludes companies in banking, insurance, and service as well as real estate industries which by law have different disclosing requirements. The number of companies is therefore reduced to 117. The study further excludes nine companies with missing (insufficient) data to estimate the research variables, hence reducing the total to 108. Furthermore, 58 companies from which no questionnaire responses were obtained are excluded from the study. The remaining 50 companies representing a significant proportion of 46% of the total population of non-financial companies listed on the stock exchange, are the final sample for this study.

The two main data sources for the study are the company annual reports for the year 2005 used for data collection on company characteristics and the survey questionnaires used for the collection of data on the corporate cultural aspect of the study. The study uses annual reports mainly because, as stated by Gray (1995), the annual report is viewed as the major official and legal document that a firm produces on a regular basis and acts as a significant forum for the presentation of the firm's communication with political, social and economic systems. For the sampling method used in the survey on corporate culture, respondents were selected on the basis of their expert knowledge in the subject under investigation (Sekaran 2000: 237; Saunders et al. 1997). To ensure homogeneity, sampling focused on those persons responsible for reporting any form of information in the annual reports which comprised members of top management of the companies in question. The cultural dimension scores were gathered from the cultural questionnaire used by Henri (2006).The questionnaire was issued to the respondents via their email addresses. The addresses of the respondents to the cultural aspect of the study were obtained from their company web pages and the questionnaires were sent to two top management team members of each company using the E-lomake program.

3.2 The disclosure score

In related accounting research, both weighted (Botosan 1997; Buzby 1974; Chow and Wong-Boren 1987; Eng et al. 2001) and unweighted (Akhtaruddin 2005; Archambault 2003; Cooke 1989; Hossain et al. 1994; Owusu-Ansah 1998; Raffournier 1995) disclosure indexes have been used to measure the extent of disclosure in annual reports. Both approaches to measuring disclosure have their weaknesses for example, using an unweighted disclosure index has been criticized for its fundamental assumption that all items are equally important to all information users and the use of a weighted disclosure index has been criticized because it may introduce a bias towards a particular user-orientation.

Following the view by Wallace (1988) that all disclosed items are equally important to the average users, this study uses the unweighted disclosure index approach. Under this approach, attention is given to all users of annual reports rather than particular user groups. It has also been argued that unweighted scores reduce subjectivity and may be considered the norm in annual report studies (Ahmed and Courtis 1999: 36). In this study therefore, voluntary information disclosures in annual reports for the year 2005 are considered and an item is scored one if disclosed and 0 otherwise. The total disclosure (TD) score for company j is therefore:

$$TD_j = \sum_{i=1}^{m} d_i \tag{1}$$

where d_i is 1 if an item is disclosed and 0 if not; m is the number of voluntary items disclosed in the annual reports (here m=64).

3.3 The organizational culture score

Organizational culture is measured using the measurement method applied in the study of Henri (2006) where respondents[1] were asked to distribute 100 points among four cultural types along the different cultural dimensions. The cultural-type score is collected for each culture by averaging the ratings obtained on the four cultural dimensions. The value score is then calculated for the control/flexibility continuum. From the results, a positive score then represented a flexibility dominant type while a negative score represented a control dominant type.

3.4 Statistical analysis

The study uses univariate and multivariate analysis to assess the extent to which variability in the extent of voluntary disclosure is explained by the independent variables and hence hypotheses testing. The study employs the regression analysis method using the enter and the stepwise model selection procedures. The stepwise procedure has been applied by some earlier studies examining disclosure (e.g. Watson et al. 2002; Depoers 2000; Giner 1997; Raffournier 1995). This regres-

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[1] Respondents and thus company representatives in the survey were assured that their responses were to be kept confidential without any form of it being revealed anywhere and to anyone in whatever form to enable identification of any individual company.

sion procedure is useful in determining explanatory variables which are most correlated with dependent variables but less correlated among themselves (Depoers 2000). This study therefore uses the stepwise procedure in order to avoid collinearity problems between the two value variables measuring culture. Collinearity in this study is tested by the use of the Variance of Inflation Factors (VIF). The regression models below are used to explain the effect of the explanatory factors on corporate disclosure using the two model selection procedures. Model 1 uses the enter selection procedure while models 2 and 3 use the stepwise selection procedures with each of them including only one cultural dimension.

Model 1. $TD_j = \alpha + \beta_1 FLEX + \beta_2 CONT + \beta_3 MULT + \beta_4 LEV + \beta_5 AGE + \beta_6 PROF + \beta_7 LIQD + \beta_8 IND + \beta_9 LNSALES + \beta_{10} LNSHRS + \varepsilon_i$

Model 2. $TD_j = \alpha + \beta_1 FLEX + \beta_3 MULT + \beta_4 LEV + \beta_5 AGE + \beta_6 PROF + \beta_7 LIQD + \beta_8 IND + \beta_9 LNSALES + \beta_{10} LNSHRS + \varepsilon_i$

Model 3. $TD_j = \alpha + \beta_2 CONT + \beta_3 MULT + \beta_4 LEV + \beta_5 AGE + \beta_6 PROF + \beta_7 LIQD + \beta_8 IND + \beta_9 LNSALES + \beta_{10} LNSHRS + \varepsilon_i$

where TD_j represents total disclosure, FLEX is the flexibility value, CONT is the control value, MULT is multinationality, LEV is the leverage[2], AGE is age, PROF denotes profitability, LIQD is the liquidity, IND represents industry type, LNSALES denotes size, and LNSHRS represents shareholders.

[2] This study uses the equity to total assets ratio as a measure for leverage mainly because in Finland this is considered to be one of the most important leverage measure by the Company Analysis Advisory Board (For details see www.yritystutkimuksen.fi).

Table 1. Operational definitions of variables.

Notation	Variable investigated	Measurement	Expected sign
Dependent variable			
TD	Total Disclosure score	Number of items disclosed in the annual report.	
Independent variables			
Corporate culture			
FLEX	Flexibility values	Group + Developmental Organizational cultures	(+)
CONT	Control Values	Rational + Hierarchical Organizational cultures	(-)
Corporate characteristics			
LNSALES	Sales	Logarithm of sales	(+)
MULT	Multinationality	Foreign sales ratio	(+)
LEV	Leverage	Equity/Total assets ratio	(-)
AGE	Company age	Number of years in operation	(+)
PROF	Profitability	Return on invested capital	(+)
LNSHRS	Corporate ownership	Logarithm of shareholder	(+)
LIQD	Liquidity	Quick ratio	(-)
IND	Industry	1 if manufacturing and 0 otherwise	(+)

4 Results and discussion

4.1 Descriptive statistics

Table 2 presents the descriptive statistics for both the dependent and explanatory variables employed in the study. These findings reveal that companies listed on the Helsinki Stock Exchange disclose large amounts of voluntary information (mean of 47.44) in their annual reports. These findings are in comparison with earlier studies such as Depoers (2000) who obtained a mean of 29.02 and Chau and Gray (2002) who obtained means of 12.23 for Hong Kong and13.83 for Singapore respectively.

Table 2. Descriptive statistics of variables.

The table reports the descriptive statistics for the variables used in the study respectively where TD (the dependent variable) is the total number of items voluntarily disclosed by the firm, FLEX is Group + Developmental Organizational cultures, CONT is Rational + Hierarchical Organizational cultures, LNSALES is Logarithm of sales, MULT is Foreign sales ratio, LEV is Equity/Total assets ratio, AGE is Number of years in operation, PROF is Return on invested capital, LNSHRS is Logarithm of shareholder, LIQD is Quick ratio, IND is 1 if manufacturing and 0 otherwise.

	N	Mean	Std. Deviation
TD	50	47.440	9.807
FLEX	50	47.010	20.130
CONT	50	52.465	20.406
MULT	50	0.659	0.293
LEV	50	46.196	49.251
AGE	50	60.550	45.862
PROF	50	10.443	72.861
LIQD	50	1.447	1.447
IND	50	0.180	0.388
LNSALES	50	19.543	2.142
LNSHRS	50	8.560	1.303

4.2 Correlation

Table 3 presents the correlation matrix of the dependent and independent variables used in the empirical test. The correlations between the dependent and independent variables are as predicted for example, corporate disclosure level is positively correlated with corporate size as measured by logarithm sales, multinationality, leverage, profitability, logarithm of shareholders and industry type and significantly negatively correlated with liquidity. The results also reveal that age is not correlated to corporate disclosure. Furthermore, these results show that corporate disclosure is significantly correlated with corporate culture as reflected by the positive and negative relationships between flexibility and control values respectively. The correlation results show that collinearity is evident between the explanatory variables associated with the organizational culture dimensions.

Table 3. Correlations matrix of variables.

The table reports the correlations matrix for the variables used in the study respectively where TD (the dependent variable) is the total number of items voluntarily disclosed by the firm, FLEX is Group + Developmental Organizational cultures, CONT is Rational + Hierarchical Organizational cultures, LNSALES is Logarithm of sales, MULT is Foreign sales ratio, LEV is Equity/Total assets ratio, AGE is Number of years in operation, PROF is Return on invested capital, LNSHRS is Logarithm of shareholder, LIQD is Quick ratio, IND is 1 if manufacturing and 0 otherwise.
** and * represent 1% and 5% significance level respectively.

	FLEX	CONT	LNSALES	MULT	LEV	AGE	PROF	LNSHRS	LIQD	IND
TD	0.490**	-0.508**	0.439**	0.280*	0.280*	0.079	0.306*	0.291*	-0.284*	0.317*
FLEX	1.000	-0.993**	0.317*	0.001	0.171	0.145	0.035	0.182	-0.263	0.273
CONT		1.000	-0.334*	-0.018	-0.172	-0.134	-0.034	-0.192	0.272	-0.286*
LNSALES			1.000	0.279	0.217	0.359*	0.376**	0.557**	-0.546*	0.144
MULT				1.000	0.288*	0.054	0.184	0.276	0.016	0.205
LEV					1.000	0.039	0.820**	0.037	0.000	0.070
AGE						1.000	0.187	0.213	-0.215	0.187
PROF							1.000	0.060	-0.218	0.051
LNSHRS								1.000	-0.122	0.036
LIQD									1.000	-0.096
IND										1.000

4.3 Regression tests

Table 4 reports regression results of independent and dependent variables used in the study. Panel A of Table 4 reports regression results from the enter procedure (Model 1. which includes all independent variables of the study). The results indicate that the model is significant at 0.003 with an R^2 = 0.461. The results in this table however reveal that despite the significance of the model, none of the independent variables dominate the effect on disclosure as depicted by the significance values all above the three significance levels of 1%, 5% and 10%. This table also proves multicollinearity between the cultural dimension variables highlighted by the correlation matrix. A serious multicollinearity problem exists between these two variables as shown by the very large values of Variance of Inflation Factors (VIF) which are 81.088 for the flexibility values and 83.088 for the control values.

In the first regression (Table 4 Panel B), all variables of the study are included except the control values variable (CONT). When all other independent variables except CONT are examined together, the results show that the regression model is significant (at 1% level with an R^2 = 0.370) with only flexibility values (FLEX), size (LNSALES) and multinationality (MULT) variables dominating the regression and therefore having a significant impact on the extent of disclosure. This result reveals that of all variable examined, only companies dominated by flexibility values, those larger in size and multinationals are inclined to disclose more information in their annual reportsThe results of the VIF also indicate that there are no collinearity problems in this model. It is also observed that the effect of all

other variables except for those entered into the model disappears simultaneously. The first variable entered into the stepwise regression procedure is the flexibility values variable which explains corporate voluntary disclosure by 24% and is significant at 0.002. The second variable entered into the regression is the size variable significant at 0.059 and which when added results into an increases the R^2 to 0.33. The last variable entered into this regression is multinationality (significant at 0.093) which when added to the first two variables entered into the regression results into an increases the R^2 to 0.370. It is therefore observed from this regression that these three variables (flexibility values, size and multinationality) explain 37% of corporate voluntary disclosure but with flexibility values having the most influence, at 24%. These findings on disclosure are comparable to earlier studies such as Raffounier (1995) who applied the stepwise method in his study and found that the same variables (size and multinationality) had an influence on disclosure.

In the second stepwise regression presented in Table 4 Panel C, all variables except flexibility values were added to the model. The results report that the model is significant at a 1% level with an $R^2 = 0.391$ and with no collinearity problems. In this regression, apart from multinationality (which is significant at the 10% level) also entered in the panel B regression, the control value (CONT) and profitability (PROF) variables are the only variables entered into the regression. The control value variable dominates this model with an $R^2 = 0.258$ and significant at the 1% level. An addition of profitability (significant at the 5% level) to the model creates an increase in the R^2 by about 10% to 0.391.

These results show that a number of variables are significant in explaining corporate disclosures. Companies operating under cultures with flexibility values ($p<.05$) disclose more information while those companies operating under cultures related to control values ($p<.01$) disclose less information in their annual reports. The positive association between flexibility values and corporate disclosure can be explained by the openness and the free flow nature of information aspects. Contrary, the negative association related to control values is probably a result of the restrictive and highly structured flow of information. Based on the results of the study, the two hypotheses on culture are therefore supported.

As hypothesized in H2a, company size has a positive significant relationship with the extent of disclosure. This hypothesis is supported at $p<.1$. Companies that are larger in size as measured by logarithm of sales disclose more information compared to smaller companies. This positive relationship is consistent with prior studies (e.g. Owusu-Ansha 1998; Wallace et al. 1994; Lang and Lundholm 1993).

Similarly, the multinationality of a company is also found to be significant and positively related to corporate disclosure and thus providing support for H2e. Hence companies with a more multinational affiliations disclose more information in their annual reports. This result is consistent with prior studies such as Depoers (2000) and Raffournier (1995). Hypothesis H2b is also supported by the results from the study. It is therefore evident that companies with higher profits disclose more information than those with lower profits.

From the results, it is reported that other variables such as leverage, age, profitability, liquidity, industry and shareholders are not significant and therefore hypotheses H2c, H2d, H2f, H2g and H2h are not supported. Some of these results are consistent with earlier studies such as Depoers (2000), Raffournier (1995) and Chow and Wong-Boren (1987) who found leverage to be an insignificant attribute to corporate voluntary disclosure, and Patton and Zalenka (1997) who found no significant relationship between industry type and disclosure.

Table 4. Regression results.

Panel A. Regression results based on the enter method.

	Regression coefficient	t	Sig.	VIF
R^2: 0.461				
Adjusted R^2: 0.323				
F-value: 3.341				
Sig.: 0.003				
Variables in equation.				
(Constant)	67.022	1.204	0.236	
FLEX	-0.241	-0.468	0.642	81.088
CONT	-0.446	-0.866	0.392	83.088
MULT	5.514	1.188	0.242	1.392
LEV	-0.034	-0.667	0.509	4.668
AGE	-0.029	-1.043	0.303	1.255
PROF	0.051	1.472	0.149	4.717
LIQD	-0.307	-0.289	0.774	1.780
IND	4.092	1.239	0.223	1.238
LNSALES	0.305	0.336	0.739	2.860
LNSHRS	0.941	0.802	0.428	1.760

Table 4. Regression results. *Continued.*

Panel B. Results based on the stepwise method with all variables except CONT.

The table reports the regression results based on the stepwise method for all study variables with the exception of CONT measured as Rational + Hierarchical Organizational cultures. where TD (the dependent variable) is the total number of items voluntarily disclosed by the firm, FLEX is Group + Developmental Organizational cultures, LNSALES is Logarithm of sales, MULT is Foreign sales ratio, LEV is Equity/Total assets ratio, AGE is Number of years in operation, PROF is Return on invested capital, LNSHRS is Logarithm of shareholder, LIQD is Quick ratio, IND is 1 if manufacturing and 0 otherwise.

	Regression coefficient	t	Sig.	VIF
Results from and variables entered in step 1.				
R^2: 0.240				
Adjusted R^2: 0.224				
F-value: 15.177				
Sig.: 0.000				
Constant	36.215	11.572	0.000	
FLEX	0.239	3.896	0.000	1.000
Results and variables entered in step 2.				
R^2: 0.330				
Adjusted R^2: 0.301				
F-value: 11.550				
Sig.: 0.000				
Constant	10.316	0.958	0.343	
FLEX	0.190	3.099	0.003	1.112
LNSALES	1.442	2.502	0.016	1.112
Results and variables entered in step 3.				
R^2: 0.370				
Adjusted R^2: 0.329				
F-value: 8.999				
Sig.: 0.000				
Constant	11.033	1.045	0.302	
FLEX	0.200	3.313	0.002	1.122
LNSALES	1.145	1.937	0.059	1.216
MULT	7.028	1.715	0.093	1.094
Variables excluded from equation.				
LEV		0.856	0.396	1.137
AGE		-0.748	0.458	1.152
PROF		1.495	0.142	1.183
LIQD		-0.448	0.656	1.503
IND		1.143	0.259	1.132
LNSHRS		0.291	0.841	1.484

Table 4. Regression results. *Continued.*

Panel C. Results based on the stepwise method with all variables except FLEX.

The table reports the regression results based on the stepwise method for all study variables with the exception of FLEX which is measured as Group + Developmental Organizational cultures. where TD (the dependent variable) is the total number of items voluntarily disclosed by the firm, CONT is Rational + Hierarchical Organizational cultures, LNSALES is Logarithm of sales, MULT is Foreign sales ratio, LEV is Equity/Total assets ratio, AGE is Number of years in operation, PROF is Return on invested capital, LNSHRS is Logarithm of shareholder, LIQD is Quick ratio, IND is 1 if manufacturing and 0 otherwise.

	Regression coefficient	t	Sig.	VIF
Results and variables entered in step 1.				
R^2: 0.258				
Adjusted R^2: 243				
F-value: 16.725				
Sig.: 0.000				
Constant	60.257	17.943	0.000	
CONT	-0.244	-4.090	0.000	1.000
Results and variables entered in step 2.				
R^2: 0.342				
Adjusted R^2: 0.314				
F-value: 12.210				
Sig.: 0.000				
Constant	59.603	18.578	0.000	
CONT	-0.240	-4.211	0.000	1.001
PROF	0.039	2.442	0.018	1.001
Results and variables entered in step 3.				
R^2: 0.391				
Adjusted R^2: 0.351				
F-value: 9.841				
Sig.: 0.000				
Constant	54.630	13.483	0.000	
CONT	-0.238	-4.211	0.000	1.001
PROF	0.033	2.115	0.040	1.036
MULT	7.538	1.924	0.061	1.035
Variables excluded from equation.				
LEV		-1.202	0.236	3.477
AGE		-0.412	0.683	1.055
LIQD		-0.916	0.364	1.138
IND		1.079	0.287	1.139
LNSALES		1.211	0.232	1.406
LNSHRS		1.099	0.277	1.125

5 Conclusions

This study investigates the effect of corporate culture in addition to company characteristics on corporate voluntary disclosures made by companies listed on the stock exchange. Earlier literature provides evidence on a relationship between cultural aspects and accounting practices (e.g. Jaggi and Low 2000; Sudarwan and Fogarty 1996; Salter 1995; Jaggi 1975; Gray 1988; Hofstede 1990; Zarzeski

1996). The study by Jaggi (1975) combines findings from these studies and investigates the relationship that might exist between corporate culture and disclosure the corporate annual reports. Moreover, existing literature has documented an existence of different organizational cultures associated with particular value types (Quinn 1988; Henri 2006; Quinn and Rohrbaugh 1983).

The findings of this study generally indicate that corporate culture affects the extent of information disclosed by companies in their annual reports. Based on the analysis carried out, it is revealed that corporate cultures associated with flexibility values are positively associated with corporate disclosure while those associated with control values are negatively associated with corporate disclosure. In other words, companies with corporate cultures associated with flexibility values disclose more information in their annual reports. Contrary, companies with corporate cultures associated with control values disclose less information in their annual reports. In short, the results provide further support existing literature on an existence of a relationship between culture and accounting.

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IMPACT OF GENDER DIVERSITY ON THE EXTENT OF VOLUNTARY DISCLOSURES IN ANNUAL REPORTS*

Abstract

This study examines the impact of gender diversity on the extent of corporate voluntary disclosures in company annual reports. The study uses data for the fiscal years 2005-2007 of companies listed on the Helsinki Stock Exchange during the year 2008 and particularly focuses on the gender of Chief Executive Officers, Chief Financial Officers and board of directors. The results indicate that firms with female Chief Financial Officers are associated with higher voluntary disclosures in annual reports. The findings also reveal that the other gender measure of female Chief Executive Officer and proportion of female board members have no significant impact on the extent of voluntary disclosure in company annual reports.

Key words: Voluntary disclosure, gender diversity, annual reports, listed companies.

1 Introduction

The study of corporate disclosures in corporate annual reports is one of the key financial accounting research areas that have received a tremendous amount of attention over the past years. A vast majority of research in this area has focused on corporate characteristics in examining the extent of corporate disclosures in annual reports (e.g. Archamdault and Archamdault 2003; Akhtaruddin 2005; Wallace and Naser 1995; Inchausti 1997; Lang and Lundholm 1993; Cooke 1989, 1992; Raffournier 1995; and Owusu-Ansah 1998). Until recently, with the consideration of the fact that disclosure is an "…accounting activity involving both human and non-human resources or techniques as well as the interaction of the two" (Perera 1994: 268), a number of studies have investigated the effect of management factors such as corporate governance, culture and management characteristics like directors financial experience on accounting subjects such as disclosure (e.g. Zarzeski 1996; Chau and Gray 2002; and Haniffa and Cooke 2002; Matsunaga and Yeung 2008).

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The primary objective of this study is to examine the impact of gender diversity on the extent of corporate disclosures in annual reports. This objective is motivated by two facts. (1) in practice, the corporate directors are involved in making the disclosure decisions for example by engaging in measures of disclosure that help in monitoring company management and increasing the value of the company (Adawi and Rwegasira 2011). (2) there has been no prior research examining the impact of gender diversity in corporate management on the extent of corporate voluntary disclosures. It is therefore of interest to examine the impact of the gender of directors on the extent of disclosure in annual reports.

To investigate the study objective, this study uses a sample of 108 companies listed on the Helsinki Stock Exchange during the fiscal year 2008. The results of the study reveal that the extent of information voluntary disclosure of information by companies is positively associated with gender diversity as measured by female Chief Financial Officers. These results further show that gender diversity as measured by female Chief Executive Officer and number of female board of directors has no significant impact on the extent of voluntary disclosures in annual reports.

The remainder of this paper is organized as follows. Section 2 reviews prior literature and presents the study hypothesis. Section 3 presents the data used for the study and in Section 4 presents the methodology. Section 5 presents the results and discussion of findings while the last section provides the conclusion to the study on the effect of gender diversity on the extent of voluntary disclosures in annual reports.

2 Literature review and hypothesis development

2.1 Corporate disclosure

Corporate financial disclosures are made in corporate annual reports to provide traditional user groups such as shareholders, creditors, financial analysts, debtors, government and security consultants with information useful to them when making investment and regulatory decisions. A number of corporate attributes have been used in previous studies to explain the extent of disclosure in the corporate annual report. These include among others company size, company profitability levels, liquidity, leverage, industry type and corporate governance. As predictors of the comprehensiveness of disclosure, they have been classified into three categories (Wallace et al. 1994). The categories are structure related, performance

related and market variables. Structure related variables describe a firm on the basis of its underlying structure (size and gearing). Performance related variables vary from time to time and represent information that may be of interest to accounting information users. These variables include liquidity, earnings return, and profit margin. Market related variables are qualitative in nature, unlike the previous two categories which are quantitative. They refer to a firm's behavior which results from its association with other firms in its operational environment. Variables identified in this category include industry type, listing status and auditor type. In the accounting context these corporate attributes are demand-side variables because they are a function of the need to report desirable or undesirable results.

Prior studies have indicated that the size of a firm has a strong influence on corporate disclosures in corporate annual reports (e.g. Archamdault and Archamdault 2003; Akhtaruddin 2005; Depeors 2000). The association between corporate disclosure and profitability has been the focus of many previous studies (e.g. Wallace and Naser 1995; Inchausti 1997; Akhtaruddin 2005). Empirical results on profitability have mixed findings with researchers such as Owusu-Ansah (1998) suggesting that highly profitable firms are more likely to disclose more information in their reports than those with lower profit levels as a means of signaling their superior performance to the market. Wallace et al. (1994) on the other hand found no relationship between profitability and corporate disclosure.

The association between the level of disclosure and industry type also provides mixed results. The relationship between industry type and disclosure was not found to be significant in the findings of studies by Cooke (1992), Raffournier, (1995), Watson, Shrives and Marton (2002) and Owusu-Ansah's (1998). However, a significant relationship was however found in the study by Cooke (1989) who reported that manufacturing industries disclose more information in their annual reports than other industries. As one of the corporate attributes that have an influence on disclosure, capital has had mixed results. Ahmed and Courtis (1999: 51), Jaggi and Low (2000) and Wallace et al. (1994) have reported a positive relationship between leverage and corporate disclosure levels. Zarzeski (1996) however argues that disclosure decreases with leverage on the ground that debtors would have direct access to information.

2.2 Gender diversity and disclosure

Previous studies have indicated that disclosure is a managed activity which can be explained by the context in which it occurs (e.g. Gibbins et al. 1990). The idea of

disclosure being a managed activity has been related to disclosure by prior studies for example by studies such as those combining corporate governance and directors' financial experience with corporate disclosures. The two factors both directly and indirectly focus on the context in which disclosures occur. Gender diversity is another human factor identifying the differences between men and women. This study therefore considers gender diversity as another factor to be taken into account when looking at issues related to disclosure management. The study thus identifies gender diversity as another attribute explaining information disclosures in annual reports.

Gender diversity research has evolved into a challenging research issue in academia for the last two decades with a lot of research investigating issues related to women on corporate boards (e.g. Singh et al. 2001; Bernardi et al. 2005; Rose 2007; Johnson and Powell 1994; Powell and Ansic 1997; Chell and Baines 1998; Burke 1999; Peterson and Philpot 2006; Walt and Ingley 2003; Alvarez and McCaffery 2000; Watson et al. 1993). This ongoing gender related research has commenced from the fact that there are increasing numbers of women in top management as well as on corporate boards (e.g. Singh et al. 2001) and that inclusion of women on corporate boards is considered an aspect of good corporate governance (Rose 2007). Most of this stream of research indicates that, companies with good corporate governance practices benefit more than mere average financial performance (e.g. Rose 2007; Bernardi et al. 2005; Catalyst 2004). Bernardi et al. (2005) indicated that, companies signal this aspect of their governance structure by including photographs of women board members in the annual reports.

Related to the above is evidence from related literature on the existence of differences between men and women regarding decision-making, risk taking, managing, leading, communicating and general performance in business enterprises (e.g. Johnson and Powell 1994; Powell and Ansic 1997; Bernardi et al. 2005; Rose 2007; Chell and Baines 1998; Burke 1999; Peterson and Philpot 2006; Walt and Ingley 2003). Gender diversity literature emphasizes that diversity may benefit the board's decision making process as new perceptions on various issues are presented and combined with a mutual exchange of ideas stemming from board members with dispersed backgrounds and experience (e.g. Alvarez and McCaffery 2000). It is also argued that diversity leads to a greater knowledge base, creativity and innovation, and therefore becoming a competitive advantage (Watson et al. 1993). It is from this background that, prior research has concluded an influence of gender diversity on a number of corporate issues like firm performance and corporate governance.

Literature in financial accounting has examined the importance of gender diversity in corporate governance (e.g. Walt and Ingley 2003: Huse and Solberg 2006; Peterson and Philpot 2006; Schubert 2006; Burke 2000). The findings by Huse and Solberg (2006) reveal that the starting point for women on board decision making processes is that decision-making does not only take place within the boardroom but also before, during and after meetings as well as outside the meetings. This is an indication that women are more prepared for meetings than men and are therefore more likely to make better decisions. Schubert (2006) notes that, in comparison to their male counterparts, women have better multi-tasking skills, and risk management and communicative abilities. These abilities make them more competent and willing to take on different responsibilities as well as making them better at communicating and managing different situations within and outside the organizations. These two studies are in line with the argument raised by Burke (2000) that "increasing women's board presence enriches board information, perspectives, debate and decision making".

In addition to improving the effectiveness of corporate governance, gender diversity also improves firm performance. A vast amount of literature has examined the relationship between gender diversity and performance (e.g. Catalyst 2004; Carter et al. 2003; Rose 2007; Chell and Baines 1998; Watson 2002; Erhardt et al. 2003; Siciliano 1996). These studies have had mixed findings regarding this relationship. In the study of Carter et al. (2003), they examined the relationship between board diversity and firm value for Fortune 1000 firms and found that there is a significant positive relationship between the fraction of women or minorities on the board and the value of the firm. They argue that firms making a commitment to increase numbers of women on the board also have more minorities on their boards and vice versa. Similarly, the studies by Erhardt et al. (2003) and Siciliano (1996) both found a positive relationship between gender diversity and firm performance when they investigated the relationship between board of director diversity and firm financial performance for large US companies and the relationship of board member diversity to organizational performance respectively.

Contrary to the above studies, the studies by Watson (2002), Chell and Baines (1998) and Rose (2007) found no relationship between gender diversity and performance. In his study based on the argument that female entrepreneurs are more likely to establish maximum business size thresholds (smaller than those of their male counterparts) beyond which they would prefer not to expand, Watson (2002) hypothesizes that female controlled businesses will generate lower outputs compared to male controlled business. His findings reveal that after controlling for business age, industry and period of operation of businesses, there were no differences in the performance of male and female-controlled businesses. Interestingly

however, before the control variables, evidence suggested outperformance of female-controlled businesses. The study by Chell and Baines (1998) using a sample of micro businesses in business service in the UK, and the study by Rose (2007) using a sample of listed Danish firms also reveal no relationship between gender and firm performance.

Considering the findings highlighting that gender diversity leads to improved firm performance (e.g. Erhardt et al. 2003; Siciliano 1996) and also that better performance by companies leads to an increase in the amount of information voluntarily disclosed by companies (e.g. Owusu-Ansah 1998), it is reasonable to expect that gender diversity has a positive influence on voluntary disclosure levels. This study acknowledges gender diversity of directors to play an important role during both the communication and decision-making process by the firm directors as to which information to disclose in the reports. This assumption is based on two grounds. (1) based on previous findings of a positive relationship between differences between men and women as well as gender diversity in terms of female representation and the effectiveness of corporate boards. (2) corporate directors have the responsibility of making corporate decisions which include among others disclosure decisions. Moreover, based on the above discussion and the advantages revealed from earlier studies with regards to having diverse corporate management, this study expects that companies with more females in management will disclose more information in their annual reports. This study therefore hypothesizes as below:

H1: There is a positive relationship between gender diversity of corporate directors and the extent of information disclosed in annual reports.

3 Data

The data for this study are based on companies listed on the Helsinki Stock Exchange during the year 2008. The initial sample of the study is 132 companies. Following prior research such as Owusu-Ansah (1998) and Akhtaruddin (2005), this study is limited to non-financial companies and therefore excludes 13 financial institutions as these by law have different disclosing requirements. Furthermore, the study eliminates 11 companies with insufficient data for carrying out the study analysis. The remaining 108 companies (Table 1) representing a significant proportion of 91.5% and 80% of the total population of non-financial companies and companies listed on the Helsinki Stock Exchange respectively comprise the final sample for this study. The data used in this study cover the fiscal years 2005 to 2007.

Table 1. Industry group classification by directors representation for the sample firms.

SIC code	Industry description	Sample in industry	Firms with FCEO			Firms with FCFO			Firms with FBOD		
			2005	2006	2007	2005	2006	2007	2005	2006	2007
15-17	Construction	3	0	0	0	1	1	1	1	2	2
20-39	Manufacturing	64	2	4	4	15	15	15	30	25	34
40-47	Transportation	5	0	1	1	1	2	2	5	3	3
48	Communications	1	0	0	0	1	0	0	1	0	0
49	Utilities	2	0	0	0	1	0	0	0	2	2
50-51	Wholesale trade	6	1	1	1	1	1	1	3	2	3
52-59	Retail trade	3	0	0	0	1	0	0	2	2	2
70-88	Services	24	4	1	1	5	5	6	7	10	9
Total		108	7	7	7	26	24	25	47	46	55
%			6.48	6.48	6.48	24.07	22.22	23.15	43.52	42.59	50.93

The two main data sources for the study are the company annual reports for the years 2005 to 2007 and the Thomson Financial Worldscope database. The annual reports are used for collection of data on gender diversity and items voluntarily disclosed by the sample companies. The Thomson Financial Worldscope database is used for collection of the study control variables data such as firm size, leverage, liquidity and profitability. This study employs the use of annual reports because as stated by Gray (1995), the annual report is viewed as the major official and legal document that a firm produces on a regular basis and acts as a significant forum for the presentation of the firm's communication with political, social and economic systems.

The study uses three variables for measuring gender for each firm as follows: (i) female Chief Executive Officer is set to 1 if Chief Executive Officer is female and 0 if otherwise, (ii) female Chief Financial Officer is set to 1 if Chief Financial Officer is female and 0 if otherwise, and (iii) female board members which is the proportion of female board members. In addition to the gender test variables, the study further controls for the effects of five firm characteristic variables and one corporate governance variable that have been found in prior research to have an influence on the amount of information voluntarily disclosed by companies. These control variables are, firm size which is measured by logarithm of assets at the end of year t, firm leverage measured by ratio of equity to total assets at the end of year t, firm liquidity measured by the quick ratio at the end of year t, firm profitability measured by the return on assets at the end of year t, board size measured by the total number of board members for each company and industry measured as 1 if the company falls under the manufacturing industry and 0 if otherwise.

Table 2. Operational definitions of variables.

Notation	Variable investigated	Measurement	Expected sign
Dependent variable			
TD	Total Disclosure score	Number of items disclosed in the annual report.	
Independent variables			
*Gender diversity (*DGEN)			
FCEO	Female CEO	1 if female and 0 if otherwise	(+)
FCFO	Female CFO	1 if female and 0 if otherwise	(+)
FBOD	Female board members	Proportion of females on board	(+)
Corporate characteristics			
BSIZE	Board size	Total number board members	(+)
CSIZE	Total assets	Logarithm of total assets	(+)
LEV	Leverage	Equity/Total assets ratio	(-)
LIQD	Liquidity	Quick ratio	(-)
PROF	Profitability	Return on invested capital	(+)
IND	Industry	1 if manufacturing and 0 otherwise	(+)

4 Methodology

4.1 The disclosure score

In related accounting research, both weighted (Botosan 1997; Buzby 1974; Eng et al. 2001) and unweighted (Akhtaruddin 2005; Archambault 2003; Cooke 1989; Owusu-Ansah 1998; Raffournier 1995) disclosure indexes have been used to measure the extent of disclosure in annual reports. Both approaches to measuring disclosure have their weaknesses for example, using an unweighted disclosure index has been criticized for its fundamental assumption that all items are equally important to all information users and the use of a weighted disclosure index has been criticized because it may introduce a bias towards a particular user-orientation.

Following the view by Wallace (1988) that all disclosed items are equally important to the average users, this study uses the unweighted disclosure index approach. Under this approach, attention is given to all users of annual reports rather than particular user groups. It has also been argued that unweighted scores reduce subjectivity and may be considered the norm in annual report studies (Ahmed 1999: 36). In this study therefore, voluntary information disclosures in annual reports for the years 2005, 2006 and 2007 are considered and items are numerically scored on a dichotomous basis. A score of one is assigned if a company discloses a voluntary item and 0 for non-disclosure of the item. The total disclosure score for each company is therefore:

$$TD_j = \sum_{i=1}^{m} d_i \tag{1}$$

where d_i is 1 if an item is disclosed and 0 if not; m is the number of voluntary items disclosed in the annual reports (here m=73).

4.2 Statistical analysis

In order to examine the effect of gender diversity on the extent of voluntary disclosure and thus test the study hypotheses, the model below is used:

$$TD_j = \alpha + \beta_1 BSIZE + \beta_2 LEV + \beta_3 IND + B_4 LIQD + \beta_5 PROF + \beta_6 CSIZE + B_7 DGEN + \varepsilon_i \tag{2}$$

where TD is the firm total number of items voluntarily disclosed, BSIZE is the size of the board, LEV is company leverage, IND is industry in which the company operates, LIQD is company liquidity, PROF is company profitability, CSIZE is the size of the firm and DGEN is the gender diversity variable.

Separate statistical models are run in order to illustrate the effects of the different gender measurement variables as well as to avoid multicollinearity problems between these variables. The multicollinearity problem is detected by the variance inflation factor (VIF). VIF measures the degree to which each explanatory variable is explained by the other explanatory variable and “very large VIF values indicate high collinearity and a common cut-off threshold is VIF value above 10” (Hair et al., 1995). In illustrating the effects of the different gender measurement variables, TD is regressed on all control variables and one gender measure for each different regression. It is realized in this study that the kinds of panel data may cause problems due to stable characteristics of cases for example consistency in disclosure. However, when the models are estimated separately for each year, the conclusions remain unremarkably changed.

5 Results and discussions

Descriptive statistics on disclosure for the total sample and firms with gender presentation are provided in Table 3, panels A and B to G respectively. There are small differences in the means of the disclosure score from all the descriptive panels with means ranging between 47 and 50.467 suggesting high levels of voluntary disclosure by listed companies in Finland. The disclosure score results for firms with FCFOs and those with more FBODs are higher than those with

MCFOs and MBODs (50.467 and 49.135 vs. 47.000 and 47.802) suggesting that disclosures are higher for those firms with female representation as measured by MCFOs and FBODs. The mean difference between the disclosure score between FCFO and MCFO is statistically significant at a 1% level. The results further reveal that mean scores for profitability are higher for firms with FCFOs and FBODs as compared to MCFOs and MBODs (10.202, 9.799 and 6.939, 7.694 respectively).

Table 3. Descriptive statistics.

The table presents descriptive statistics of the study variables where TD (the dependent variable) is the total number of items voluntarily disclosed by the firm, BSIZE is total number of board members, LEV is ratio of equity to total assets, IND is 1 if the company is in the manufacturing industry and 0 otherwise, LIQD is the quick ratio, PROF is return on invested capital, CSIZE is logarithm of assets, FCEO is set to 1 if Chief Executive Officer is female, FCFO is set to 1 if Chief Financial Officer is female and FBOD is the proportion of female board members (at least 1 female board member).

	Mean	Median	Maximum	Minimum	Std. Dev.
Panel A. Summary statistics for the entire sample (n=324 observations)					
TD	47.802	47.000	71.000	28.000	9.275
BSIZE	5.978	6.000	11.000	2.000	1.858
LEV	46.086	46.365	93.380	-219.290	22.827
IND	0.315	0.000	1.000	0.000	0.465
LIQD	1.157	0.880	7.960	0.230	0.909
PROF	7.694	8.120	125.010	-75.900	12.637
CSIZE	19.287	18.991	26.045	14.921	2.001
Panel B. Summary statistics for the firms with FCEO (n=21 observations)					
TD	47.333	50.000	62.000	33.000	8.169
BSIZE	6.905	6.000	11.000	3.000	2.606
LEV	45.008	44.650	72.240	18.650	14.731
IND	0.286	0.000	1.000	0.000	0.463
LIQD	0.890	0.810	2.520	0.260	0.554
PROF	7.606	5.660	24.770	-15.260	8.442
CSIZE	19.355	18.708	23.595	16.169	1.878
Panel C. Summary statistics for the firms with MCEO (n=303 observations)					
TD	47.835	47.000	71.000	28.000	9.357
BSIZE	5.914	6.000	11.000	2.000	1.783
LEV	46.161	46.650	93.380	-219.290	23.299
IND	0.317	0.000	1.000	0.000	0.466
LIQD	1.175	0.890	7.960	0.230	0.927
PROF	7.700	8.270	125.010	-75.900	12.887
CSIZE	19.282	19.002	26.045	14.921	2.012
Panel D. Summary statistics for firms with FCFO (n=75 observations)					
TD	50.467	53.000	67.000	33.000	7.813
BSIZE	5.800	6.000	11.000	3.000	1.931
LEV	48.041	46.730	82.450	18.410	14.413
IND	0.267	0.000	1.000	0.000	0.445
LIQD	1.108	0.840	3.160	0.260	0.624
PROF	10.202	9.050	125.010	-10.120	15.203
CSIZE	19.217	18.865	23.439	15.339	1.938

Table 3. Continues

Panel E. Summary statistics for firms with MCFO (n=249 observations)					
TD	47.000	46.000	71.000	28.000	9.541
BSIZE	6.032	6.000	11.000	2.000	1.836
LEV	45.497	45.450	93.380	-219.290	24.803
IND	0.329	0.000	1.000	0.000	0.471
LIQD	1.171	0.890	7.960	0.230	0.980
PROF	6.939	8.100	36.110	-75.900	11.685
CSIZE	19.308	19.010	26.045	14.921	2.023
Panel F. Summary statistics for firms with FBOD (n=148 observations)					
TD	49.135	50.000	67.000	30.000	8.918
BSIZE	6.196	6.000	11.000	2.000	1.933
LEV	47.962	47.510	93.380	6.970	14.958
IND	0.318	0.000	1.000	0.000	0.467
LIQD	1.069	0.855	5.560	0.230	0.703
PROF	9.799	9.340	125.010	-22.010	12.638
CSIZE	19.387	18.885	26.045	14.921	2.201
Panel G. Summary statistics for firms with MBOD (n=324 observations)					
TD	47.802	47.000	71.000	28.000	9.275
BSIZE	5.978	6.000	11.000	2.000	1.858
LEV	46.086	46.365	93.380	-219.290	22.827
IND	0.315	0.000	1.000	0.000	0.465
LIQD	1.157	0.880	7.960	0.230	0.909
PROF	7.694	8.120	125.010	-75.900	12.637
CSIZE	19.287	18.991	26.045	14.921	2.001

The correlation matrix of the dependent and independent variables is presented in Table 4. The results indicate that voluntary information disclosure is as expected positively and significantly correlated with one gender measurement variable of female Chief Financial Officers and four of the control variables of industry type, board size, profitability and company size (all significant at a 1% level). The results also indicate that firms with female Chief Financial Officers and a bigger proportion of females on the board perform better (significant at a 5% level) as indicated by the positive and significant relationship with profitability. The finding is consistent with results from earlier studies that have documented a relationship between corporate performance and gender diversity both in top management in general and female representation in particular (e.g. Carter et al. 2003; Erhardt et al. 2003; Catalyst 2004).

Table 4. Correlations matrix of variables.

The table presents Pearson correlations for the study variables where TD (the dependent variable) is the total number of items voluntarily disclosed by the firm, BSIZE is total number of board members, LEV is ratio of equity to total assets, IND is 1 if the company is in the manufacturing industry and 0 otherwise, LIQD is the quick ratio, PROF is return on invested capital, CSIZE is logarithm of assets, FCEO set to 1 if Chief Executive Officer is female, FCFO set to 1 if Chief Financial Officer is female and FBOD the proportion of female board members (at least 1 female board member). ** and * denote statistical significance at the 1% and 5% levels respectively.

	TD	FCEO	FCFO	BSIZE	FBOD	LEV	IND	LIQD	PROF
FCEO	-0.013								
FCFO	0.158**	0.004							
BSIZE	0.155**	0.131*	-0.053						
FBOD	0.127*	-0.044	0.085	0.107					
LEV	0.108	-0.012	0.047	0.090	0.100				
IND	0.235**	-0.016	-0.057	-0.067	0.022	-0.086			
LIQD	-0.179**	-0.077	-0.030	-0.070	-0.067	0.337**	-0.117*		
PROF	0.144**	-0.002	0.109*	0.088	0.134*	0.496**	-0.075	0.045	
CSIZE	0.310**	0.009	-0.019	0.304**	0.058	-0.019	-0.120*	-0.243**	0.128*

Table 5 summarizes the regression results for the study variables. In regression Model A, only the control variables are included in the analysis. In regression Model B, C and D, disclosure is regressed against all control variables and gender diversity variables of FCEO, FCFO and FBOD respectively. In all models, the *F* values are significant at the 0.1% level a result indicating that these models are highly significant and hence have a good explanatory power of disclosure. The results of the VIF (not included in the regressions) in all the models also indicate that there are no collinearity problems as indicated by VIFs below 2. The variables in the models (A, B, C and D) when regressed on TD produce adjusted R^2s of 0.196, 0.194, 0.222 and 0.198 respectively. The results from Model C show that the variable FCFO is positive and significantly associated with voluntary disclosure (at 0.1% level). In Model B, the coefficient for the FCEO variable is not in the expected direction as the results indicate a negative but insignificant relationship between FCEO and voluntary disclosure while Model D results show a positive but insignificant relationship with voluntary disclosure. The negative result on FCEO and disclosure can be explained by CEO preferences towards corporate information disclosure. This is in line with the report by Amernic and Craig (2007) who reported that “some CEOs have found the communication of public information to be troublesome”.

All corporate characteristic variables in the regression contain the signs predicted by this study although board size (BSIZE) and profitability (PROF) are not statistically significant in the regression results. The three control variables of leverage (LEV), industry (IND), and firm size (CSIZE) are found positive and statistically significant at 5% and 0.1% levels for all models. Company liquidity is also significant at 5% in all the models but has a negative relationship with disclosure.

Table 5. Regression results.

The table presents estimates of the versions of the following regression model: $TD_i = \alpha + \beta_1 BSIZE_i + \beta_2 LEV_i + \beta_3 IND_i + B_4 LIQD_i + \beta_5 PROF_i + \beta_6 CSIZE_i + B7DGENi + \varepsilon_i$ where TD is the total number of items voluntarily disclosed by the firm, BSIZE is total number of board members, LEV is ratio of equity to total assets, IND is 1 if the company is in the manufacturing industry and 0 otherwise, LIQD is the quick ratio, PROF is return on invested capital, CSIZE is logarithm of assets, DGEN is the gender diversity variable measured as follows: FCEO set to 1 if Chief Executive Officer is female, FCFO set to 1 if Chief Financial Officer is female and FBOD the proportion of female board members (at least 1 female board member). The standard errors are as reported in parenthesis with ***, ** and * denoting statistical significance at the 0.1%, 1% and 5% levels respectively.

Variable	Model A	Model B	Model C	Model D
constant	16.663***	16.784***	14.897**	16.432***
	(5.016)	(5.026)	(4.960)	(5.011)
Firm characteristics				
BSIZE	0.292	0.312	0.344	0.262
	(0.263)	(0.266)	(0.259)	(0.264)
LEV	0.059*	0.060*	0.059*	0.057*
	(0.025)	(0.025)	(0.025)	(0.025)
IND	5.518***	5.505***	5.731***	5.473***
	(1.016)	(1.017)	(1.001)	(1.015)
LIQD	-1.259*	-1.283*	-1.157*	-1.197*
	(0.567)	(0.570)	(0.559)	(0.568)
PROF	0.041	0.041	0.027	0.036
	(0.043)	(0.043)	(0.043)	(0.043)
CSIZE	1.351***	1.344***	1.380***	1.350***
	(0.254)	(0.255)	(0.250)	(0.254)
Female representation				
FCEO		-1.032		
		(1.903)		
FCFO			3.721***	
			(1.090)	
FBOD				5.397
				(3.894)
R^2	0.211	0.211	0.239	0.215
Adjusted R^2	0.196	0.194	0.222	0.198
F-statistic	14.091***	12.093***	14.150***	12.387***

6 Conclusion

This study has investigated whether voluntary information disclosure in annual reports of 108 firms listed on the Helsinki Stock Exchange for the period of 2008 is associated with gender diversity represented by three groups of variables: female Chief Executive Office, female Chief Financial Officer and the proportion

of females on the board of directors. Results based on the analysis indicate that only one variable namely female Chief Financial Officer (FCFO) is positive and significantly associated with voluntary disclosure in annual reports. The results therefore suggest that while voluntary disclosure of information is higher for those firms with a female Chief Financial Officer, those that are highly leveraged, bigger in size and falling under the manufacturing industry, it is lower for firms with female Chief Executive Officers and higher liquidity levels.

The negative sign revealed by the results on the gender diversity measurement variable of FCEO could be explained by the differences in the roles played by company CEO in the disclosure process. This finding may indicate, therefore, that company CEOs as compared to CFOs are more involved in corporate strategic planning matters than they are with preparation of company reports and therefore have less influence on the information disclosed in the reports. Overall, the results suggest that gender diversity is one of the attributes influencing the extent of voluntary information disclosures in annual reports as indicated by the positive results from the two gender diversity variables of FCFO and FBOD.

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ASSOCIATION BETWEEN DISCLOSURE, FINANCIAL DISTRESS AND GENDER DIVERSITY: FINNISH EVIDENCE*

Abstract

The objective of this study is to analyze the relationships between disclosure, gender diversity in management, and financial distress. Three research hypotheses are presented. First, a negative relationship between annual statement information disclosure and financial distress is assumed. Second, it is assumed that a negative relationship exists between gender diversity and financial distress. Third, a positive relationship between gender diversity and disclosure is assumed. The hypotheses are presented in the form of a structural equation model (SEM). The model is estimated by the maximum likelihood (ML) method using AMOS 16. The sample consists of firms listed on the Helsinki Stock Exchange during the year 2008. The data include 208 firm-year observations. Financial distress is measured by the probability model of payment default estimated by a logistic regression analysis for a large sample of firms. The results show that disclosure is affected by board size and industry. It is also strongly negatively affected by financial distress. The female CEO dummy has a positive effect on distress probability, which contradicts the research hypothesis. However, female members on the board and female CFOs have a positive effect on disclosure as hypothesized. In addition, female members on the board diminish distress probability. Thus, what holds for a female CEO, may not hold for female participation on the board.

Key words: disclosure, distress, gender diversity, SEM, Finnish firms

1 Introduction

The need for corporate transparency and information disclosure has been on the rise in the last decades. This need has significantly followed the rise of corporate failures during this period as it is important that the stakeholders of firms get timely and reliable information to identify any signs of failure. Beller (2003) attributes this rise to lack of liquidity by companies hence causing them to become bankrupt and thereby endangering their continued operations. For decades, corpo-

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rate financial distress[1] as a business failure phenomenon has received tremendous attention from academia, legal entities, creditors, investors and other corporate stakeholders (e.g. Altman 1993; Wruck 1990; Laitinen 2005; Whitaker 1999; Beller 2003; Laitinen and Kankaanpää 1999; Altman and Hotchkiss 2006; Balcaen and Ooghe 2006; Lensberg et al. 2006; Holder-Webb and Cohen 2007). Financial distress arises when a company is unable to meet its debts resulting in the demand for repayment of the company's debts by its creditors. In such undesirable situations, the implications are increases in default risk, bankruptcy risk and uncertainty risk about the firm's future cash flows (Holder-Webb and Cohen 2007).

The prospect of financial distress has powerful constraints for management as it presents restrictions in their abilities during information disclosures. This is related to the fact that, despite the existence of disclosure laws for example, company and stock market laws that require companies to disclose information representative of their operations, company managers may overlook these laws and regulations when disclosures may signal negative or undesirable information to the external users and thus resort to disclosing inadequate and or misrepresentative information (Holder-Webb and Cohen 2007). With such a background on financial distress, most studies have focused on failure prediction with little attention on what happens to information disclosures during periods when companies are distressed.

Corporate management is responsible for company success and failure in general. This is partly evidenced in the penalties management has faced as a result of corporate financial difficulties. Company successes and failures have been linked to management characteristics such as gender diversity (du Rietz and Henreksen 2000). In fact, there exists a vast amount of corporate governance literature exists which investigates aspects related to corporate disclosure, gender diversity of directors and firm performance (e.g. Huafang and Jianguo 2007; Haniffa and Cooke 2002; Rose 2007; Erhardt et al. 2003). Most of this literature has revealed that existence of significant relationships exist between the studied characteristics. Despite this development in financial accounting literature, no study has been conducted on the relationship that may exist between corporate distress, disclosure, and the important governance issue of gender diversity within company management.

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[1] Wruck (1990) defines financial distress as cash flow insuffiecient to cover obligations. Asquith et al (1994) define financial distress as earnings before interest, taxes, depreciation and amortization (EDITDA) less than 80 percent of interest expense. The definition by Asquith et al. (1994) does not incorporate scheduled principal reduction.

This study is therefore motivated by this prevailing research gap and the increasing emphasis on the disclosure of accurate and adequate information by regulation. The objective of this study is twofold. First, the study investigates the relationship that might exist between corporate financial distress and disclosure[2]. Secondly, the study investigates how gender diversity of directors is connected with financial distress and disclosure. This study particularly investigates voluntary disclosures in annual reports of the sample companies.

To investigate the association between disclosure, financial distress and gender diversity of company management, the study uses a sample of firms listed on the Helsinki Stock Exchange during the year 2008. The results of the study indicate that disclosure is negatively affected by financial distress, the Chief Executive Officer female measure has a positive effect on financial distress and a negative effect on disclosure, female representation on the board of directors has a negative effect on financial distress, female representation on the board of directors and female Chief Financial Officer have a positive effect on disclosure and board size and industry positively affect disclosure. These results indicate that disclosure is affected by these study variables as mentioned above in addition to the factors examined in previous studies such as firm size, culture and auditor type to mention a few.

The study is organized as follows. In Section 1, the objective and background of the study were presented. Section 2 presents a brief discussion of the Finnish business and regulatory environment, reviews prior literature and presents the three research hypotheses. Section 3 presents the data and methods used in the study and in Section 4 the results and a short discussion of the findings are presented. The last section provides the summary of the effect of gender diversity and financial distress on the extent of voluntary disclosures in annual reports.

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[2] The study particularly focuses on voluntary disclosure which is the information provided over and above that required by regulations governing disclosure.

2 Literature review and hypothesis development

2.1 Disclosure and distress

The information disclosure decision is one of the ways in which companies communicate corporate information to their internal and external environment. One of the reasons for information disclosure is to provide traditional information user groups such as shareholders, creditors, financial analysts, debtors, government and security consultants with information useful to them when making investment and regulatory decisions (Cooke 1989). Globally, legislations governing companies (for example in Finland the Helsinki Stock Exchange rules and the Finnish Companies Act) require that company disclosures represent a true and fair view of company operations so as to facilitate future investment decision making by the stakeholders. It is however evident that in many situations companies fail to comply with the prevailing legal requirements leading to corporate problems some of which have resulted into corporate failures as evidenced in the last decades.

Existing literature documents that in the last decades corporate failures have occurred at higher rates after the decade of the 1930s (Charitou et al. 2004). A good and prominent example of these failures is that of Enron whose disclosures were not adequate and transparent enough to represent the economic reality of the company (Cunningham and Harris 2006). Although an economic system as defined by Altman (1993) is the continuous entrance and exit of production entities as natural components, business failures present unfavorable costs to society such as the establishment of laws and procedures for reasons such as the protection of contractual rights of interested parties and (2) prior evidence shows that the market value of the distressed firm declines substantially (Warner 1977) hence, investors, creditors, suppliers, management and company employees are severely affected

The onset of corporate distress affects the information asymmetry between company directors and information users. For example, investors face estimation risk as the future cash flows become more uncertain, managerial reputations suffer, suppliers risk the loss of a customer, customers may seek other suppliers, and lenders are likely to increase the cost of borrowing to combat increasing default risk (Wruck 1990; Whitaker 1999). In situations where information is negative or performance is poor, management is faced with difficulties in abiding by the ethics of their obligation to disclose sufficient and full information (Holder-Webb and Cohen 2007). Managers therefore tend to influence this information in order

to meet their financial obligations and abide by the debt agreements that are set by lenders (Lambert 2001). This breach of debt agreements would be a negative signal to the performance of the company and hence have negative implications for the reliability of the firm. For example, the Enron corporation scandal revealed that the company provided insufficient disclosures with respect to its debts and losses causing doubt to not only investors who were in significant need of reassurance but also other information users such as analysts regarding the true representation of the company performance.

The behavior of managers may sometimes be opportunistic implying that their corporate goals may be in contradiction to stakeholders' interests (Weil et al. 2006). It is further alleged that company annual reports do not always comply with disclosure requirements stipulated by regulatory bodies, resulting in insufficient disclosures by companies (Ahmed and Nicholls 1994; Hossain 2000). It is thus clear from such evidence as well as from regulatory and practitioner literature that during situations when firms are undergoing difficulties, they are most likely to communicate information that is not representative of the companies. It is therefore assumed that during these difficult situations, companies are less likely to increase or provide a lot of information in excess of what is required. On the contrary, sometimes managers may attempt to provide a more complete set of information as a function of ethical considerations (Holder-Webb and Cohen 2007: 304). Based on the above discussion, this study hypothesizes as below:

H1: There is a negative relationship between the extent of information disclosure and financial distress.

2.2 Gender diversity and distress

There is a large amount of gender related research in financial accounting literature with much of it focusing on the influence of gender diversity and female representation on performance, contribution of female directors to company boards and financial decision-making issues (e.g. Meier-Pesti and Penz 2008; Huse and Solberg 2006; Carter et al. 2003; Erhardt et al. 2003; Eckel and Grossman 2002; Watson 2002; Powell and Ansic 1997). Company performance is generally considered to be depicted as, "success or failure" and sometimes "good or poor" as companies can either perform as one of each of the two. Poor or failing company performance can be measured by company ratios such as profitability, liquidity and leverage ratios all of which are indicators of corporate financial distress.

Gender diversity and female representation at corporate management levels have received a tremendous amount of attention. An important question is why diversity? There are theoretical arguments as to why diversity can be related to the agency theory which relates to the moral obligation by boards to shareholders (Carver 2002) and stakeholders (Keasey et al. 1997). This theory presents the board's monitoring role in its stewardship capacity in protecting shareholders' interests (like shareholders' value) from management self-interests. The theory highlights the issue of the influence of board composition on organizational performance and the impact of corporate leadership style. Moreover, prior research highlights that corporate managers and other parties interested in good governance believe in the existence of a positive relationship between board diversity and shareholder value (e.g. Carter et al. 2003). In addition to the evidence in existing psychology literature justifying the existence of gender differences in decision making, Carter et al. (2003) argue that gender diversity produces more effective problem-solving as the variety of perspectives that emerge cause decision-makers to evaluate more alternatives and carefully explore the consequences of these alternatives during the decision-making process.

Studies investigating the relationship between board diversity and firm value as well as firm performances have had mixed results. The study by Erhardt (2003) finds a positive relationship between the percentage of women and minorities on boards of directors and return on assets and return on investment. Catalyst (2004) examines corporate performance and gender diversity in top management teams. The Catalyst (2004) focuses on a sample of 353 Fortune 500 companies and finds that companies with a higher representation of women on their top management teams had higher total return to shareholders and return on equity. On the contrary, some studies have found no significant relationship between gender diversity as well as female representation on the board and firm performance (e.g. Watson 2002; Rose 2007).

Another stream of psychology research has been directed to the differences that exist between men and women in risk perceptions and tolerance. Most of these studies have stemmed from psychology literature and examined relationships between gender differences in relation to financial decision-making, revealing that a difference exists between women and men. Many of the studies report that women to have lower risk preferences than men, for example when making investment decisions than men (e.g. Meier-Pesti and Penz 2008; Eckel and Grossman 2002; Powell and Ansic 1997; Johnson and Powell 1994; Stinerock et al. 1991), report lower willingness to accept financial risk (Barsky et al. 1997), have a higher degree of anxiety when making financial decisions and a stronger desire to use financial advisors (Stinerock et al. 1991).

On the basis of prevailing literature, this study assumes that gender diversity is likely to have an influence on distress. For example, the risk aversion nature of women depicted during financial decision-making and investment will reduce the chances of a company taking on risky financial decisions and engaging in risky business choices, thereby reducing the company's probability of distress. Moreover, considering the advantages that come with diversity and/or female representation in management, reductions in distress situations of companies are likely to be witnessed. This study hypothesizes as below

H2: There is a negative relationship between gender diversity and financial distress.

2.3 Gender diversity and disclosure

Over the past years, studies in financial accounting have investigated issues related to gender diversity and female representation sometimes referred to as female participation both on board and in top management. These studies have examined themes such as the importance of gender diversity in corporate governance (e.g. Huse and Solberg 2006; Burke 2000) and the relationship between gender diversity and performance (e.g. Erhardt et al. 2003; Peni 2011; Siciliano 1996). The findings by Huse and Solberg (2006) reveal that the starting point for women on board decision-making processes does not only take place only within the boardroom but also before, during and after meetings as well as outside the meetings. This indicates that women spend more time preparing for company meetings and are therefore more prepared than men and consequently more likely to make better decisions and improve timely information flow. This study is in line with the argument raised by Burke (2000) that "increasing women's board presence enriches board information, perspectives, debate and decision making". In the studies by Erhardt et al. (2003) and Siciliano (1996) both found a positive relationship between gender diversity and firm performance when they investigated the relationship between board of director diversity and firm financial performance for large US companies and the relationship of board member diversity to organizational performance respectively. Peni (2011) reveals that whereas female CEOs and board chairs have a positive impact on the overall quality of corporate governance, CFO gender has no influence on the general governance practices of the firm. The findings from her study suggest that CEOs and chairwomen have the largest influence on those governance attributes related to the board of directors.

Prior literature on gender diversity and female participation in top management goes beyond documenting the existence of differences between men and women

for example in terms of skills related to communication, decision-making and risk taking to highlighting the benefits arising from diversity. This literature emphasizes that diversity may benefit the board's decision making process as new perceptions on various issues are presented and combined with a mutual exchange of ideas stemming from board members with dispersed backgrounds and experience (e.g. Alvarez and McCaffery 2000). In relation to practitioner-oriented and social psychology literature, Ginsberg (1994) highlights that female participation in senior management leads to better firm performance. He attributes this to the female management style that encourages collaboration and fosters creativity. He further adds that the female participation effect should be significant when collaboration and creativity are important and thus more relevant to the activities of the top management team. Moreover, Wajcman (1988) points out that in addition to women having better multi-tasking skills than men, they seem to have better communicative capabilities. These communication capabilities in particular can be used to justify women as being more aware of the importance of good communication and more successful in making communication effective during information disclosure decision-making processes.

Given that diversity and female participation are important aspects in corporate governance and affect performance, and also that disclosure is an "…accounting activity involving both human and non-human resources or techniques as well as the interaction of the two" (Perera 1994: 268), it can be assumed that the advantages arising from diversity for example communication skills, team-working and mutual exchange of ideas among directors of different backgrounds improve disclosure decision-making and thereby influence information disclosure decisions. It is therefore hypothesized as below:

H3: There is a positive relationship between gender diversity and the extent of disclosure.

3 Data and methods

3.1 Data

The population of this study is made up of companies listed on the Helsinki Stock Exchange during the year 2008. The initial sample of the study is 132 companies. Following prior research such as Owusu-Ansah (1998) and Akhtaruddin (2005), this study is limited to non-financial companies and therefore excludes 13 financial institutions as, by law, these have different disclosure requirements. Further-

more the study eliminates 49 companies with insufficient data for carrying out the study analysis. The remaining 70 companies representing a proportion of 58.8% and 53% of the total population of non-financial companies and companies listed on the Helsinki Stock Exchange, respectively, comprise the final sample for this study. The data used in this study is for the fiscal years 2005 to 2007 and covers 208 firm-year observations. It is realized that these kinds of panel data may cause problems due to stable characteristics of cases (fixed effects). However, when estimating the model for each year separately, the conclusions were not notably different.

The two main data sources for the study are the company annual reports for the years 2006 and 2007 and the Thomson Financial Worldscope database. The annual reports are used for collection of data on gender diversity, board size and items voluntarily disclosed by the sample companies. The Thomson Financial Worldscope database is used for collection of other study variables data such as firm industry, leverage, liquidity and profitability used in the distress measure. This study uses annual reports because as stated by Gray (1995), the annual report is viewed as the major official and legal document that a firm produces on a regular basis and acts as a significant forum for the presentation of the firm's communication with political, social and economic systems.

3.2 Methodology

3.2.1 Disclosure

In related accounting research, both weighted (Botosan 1997; Buzby 1974; Eng et al. 2001) and unweighted (Akhtaruddin 2005; Archambault 2003; Cooke 1989; Owusu-Ansah 1998; Raffournier 1995) disclosure indexes have been used to measure disclosure in annual reports. Both approaches to measuring disclosure have their weaknesses for example, using an unweighted disclosure index has been criticized for its fundamental assumption that all items are equally important to all information users and the use of a weighted disclosure index has been criticized because it may introduce a bias towards a particular user-orientation.

Following the view by Wallace (1988) that all disclosed items are equally important to the average users, this study uses the unweighted disclosure index approach. Under this approach, attention is given to all users of annual reports rather than particular user groups. It has also been argued that unweighted scores reduce subjectivity and may be considered the norm in annual report studies (Ahmed and Courtis 1999: 36). In this study therefore, voluntary information disclosures in

annual reports for the years 2006 and 2007 are considered and items are numerically scored on a dichotomous basis. A score of one is assigned if a company discloses a voluntary item and 0 for non-disclosure of the item. The total disclosure (TD) score for each company is therefore

$$TD_j = \sum_{i=1}^{m} d_i \tag{1}$$

where d_i is 1 if an item is disclosed and 0 if not; m is the number of voluntary items disclosed in the annual reports (here m=73).

3.2.2 Gender diversity and control variables

The study uses three variables for measuring gender diversity for each firm as follows: 1) female Chief Executive Officer (FCEO) is set equal to 1 if Chief Executive Officer is female (0 otherwise), 2) female Chief Financial Officer (FCFO) is set equal to 1 if Chief Financial Officer is female (0 otherwise), and (3) female board members (FBOD) is the proportion of female board members. In addition to the gender test variables, the study further controls for the effects of board size (BSIZE) and industry (IND) variables that have been found in prior research to have an influence on the amount of information voluntarily disclosed by companies. BSIZE is measured as the number of board members, IND is set equal to 1 if manufacturing company (0 otherwise).

3.2.3 Financial distress

In this study, financial distress is expressed as payment default probability (DPROB). It is measured as a function of the three traditional distress dimensions of profitability, leverage, and liquidity (Laitinen and Kankaanpää 1999; Altman and Hotchkiss 2006; Balcaen and Ooghe 2006; Lensberg et al. 2006). In addition, size is used to control for the size effect on the distress estimate which is important in this study (see below). Profitability is here measured by the return on investment ratio[3], leverage by the equity to total assets ratio, liquidity by the quick ratio, and size by the logarithm of total assets. Empirically, these ratios have proved to be the most significant measures for the dimension in question

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[3] The ratio indicates relative profitability that is to say return, which has been obtained for the capital invested in the company and requiring interest or other returns. The ratio is independent from lines of business.

(Laitinen and Kankaanpää 1999; Altman and Hotchkiss 2006; Balcaen and Ooghe 2006; Ugurlu and Aksoy 2006; Lensberg et al. 2006). Moreover, additional dimensions or measures did not bring incremental value for distress measurement. The distress measure is estimated by the (binary) logistic regression analysis (LRA). LRA makes it possible to create a score (logit) L for every firm. It is assumed that the independent variables are linearly related to L[4]. This score is used to determine the conditional probability of distress (default) *p*(i,X) for a firm i as follows:

$$p(i,X) = \frac{1}{1+e^{-L}} = \frac{1}{1+e^{-(b_0+b_1x_1..+b_nx_n)}} \tag{2}$$

where b_j (j=0,…,n) are coefficients and n is the number of independent variables x_j (j=1,…, n). The logistic regression (LR) model is estimated by the maximum likelihood method in SPSS. The significance of the coefficients is tested by the Wald test statistic.

The data extracted from the Helsinki Stock Exchange are too small to derive a statistically reliable measure for distress. Therefore, large random data from Finnish firms are applied to estimate the coefficients in (2)[5]. For estimation, a random sample of 1500 default firms and 1500 non-default firms are selected to make the weights of non-default and default firms equal[6]. The total classification accuracy of the LR model estimated for the last (available) annual statements before default is 72.5% in the estimation sample and 71.3%[7] in the holdout sample. Table 1 presents the coefficients of the estimated model. This logistic model is applied to calculate DPROB for the disclosure sample firms according to (2).

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4 It is important to note that the Hosmer and Lemeshow test shows that the relationship is not linear (p value<0.001). However, in validity tests with test data and in cross validation (Lachenbruch) it did not affect the validity of the risk measure (probability of default). In conclusion, the probability of default provides very good measure of risk to fail.

5 These data include a representative sample of Finnish firms that published their annual financial statements during the accounting years 2002-2003. The original data included annual financial statements from 64164 firms supplied by Suomen Asiakastieto Oy (http://www.asiakastieto.fi) for research purposes. The (registered) payment default used as an event here is emerged after the end of 2003 but before 31 December 2004 (event period).

6 For the equal groups, the cut-off value is 50% which is technically desirable, since the LRA assumes that midranges of probability are more sensitive to changes of values in independent variables.

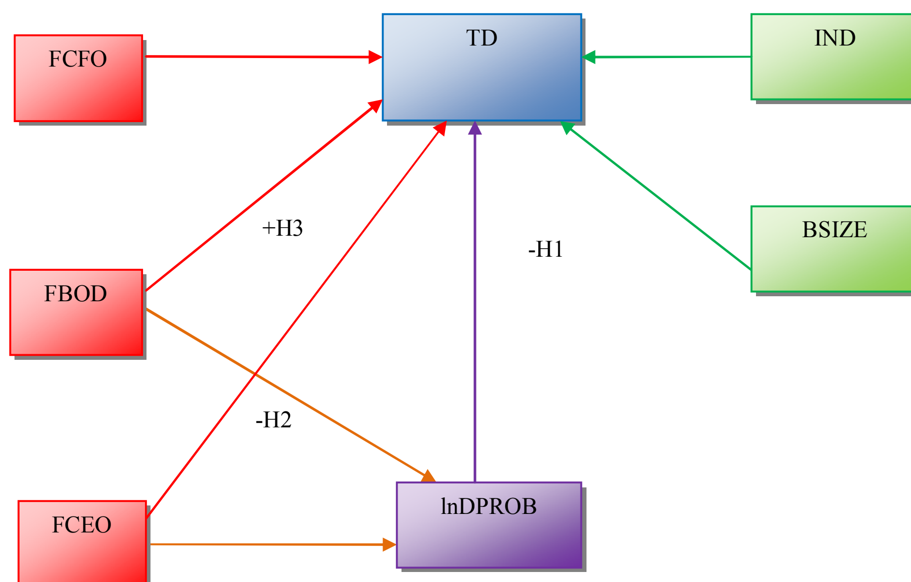
7 Although the majority of firms in the sample are small and middle-sized firms, statistical tests show that the classification accuracy was at the same level also for larger firms such as in our sample from Helsinki Stock Exchange firms.

Table 1. The logistic financial distress measurement model (N= 1500+1500).

Variable	Coefficient	St. Deviation	Wald stat.	Significance
Logarithm of total assets	-0.22704	0.02499	82.56076	0.00000
Return on investment	-0.00324	0.00104	9.69094	0.00185
Quick ratio	-0.03153	0.01100	8.21486	0.00415
Equity ratio	-0.02353	0.00146	260.87561	0.00000
Constant	3.51636	0.30923	129.30496	0.00000

3.2.4 Hypothesis testing

In order to test the three research hypotheses, the study employs the use of structural equation modelling (SEM). This model is credited for its ability to analyse relationships for many variables in a single analysis, and to provide significance of variables in the model as well as provide overall model fit measures (Baines and Langfield-Smith 2003). Figure 1 shows the structural model to be estimated. The first research hypothesis H1 assumes that distress probability has a negative effect on disclosure measured by TD. The second hypothesis H2 assumes that gender diversity has a negative effect on the distress probability. Finally, the third hypothesis H3 assumes that gender diversity has a direct positive effect on disclosure. Thus, it is assumed that gender diversity has both a direct and indirect effect on disclosure.



BSIZE is the number of people on the board, FBOD is the proportion of female board members, FCEO is Female Chief Executive Officer dummy (1 if yes, 0 if no), FCFO is female Chief Financial Officer dummy (1 if yes, 0 if no), IND is industry dummy (1 if manufacturing firm, 0 if otherwise), TD is the Total Disclosure Score, DPROB is the probability of default (distress measure) and lnDPROB is the natural logarithm of DPROB.

Figure 1. The research hypotheses as a structural equation model (SEM).

The statistical estimation of the SEM in Figure 1 is made with the AMOS 16 statistical package. In this estimation, the maximum likelihood (ML) method is used. The significance of the relationships is statistically tested by the test on the basis of the critical ratio (parameter estimate divided by standard error). The goodness of fit of the SEM in explaining TD and lnDPROB is assessed by the minimum sample discrepancy for the model. In addition, the multiple coefficients of correlation between TD and lnDPROB and their predictors are used (for statistical tests, see Baines and Langfield-Smith 2003: 686-687). Many authors regard the significance level of 0.05 for discrepancy as an adequate fit of overall model (Bagozze and Yi 1988; Bentler 1989). The fit can be assessed also by the ratio of discrepancy to the degrees of freedom (normal chi-square). Matsueda (1982) has recommended that a ratio less than 4 should be considered a good fit. However, some researchers allow as large as 5 as being an adequate fit. Because the data do not conform to a joint multivariate normal distribution, the chi-square test statistic of overall model fit may be inflated, and the standard errors used to test the significance of parameter estimates may be deflated. Therefore, the SEM was also estimated by the generalized least squares (GLS) method for comparison. It gave almost identical results (not reported here).

4 Results

4.1 Descriptive statistics and correlations

Panel 1 of Table 2 presents descriptive statistics for the variables TD, FCEO, FCFO, FBOD, BSIZE, IND, and DPROB. In general, the variables do not have a skew distribution except for FCEO and DPROB. The distributions of these variables also show a high kurtosis. FCEO is a binary dummy variable that is highly skewed if the frequency of events in the sample is small. In order to normalize DPROB a natural logarithmic transformation is made to get lnDPROB (see Table 2). This transformation leads to a symmetric distribution. Therefore, lnDPROB is applied in estimations instead of DPROB.

Panel 2 of Table 2 shows the correlation coefficients between the model variables. The correlations are generally small and below 0.10. The highest correlation 0.898 is found between DPROB and its transformation lnDPROB. The next highest correlation is 0.396 and it is found between FBOD and FCEO. DPROB and lnDPROB also have high negative correlations between BSIZE and TD. As expected, all variables except FCEO have the expected signs and are strongly and significantly correlated with TD.

Table 2. Descriptive statistics and correlations for the variables.

Table 2 panels 1 and 2 report the descriptive statistics and correlations for the variables used in the study respectively. BSIZE is the number of people in board, FBOD is the proportion of female board members, FCEO is Female Chief Executive Officer dummy (1 if yes, 0 if no), FCFO is Female Chief Financial Officer dummy (1 if yes, 0 if no), IND is industry dummy (1 if manufacturing firm, 0 if otherwise), TD is the Total Disclosure Score, DPROB is the probability of default (distress measure) and lnDPROB is the natural logarithm of DPROB. **, * represent correlation significance at the 0.01 and 0.05 level respectively.

Panel 1. Descriptive statistics.

Variable	Minimum	Maximum	Mean	Std. Dev.	Skewness	Kurtosis
BSIZE	2.0000	11.0000	5.9400	1.7820	0.4340	0.5920
FBOD	0.0000	0.6667	0.0957	0.1212	1.2230	1.7520
FCEO	0.0000	1.0000	0.0400	0.1930	4.8350	21.5840
FCFO	0.0000	1.0000	0.2400	0.4280	1.2240	-0.5070
IND	0.0000	1.0000	0.3200	0.4680	0.7670	-1.4260
TD	29.0000	71.0000	47.8900	9.1480	0.0570	-0.8280
DPROB	0.0200	0.6700	0.1307	0.0822	2.8850	13.7770
lnDPROB	-3.9600	-0.4100	-2.1840	0.5404	0.0300	0.8100

Panel 2. Correlation coefficients.

Variable	BSIZE	FBOD	FCEO	FCFO	IND	TD	DPROB
FBOD	0.127						
FCEO	0.133	0.396**					
FCFO	-0.039	0.079	0.005				
IND	-0.036	-0.088	0.023	-0.051			
TD	0.233**	0.195**	-0.041	0.208**	0.236**		
DPROB	-0.360**	-0.169*	0.011	-0.020	0.134	-0.305**	
lnDPROB	-0.351**	-0.143*	0.049	0.024	0.191**	-0.297**	0.898**

4.2 Structural Equation Modeling (SEM) results

Table 3 presents the statistical significance of the relationships and the goodness of fit measures for the model. The normal chi-square (discrepancy divided by degrees of freedom) exceeds 6 and does not refer to a good fit with the data. Figure 2 shows the estimated SEM with statistically significant relationships between the variables. The control variables IND and BSIZE have a significant effect on TD as expected. In addition, empirical evidence to some degree supports the research hypotheses. However, there are a couple of exceptions. First, evidence strongly supports H1, since lnDPROB has a significant negative effect on TD. Second, FBOD has a negative effect on lnDPROB, which supports H2. However, FCFO has no statistically significant effect on lnDPROB. Furthermore, FCEO has a positive effect on lnDPROB at the 0.1 level, which contradicts with H2. Third, FBOD and FCFO have a significant positive effect on TD conforming H3. On the

contrary, FCEO has a negative effect on TD, which contradicts to H3. The standardized total effects of both FBOD and FCFO on TD are positive but for FCEO this effect is negative (and almost of the same size as the direct effect). The signs of the FCEO effect on TD and lnDPROB are robust. They did not change the sign on the 90% confidence interval in bootstrapping when 200 subsamples were used to test the parameter value.

Table 3. ML estimation results for the SEM.

Table 3 reports the ML results for the SEM. BSIZE is the number of people in board, FBOD is the proportion of female board members, FCEO is Female Chief Executive Officer dummy (1 if yes, 0 if no), FCFO is Female Chief Financial Officer dummy (1 if yes, 0 if no), IND is industry dummy (1 if manufacturing firm, 0 if otherwise), TD is the Total Disclosure Score, DPROB is the probability of default (distress measure) and lnDPROB is the natural logarithm of DPROB. *** represents significance at the 0.001 level.

Panel 1. Regression weights (ML).

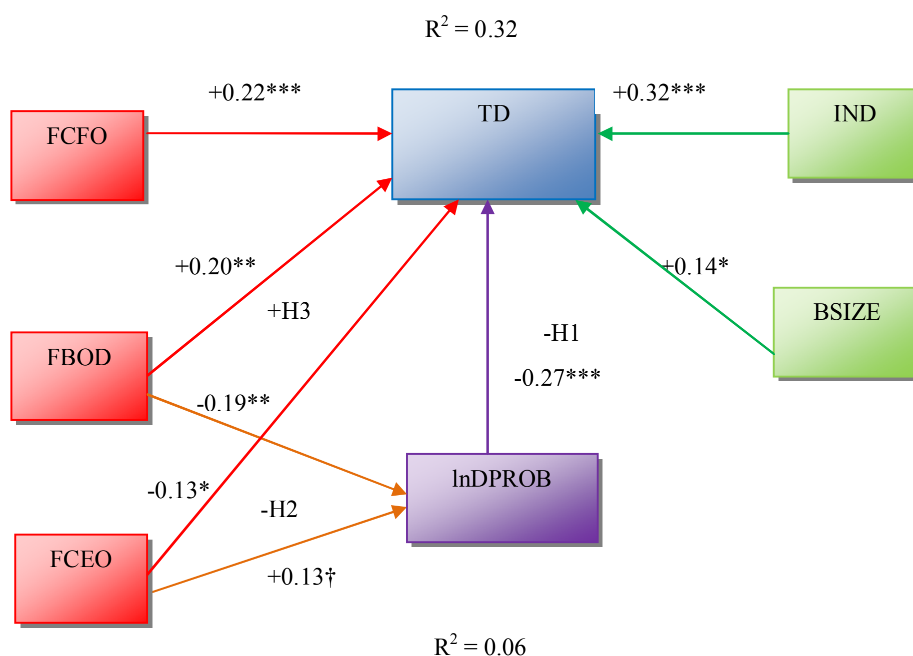
Variable	Direction of effect	Variable	Estimate	Standard error	Critical ratio	Sig.	Standardized estimate
lnDPROB	←	FCFO	0.049	0.086	0.570	0.569	0.039
lnDPROB	←	FCEO	0.355	0.209	1.701	0.089	0.125
lnDPROB	←	FBOD	-0.876	0.333	-2.632	0.009	-0.194
TD	←	FCFO	4.732	1.263	3.746	***	0.216
TD	←	FCEO	-6.452	3.092	-2.086	0.037	-0.132
TD	←	lnDPROB	-4.688	1.100	-4.262	***	-0.272
TD	←	BSIZE	0.762	0.327	2.332	0.020	0.144
TD	←	IND	6.376	1.175	5.426	***	0.318
TD	←	FBOD	15.220	4.942	3.080	0.002	0.196

Panel 2. Standardized total effects.

Variable	FBOD	FCEO	FCFO	IND	BSIZE	lnDPROB
lnDPROB	-0.194	0.125	0.039	0.000	0.000	0.000
TD	0.249	-0.166	0.205	0.318	0.144	-0.272

Panel 3. Goodness of fit measures.

R^2 : lnDPROB	0.055
R^2 : TD	0.3234
Discrepancy	79.4955
Discrepancy/DF	6.6246



BSIZE is the number of people in board, FBOD is the proportion of female board members, FCEO is Female Chief Executive Officer dummy (1 if yes, 0 if no), FCFO is Female Chief Financial Officer dummy (1 if yes, 0 if no), IND is industry dummy (1 if manufacturing firm, 0 if otherwise), TD is the Total Disclosure Score, DPROB is the probability of default (distress measure) and lnDPROB is the natural logarithm of DPROB. ***, **, *,† represent effect significance at 0.001, 0.01, 0.05, and 0.10 levels respectively.

Figure 2. The estimated structural equation model with significant effects.

There are a number of possible explanations for the negative effect of FCEO on TD. First, the tension that arises as managers must balance their personal desires to avoid "looking bad" with their ethical obligations to provide stakeholders with the information they require in order to make informed decisions (Holder-Webb and Cohen 2007: 02). For a female CEO, the desire to avoid "looking bad" may be stronger than for a male CEO, since she may have more stress to manage the firm successfully. Second, the possibility of a disappearance of the female management style that lies in encouraging working together among peers in the CEO position which can be argued to have no peer. Lastly, because of the existence of different forms of discrimination, women need to be "that much better" relative to men in order to make it to top executive positions (Eagle and Johannessen-Schmidl 2007). FCEOs may, in this case prefer to disclose less information in order to favor their position abilities to avoid replacement by the board. This is possible in situations where the CEO has greater power to influence decisions during the decision-making process as compared to other company executives.

The positive effect of FCEO on lnDPROB can be explained by (1) the female underperformance hypothesis[8] although it is often rejected (Du Rietz and Henrekson 2000). In fact, evidence on this hypothesis is not unanimous. 2. the "glass cliff" literature that argues that women are often more likely to be appointed into leadership positions in periods when organizations are already facing poor performance (Bujaki and McConomy 2010; Ryan and Haslam 2005, 2007). In addition, women on the board may diminish distress probability as is shown by the strong negative effect of FBOD on lnDPROB. Thus, what holds for a female CEO, may not hold for female participation on the board.

5 Summary

This study examines the association between disclosure, financial distress and gender diversity. The data of the study were from companies listed on the Helsinki Stock Exchange for during the year 2008. The results of the study provide evidence that information disclosure decreases during times when companies are financially distressed. This result partly provides an explanation for the inadequate disclosures that have been evidenced around some corporate failures in the past years[9]. The results also show that gender diversity measured by FBOD and FCFO increases disclosure while disclosure decreases when a female is company FCEO. With regards to gender diversity and distress, the result on FBOD reveals that distress reduces with more females on the board. FCEO has a negative but insignificant effect on distress.

It is important to note that if the results on the positive effect of FCEO on distress and the negative effect on disclosure are explained by the issue of the centralization of power in the hands of the CEO which was discussed earlier in the paper, these results present implications on decision-making[10]. Consistent with Sah and Stiglitz (1986, 1991), these results suggest that group decision-making is affected by power centralization. This is one of the reasons as to why governance literature advocates for the separation of the positions of CEO and board chairperson.

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[8] According to Du Rietz and Henrekson (2000), the female underperformance hypothesis is stated as follows "all else being equal, female entrepreneurs tend to be less successful than their male counterparts in terms of conventional economic performance measures".

[9] See for example The fall of Enron (Healy and Palepu 2003).

[10] As power becomes centralized that is, as the decision making power becomes centralized in the hands of few people, it becomes crucial to make clear-cut decision because of the pressure of time (Hage and Aiken 1967).

This study focused on public companies, and it would be interesting to conduct a study using data on private and small-sized companies to see whether the results are consistent with a sample of companies of a different size. It would also be interesting to investigate changes in disclosure before and during distress as well as during recovery from distress and compare what happens to disclosure during all the three periods.

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ASSOCIATION BETWEEN AUDIT COMMITTEE COMPOSITION AND THE EXTENT OF DISCLOSURE: UK EVIDENCE*

Abstract

Drawing on prior empirical research on disclosure practices, this study examines the association between audit committee composition and disclosures pertaining to audit committees of a sample of UK listed companies. Audit committee composition is characterized by committee member independence and financial expertise. Disclosure is characterized by total, required and voluntary disclosure proxied by aggregate disclosure scores. The results show that in general the sample companies have responded adequately to the disclosure requirements by the Combined Code on Corporate Governance and the Financial Services Authority's Disclosure and Transparency Rules. The results further show that committee member independence is associated with increases in total, required and voluntary disclosures. Committee member expertise is associated with total and required disclosures but not related to voluntary disclosure. In particular, the results reveal that audit committee independence and expertise improve conformity with regulation on audit committee disclosures.

Key words: audit committees, corporate governance, disclosure.

1 Introduction

Corporate governance in general and audit committees (hereafter ACs) in particular have become an increasingly interesting area of focus for researchers (e.g. Bradbury 1990; Abbott et al. 2000; Archambeault and DeZoort 2001; Raghunandan et al. 2001; Bédard et al. 2004; Anderson et al. 2004; DeZoort and Salterio 2001; Beasley et al. 2000) and practitioners. The increasing focus was triggered by the corporate scandals in the early years of the century (e.g. Enron, WorldCom), for which the response world-wide was regulatory oversight. It is evident that following these scandals, the regulatory oversight and the continuing international call for transparency, there have been global regulatory developments on actions to improve corporate governance in general and "best practice" for ACs in particular. These developments have been based on the theoretical assumption that a relationship exists between corporate governance and "best practice" for ACs as well as between these two and information disclosures. Good examples of these regulatory developments include requirements set for all public companies to comprise ACs for example in the European Union (see Directive 2006/43/EC of the European Parliament and of the council, Article 41) the introduction of

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corporate governance codes for example, the Financial Reporting Council (hereafter FRC) issued the Combined Code on Corporate Governance (hereafter CCCG) in the United Kingdom (hereafter UK) whilst in the USA the Sarbanes-Oxley Act of 2002 (hereafter SOX) was introduced and the final New York Securities Exchange (hereafter NYSE) Corporate Governance Rules approved by the Securities Exchange Commission (hereafter SEC) on November 2003[1]. The concerns in governance codes such as that issued by the FRC are to promote corporate reporting and governance to improve company performance and facilitate efficient, effective and entrepreneurial management that can deliver higher shareholder value. It is with such concerns that AC composition requirements are emphasized for all companies listed on the Main Market of the London Stock Exchange.

While numerous studies have examined information disclosures in general (e.g. Chen and Jaggi 2000; Archamdault and Archamdault 2003; Akhtaruddin 2005; Haniffa and Cooke 2002) as well as relationships between disclosure and corporate governance actors such as board of directors (e.g. Haniffa and Cooke 2002; Lim et al. 2007), there is limited research linking ACs to disclosure (Carcello and Neal 2003; Carcello et al. 2002; Ho and Wong 2001). In particular, there is limited research examining the relationship that may exist between disclosures pertaining to ACs and AC composition (Carcello et al. 2002). Considering the increasing focus on ACs, and taking into account the financial reporting perspective that disclosures relating to ACs are important signals to the market about the company's monitoring of their financial reporting and audit process, it is important to investigate the relationship that may exist between AC composition and AC related disclosure[2].

One question arising is why AC composition? Prior literature has revealed the benefits corporate boards derive from having independent and financially experienced directors. For example, according to Fama and Jensen (1983) higher proportions of independent directors on corporate boards result in more effective board monitoring, hereby limiting managerial opportunism. Related to this, is the reason provided by Forker (1992) that inclusion of independent directors is seen

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[1] The NYSE corporate governance rules are codified in sec. 303A of the Stock Exchange's Listed Company Manual.

[2] Since earlier disclosure research has been conducted on all three information types namely; mandatory disclosure (e.g., Ahmed and Nicholls 1994; Wallace et al. 1994), voluntary disclosure (e.g., Chow and Wong-Boren 1987; Botosan 1997; Depoers 2000) or both (e.g., Buzby 1975; Cooke 1992; Inchausti 1997; Naser and Nuseibeh 2003; Hassan et al. 2009), this study examines all three in order to get a broad picture of the subject under investigation.

to improve firm's compliance with regulation regarding disclosures and hence the comprehensiveness and quality of disclosures. Regarding director expertise, directors with financial experience are viewed to be more proactive in their monitoring, control and oversight activities. This in turn puts experienced directors in a better position to reduce information asymmetry occurrences as well as leading to improvements in the quality of information flow between corporate owners and managers, especially in the financial reporting environment where the two have disparate information levels. The above can be attributed to the fact that the financial experience attained by these members enables them to not only better understand the risks and benefits involved with financial reporting but also put them in better positions of providing oversight of financial reporting. The above advantages attained from board member independence and expertise motivate this study into investigating whether the same benefits are portrayed by AC composition in disclosures pertaining to ACs in the UK.

The objective of this study is to examine how AC composition, in terms of member financial expertise and independence, affects disclosures pertaining to AC membership, activity and findings. To investigate the study objective, the study uses a sample of firms listed on the London Stock Exchange during the fiscal year 2008. The results of the study indicate that AC independence has a positive effect on total disclosure, required disclosure and voluntary disclosure. The results further reveal that AC expertise has a positive effect on total disclosure and required disclosure. Among the independent variables employed in the study, profitability has a positive effect on total disclosure, required disclosure and voluntary disclosure. Company size has a positive effect on total disclosure and voluntary disclosure. AC meetings have a positive effect on required disclosure. Leverage has a negative effect on total disclosure and required disclosure.

The study is organized as follows. In Section 1, the study objective and background to the study were presented. Section 2 presents a brief discussion of UK corporate governance. In Section 3, a review of prior literature and the study hypotheses are presented. Section 4 presents the methodology employed in the study, and in Section 5 the results and discussion of the findings are presented. The last section provides the conclusion to the study.

2 Corporate Governance in the UK

As the focus of this study is particularly on ACs, the discussion will focus on AC developments and regulation in the UK rather than the details of the entire corporate governance law. As is the development worldwide, excellence regarding to

corporate governance continues to gain prominence in UK business. Corporate governance developments in the UK as many countries reflect the impact of US experiences which date back to the late 1980's and early 1990's. During this period corporate scandals emerged as a result of concerns relating to financial reporting. This drew attention on corporate governance causing regulators to establish the Cadbury Committee in 1992 and thus the beginning of a decade of reviews and recommendations. This committee was formed by the London Stock Exchange, FRC and the accountancy profession. in its report on financial aspects of corporate governance, the Cadbury Committee (1992: 28) recommended that all companies listed in the UK should establish an AC. Compliance to the above recommendation was not mandatory but the London Stock Exchange (1993: 128) required listed companies to disclose their level of compliance in their annual reports and accounts.

Following the above development, the Cadbury Committee issued its first report (the Cadbury Report: Financial Aspects of Corporate Governance) with a code of best practice. In this code, ACs were seen to play an important role in the committee's proposals on improving corporate governance. This was followed by the Rutteman Guidance in 1994, the Greenbury Report in 1995, and then in 1995 the Hampel Committee whose role was to examine levels of compliance with the Cadbury Code and a need to update it was established. In 1998, the Hampel Report on corporate governance was released. After consolidations and amendments, the Hampel Report was then added to the Cadbury and Greenbury Codes. This update led to the 1998 Combined Code that applied to all listed companies. The Turnbull Report followed in 1999, Internal Control: Guidance for Directors on the Combined Code and in 2003 the Higgs Report was issued on the review of the role and effectiveness of non-executive directors. Developments continued in 2003 and later in 2005 when the FRC published an update of the Turnbull Guidance after reviewing its suitability for the changing corporate scene. Table 1. Illustrates the above changes in guidance in the order of occurrences.

ACs have long been viewed as a crucial component of corporate governance, specifically as an important tool that assists the board of directors with improving the transparency and integrity of financial reporting (Public Oversight Board 1994; SOX 2002). Notwithstanding corporate concerns internationally, the roles of ACs in the UK have not only increased by importance but also in scope. Specific roles of the AC include ensuring that the objectives of the board are followed, improving financial reporting quality through reviews of financial statements, maintaining and reviewing internal control adequacy and enhance the effectiveness of external auditors regarding financial reporting quality.

Some of the important players in developing and supporting the effective implementation of the corporate governance framework in the UK are the FRC (an independent regulator that promotes confidence in corporate governance and reporting) and the Audit Committee Institute (ACI) created to serve AC members as well as help familiarize them with their changing role. The FRC promotes high standards of corporate governance through the Combined Code, sets corporate reporting standards, and monitors and enforces accounting and auditing standards. The ACI, on the other hand communicates with AC members and enhances their awareness and ability to implement effective AC processes. In ensuring that ACs effectively discharge their responsibilities, the FRC through its guidance on ACs (last revised 2008) assists boards in general and ACs in particular when implementing the relevant provisions of the Combined Code (Section C3) on AC composition, activity and further regulation regarding AC disclosures in company reports.

The UK regulation on AC director independence and experience is emphasized in both the CCCG and in the Financial Services Authority's Disclosure and Transparency Rules. The Financial Services Authority's Disclosure and Transparency Rules require at least one independent member on the AC and at least one member with competence in accounting and/or auditing. On the other hand, the CCCG under its comply or explain recommendations requires that the AC comprises at least three independent non-executive members or two in the case of smaller companies and at least one member of the AC has to have recent and relevant financial experience. It is important to note that on the basis of the definition of smaller company provided in footnote 4 of the CCCG, the sample of this study falls outside this definition and therefore the requirement for at least three independent non-executive directors applies. Furthermore, it is crucial to note that both the CCCG and Financial Services Authority's Disclosure and Transparency Rules set no definition of financial experience and, therefore, each board determines its own criteria. For example, most companies considered the financial expertise definition by the SEC also applied in this study. Under this definition, financial expertise could include accounting and finance experience or any experience in supervising employees with financial responsibilities and overseeing company performance.

Table 1. Changing guidance for audit committees in the UK

Period	Occurrence
May 1991	Establishment of the Cadbury Committee
December 1992	Publication of the Cadbury Report and associated Code
April 1993	UK Stock Exchange amended the Listing Rules to reflect the recommendations in the Cadbury Report
December 1994	Publication of the Rutteman Report on Internal Control and Financial Reporting
July 1995	Publication of the Greenbury Report
October 1995	UK Stock Exchange amended the Listing Rules to reflect the recommendations in the Greenbury Report
November 1995	Establishment of the Hampel Committee
January 1998	Publication of the Hampel Report on Corporate Governance
June 1998	UK Stock Exchange issued the Hampel Combined Code on Corporate Governance
December 1998	Establishment of the Turnbull Committee
September 1999	Publication of the Turnbull Report on internal Control
February 2002	Establishment of the Higgs Committee
September 2002	Establishment of the Smith Committee
January 2003	Publication of the Higgs Report on review of the role and effectiveness of non-executive directors
January 2003	Publication of the Smith Report on Audit Committee
July 2003	Publication of the New Combined Code

3 Theoretical framework

In many organizations, corporate governance is characterized by the agency theory defined by Jensen and Meckling (1976). This theory, defines an agent relationship which involves the delegation of decision-making authority between the principal (shareholders) and the agent (manager). In this relationship, the agent performs services on behalf of the principal to enable effective corporate management and thereby acts according to the best interests of the principal. This delegation of authority however leads to agency problems which are considered threats to corporate financial reporting, creating a need for effective corporate governance structures. Furthermore, the same separation of ownership leads to agency costs. These were categorized by Jensen and Meckling (1976) as follows.

(1) monitoring costs, which include expenses incurred by the principal to limit deviant activities of the agent, (2) bonding costs, characterized by expenses incurred to ensure that the agent does not undertake actions outside the principal's interests, and (3) residual loss due to sub-optimization by the agent of the welfare maximization objective.

In the context of the firm, a number of ways have been identified to mitigate agency problems: for example, negotiation of formal contracts as a means of addressing principal-agent conflicts, and employment of non-executive independent directors to monitor and control the actions of management. It is in relation to this that academics such as Fama and Jensen (1983) have argued that non-executive independent directors are experts in decision control. Moreover, it is also evident that the agency theory predictions and empirical evidence relating to director independence appear to be shared by regulators: for example, the arguments raised by the Public Oversight Board (1994) and PricewaterhouseCoopers (2000) that AC performance would be of high quality when members are independent. Similarly, in the United Kingdom, among other countries, regulation has mandated corporate boards to include independent directors on their committees in general and ACs in particular, a recommendation designed to strengthen AC effectiveness as well as enhance their oversight role and responsibility over the financial reporting process.

Furthermore, for the board of directors to ensure that the shareholders interests are achieved, the board appoints an AC whose members are drawn from the company's board of directors, thus making the AC a subcommittee of the board. Because the board of directors is founded to see that shareholders benefits are attained, similarly the AC is founded to make sure that the objectives of the board are followed. In this way, two kinds of governance control relationships are formed: namely, (1) the shareholder and board of director's relationship, and (2) the shareholder, board of directors and AC relationship. It is assumed in this study that since the AC is a subset of the board of directors, the AC behaves indifferent towards the benefits of the shareholders. In other words, the AC continues with the responsibility of seeing to it that shareholders benefits are achieved.

4 Literature review and hypotheses development

4.1 Audit committee literature

Audit committee importance has gained increasing concern within corporate governance and has been, therefore, of increasing interest to many researchers and practitioners over the past years. Regulations in a number of countries (e.g., in the European Union as a whole and the United States) have required companies listed on the main stock markets to comprise ACs. These regulations have raised concerns about ACs effectively discharging their responsibilities[3] and have therefore placed a lot of emphasis on AC composition along with other emphasized areas in their laws (e.g. the CCCG and SOX 2002).

Over the past year, regulators and academicians have continued with their quest in AC related issues hence the existence of a vast amount of literature on ACs. Focusing on the AC's monitoring role, prior studies have viewed ACs as monitoring mechanisms that enhance the audit attestation function of external financial reporting (e.g. Bradbury 1990) in addition to enhancing transparency. Many of these studies have shown that AC efficacy is dependent on its composition and have thus investigated such committee characteristics as independence (Abbott et al. 2000; Archambeault and DeZoort 2001; Raghunandan et al. 2001;, expertise (Bédard et al. 2004), size (Anderson et al. 2004; DeZoort and Salterio 2001) and number of meetings held (Beasley et al. 2000). Most of the above investigations have been related to issues such as external auditing, AC existence, AC effectiveness and financial reporting quality (Archambeault and DeZoort 2001; Stewart and Munro 2007). The study by Archambeault and DeZoort (2001), revealed that companies with less independent directors were characterized by more suspicious auditor switches than those with more independent directors. Further still, Raghunandan et al. (2001) found that ACs composed of entirely independent directors were more likely to have stronger relationships with internal auditors as compared to those with one or more inside directors. In the study by Abbott et al. (2000), the relationship between AC characteristics, particularly independence and fraudulent financial statement actions was examined. Abbott et al's study showed that "ACs which are composed of independent directors and which meet at least twice per year are less likely to be sanctioned for fraudulent or misleading reporting".

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[3] See Section 2.2 of the 2008 Guidance on audit committees by the Financial Reporting Council regarding the main aspects of AC responsibilities that have been focused on in regulation.

Several similar studies have investigated AC expertise (Bédard et al. 2004; Archambeault and DeZoort 2001; DeZoort and Salterio 2001) based on the grounds that expertise obtained by AC members places them in better positions to discharge committee responsibilities, thereby contributing significantly to committee effectiveness. The study by DeFond et al. (2005) highlights the importance of experts by arguing that companies with strong corporate governance are more likely to value accounting experts on ACs because the expertise the members possess is argued to compliment the effectiveness of strong corporate governance settings. Bédard et al. (2004) in their study investigating the effect of AC expertise, independence, and activity on aggressive earnings management found that ACs with more AC experts are more equipped to restrict earnings management, DeZoort and Salterio (2001) found that AC expertise was positively associated with the likelihood of supporting auditors in financial reporting disputes with management. Recall that Archambeault and DeZoort (2001) further found that AC expertise is negatively associated with suspicious auditor switches, an indication that experts better safeguard auditors from unfair dismissals.

4.2 Disclosure literature

The advantages of information disclosure extend from those enjoyed by the companies themselves (See e.g. Botosan 1997) to those enjoyed by the other parties interested in the disclosed information such as regulatory, tax and supervisory authorities. Companies benefit from disclosure in such a way that increases in disclosure for example lower the company's cost of equity capital, while other parties for example benefit through the reductions in uncertainty and information asymmetry (brought about by increases in information disclosure and thus smoothening their communication with managers of the company. It is partly because of these benefits and many more that the demand for information disclosures is on the rise. Prior literature has documented a number of factors influencing these disclosures. These studies have provided evidence stretching from influences by corporate characteristics to corporate governance issues and others.

A few studies have investigated ACs in relation to disclosure (Carcello and Neal 2003; Carcello et al. 2002; Ho and Wong 2001). In their study investigating the relationship between AC independence and disclosure choice for financial distressed US firms, Carcello and Neal (2003) reported that for firms experiencing financial distress, there is a significant positive relationship between the percentage of affiliated directors on the AC and the optimism of the going-concern. Carcello et al. (2002) examined disclosures in AC charters and reports. The main purpose of their study was to understand AC activities. They reported high levels

of compliance with required AC disclosures and particularly high voluntary disclosure levels for larger companies, depository institutions, companies listed on the NYSE and those with more independent ACs. Ho and Wong (2001) examined the relationship between corporate governance structures and the extent of voluntary disclosure. They reported a significant positive association between corporate disclosure practices and the existence of an AC.

Several studies have examined the relationship between disclosure and corporate governance (Karamanou and Vafeas 2005; Cheng and Courtenay 2005; Haniffa and Cooke 2002; Chen and Jaggi 2000). Most of these and related studies have particularly investigated corporate boards of directors as their main corporate governance focus. Haniffa and Cooke (2002) examine the relationship between corporate governance, culture and disclosure. They find that voluntary disclosure is associated with non-executive directors and domination of family members on boards. Chen and Jaggi (2000) in their study examine the association between financial disclosures and independent non-executive directors, and family control in Hong Kong and find a positive association between the ratio of independent directors and mandatory disclosure. Cheng and Courtenay (2005) also provide evidence of higher extents of voluntary disclosure by companies with higher proportions of independent directors as compared to those with balanced boards. In their study investigating the association between corporate boards, ACs and management earnings, Karamanou and Vafeas (2005) found that effective corporate governance is associated with higher financial disclosure quality. Since the board and AC behave consistently towards shareholders benefits, findings from research on disclosure and corporate boards also hold for characteristics of the AC on disclosure.

In addition to studies examining corporate governance related issues and disclosure, other empirical studies have examined the association between company characteristics and disclosure. Most studies have provided support for the association between a number of the firm characteristics examined and disclosure levels (e.g. Archamdault and Archamdault 2003; Akhtaruddin 2005; Jaggi and Low 2000; Hossain 2000; Belkaoui and Kahl 1978). The most robust findings of these studies have been of the propensity for disclosure levels to be associated with company size, company leverage and profitability. Contrary to the above findings, some studies provide contradicting results on disclosure and the same firm characteristics (Wallace et al. 1994; Zarzeski 1996; Watson et al. 2002; Cooke 1989). Wallace et al. (1994) found no relationship between profitability and disclosure. Zarzeski (1996) provides an argument that disclosure decreases with leverage in situations when debtors have direct access to information especially if firms have private debt rather than public debt. Watson et al. (2002) found no

positive relationship between disclosure and industry despite the finding by Cooke (1989) in which it was reported that manufacturing industries disclose more information in their annual reports than other industries.

4.3 Hypothesis development

Existing literature has documented an association between corporate governance and disclosure (Karamanou and Vafeas 2005; Chen and Jaggi 2000; Cheng and Courtenay 2005) and positive effects of AC independence and expertise (e.g. Bédard et al. 2004; Archambeault and DeZoort 2001; DeZoort and Salterio 2001; Fama and Jensen 1983). This literature has provided support for the views presented by practitioners regarding corporate governance in general and AC composition in particular (Public Oversight Board 1994; PricewaterhouseCoopers 2000) as well as agency theory postulation on director independence. In particular, supportive empirical evidence suggests that a board's monitoring effectiveness is related to its composition and should therefore be evident in the firm's transparency levels. This study therefore assumes that since ACs are miniatures of corporate boards, the same characteristics in favor of board efficiency should apply for AC efficiency. Based on the above, it is of interest to examine whether AC composition in terms of member independence and expertise influences disclosures pertaining to ACs. These views are captured by the hypotheses below.

H1: A positive relationship exists between the independence of AC members and the extent of disclosure.

H2: A positive relationship exists between the expertise of AC members and the extent of disclosure.

5 Data and method

5.1 Sample selection and data sources

This study initially covers a sample of the FTSE 350 largest companies by market capitalization having their primary listing on the London Stock Exchange during the fiscal year 2008. Eighteen companies with insufficient data to estimate the study variables are excluded from the study. Due to the unique disclosure requirements by financial companies, most previous disclosure studies are limited to non-financial companies (e.g. Akhtaruddin 2005; Haniffa and Cooke 2002; Chau and Gray 2002; Raffournier 1995; Chen and Jaggi 2000). This study does

not exclude companies in the financial industry because there are no industry related exemptions by regulation regarding disclosure relating to ACs examined in this study. This leaves the study with a sample of 332 companies. The final sample used in the study represents at least 95% of the entire FTSE 350 population, hence providing strong grounds for generalization of the results.

AC attributes data are gathered from the sample company annual reports for the year 2008 while the Thomson Financial Worldscope database is used for the collection of other variables data such as financial and industry data. The study uses the annual report for a number of reasons. First, it is one of the major source of corporate governance information as recommended by the listing rules for listed companies. Secondly, annual reports are considered the main source of disclosing information for different parties (Akhtaruddin 2005; Deegen and Rankin 1997).

5.2 Variables and methods

5.2.1 The disclosure index construction and application

The study uses a self-constructed disclosure index related to AC membership and activities to analyze disclosure practices and measure disclosure levels by the sample companies. The disclosure index employed in this study includes information items on AC membership and activity which are both required (AC disclosures mandated by regulation under the CCCG and Financial Services Authority's Disclosure and Transparency Rules (FSA's DTR)) and voluntary (provided over and above the required information. The Combined Code recommendations considered fall within the "comply or explain" regime in which companies are required to disclose or give explanations for non disclosure. The steps followed when constructing the index were as follows. First, required information (highlighted as mandatory and/or "comply or explain") was identified and gathered from the Combined Code and the FSA's DTR. This was supplemented by information from the guidance on ACs (Financial Reporting Council 2008) from which both required and voluntary items were further identified. Additional voluntary items were then identified from the sample company reports on ACs. The preliminary list of selected items was sent out for screening to three individuals. These individuals were identified and selected based on their knowledge and expertise in UK AC related issues in addition to working with or being members of institutions influencing corporate governance in the UK. The results from the screening brought about an improvement in the list in such a way that, recom-

mendations on including information required by the FSA's DTR were given and a revised list as well as web-links (for reference) were provided for consideration

This disclosure index contains 37 items which are divided into two main information types, that is, required disclosures and voluntary disclosures. Each information type consists of two information sections: the AC membership and the AC activity sections. The AC membership section consists of information on the committee composition and other membership related aspects. The activity section consists of the AC roles and, other related activities undertaken by the AC and further incorporates the results from these roles and related activities. The two sections on disclosures pertaining to ACs are considered important and of interest in this study for two reasons. First, the membership section is perceived as crucial for ACs in achieving effectiveness and thus enabling them to make judgments that are in the best interests of not only the company but also the shareholders. Secondly, in relation to the agency costs theory, disclosures about AC activities and findings are important as they signal to the public in general and the shareholders in particular the AC oversight role, hence reducing agency costs.

Accounting research has employed both the weighted (e.g. Raffournier 1995; Owusu-Ansah 1998) and the unweighted (e.g. Eng et al. 2001; Botosan 1997; Buzby 1974) disclosure scoring approaches. In this research, the unweighted disclosure index is applied based on the assumption that all items in the checklist are of equal importance in promoting corporate reporting and governance to improve company performance thereby providing equal importance levels for information users. Using company annual reports for the fiscal year 2008, a score 1 is assigned if an item in a group is disclosed and 0 for item non-disclosure. The disclosure scores for each company are calculated as follows:

$$DISC_j = \sum_{i=1}^{m} d_i \qquad (1)$$

where DISC represents disclosure, i.e. total, required and voluntary disclosure; d_i is 1 if an item is disclosed and 0 if not; m is the number of voluntary items disclosed in the annual reports (here m=37).

5.2.2 *Hypotheses testing and definition of variables*

Ordinary least squares (OLS) regression analysis is used to test the association between the dependent variable disclosure and the independent variable AC composition expressed as AC independence and AC expertise (DEXP). In addition to AC composition, the study controls for a number of variables commonly used by

previous disclosure and AC related studies (Archamdault and Archamdault 2003; Akhtaruddin 2005; Jaggi and Low 2000; Hossain 2000; Beasley et al. 2000). The regression model used in the study is as below:

$$DISC_i = \alpha + \beta_1 INED_i + \beta_2 DEXP_i + \beta_3 MEET_i + \beta_4 CSIZE_i + \beta_5 PROF_i + \beta_6 LEV_i + \beta_7 LIQD_i + \varepsilon_i \quad (2)$$

Where DISC is the disclosure score represented by TD (total disclosure), RD (required disclosure) and VLTD (voluntary disclosure), INED is AC independence, DEXP is AC expertise, MEET is committee meetings, CSIZE is the size of the firm, PROF is profitability, LEV is leverage and LIQD is liquidity. Table 1 presents a summary of the operational definitions of the variables used in the study.

To evaluate whether multicollinearity is of any concern, Variance of Inflation Factors (VIF) calculation is used. The highest VIF result for the independent variables from all the models is 1.634. As suggested by Lardaro (1993: 446) that multicollinearity is unlikely to be a serious problem if VIF scores are less than 10 and none of the VIF scores exceed 10, the VIF results from the three regression models indicate that there are no multicollinearity problems. The presence of heteroskedasticity is analyzed using the general test by White (1980). For situations in which the test reveals the presence of heteroskedasticity, the White's Heteroskedasticity-Consistent Standard Errors and Covariance are used.

Table 2. Operational definitions of variables

Notation	Variable investigated	Measurement	Expected sign
Dependent variable (DISC)	Disclosure		
TD	Total Disclosure	Total number of items disclosed by a firm	
RD	Required disclosure	Total number of required items disclosed by a firm	
VLTD	Voluntary disclosure	Total number of voluntary items disclosed by a firm	
Audit committee composition variables			
INED	Independence of AC members	proportion of independent non-executive directors to audit committee size	(+)
DEXP	Financial Expertise of AC members	proportion of directors with financial expertise to audit committee size	(+)
Control variables			
MEET	AC meetings	Total number of meetings held during the fiscal year	(+)
CSIZE	Total assets	Natural logarithm of total assets	(+)
PROF	Profitability	Return on invested capital	(+)
LEV	Leverage	Equity to total assets ratio	(-)
LIQD	Liquidity	Current ratio	(-)

6 Results and discussion

6.1 Descriptive statistics and correlation analysis

Table 2 presents a summary of the descriptive statistics for all sample firms. As reported in the table, the highest and lowest disclosure score for TD, RD and VLTD are 30, 9, 21 and 16, 6, 10 respectively. The means for the sample firms are, 20.229, 7.000 and 13.229 for TD, RD and VLTD respectively. The means for TD and RD suggest high levels of disclosure and compliance with disclosure requirements pertaining to ACs among the listed companies. The mean result on RD is consistent with that in the study by Carcello et al. (2002). Over 91% and 96% of the sample companies had three or more independent and one or more financial experts on their ACs respectively. In addition, over 50% of the sample companies were committed to more effective AC governance because they exceeded the minimum requirement for the number of independent directors. The result for VLTD reveals that on average the companies disclosed slightly above 60% on voluntary items.

Table 3. Descriptive statistics for all study variables (n=332 observations)

Table 2 reports descriptive statistics for the entire sample of the study. DISC is the disclosure score represented by TD (the total number of items disclosed by a firm), RD(the total number of required items disclosed by a firm) and VD (the total number of voluntary items disclosed by a firm), INED is AC independence measured by the proportion of independent non-executive directors to AC size, DEXP is AC expertise measured by the proportion of directors with financial expertise to AC size, MEET is committee meetings measured as the number of AC meeting held during the fiscal year, CSIZE is the size of the firm measured by the natural logarithm of total assets, PROF is profitability measured by return on invested capital, LEV is leverage measured by the equity to total assets ratio and LIQD is liquidity measured by current ratio.

Variable	Mean	Std.dev.	Max	Min
TD	20.229	3.241	30.000	16.000
RD	7.000	0.968	9.000	6.000
VD	13.229	2.944	21.000	10.000
INED	0.979	0.080	1.000	0.500
DEXP	0.464	0.267	1.000	0.000
MEET	3.792	1.017	8.000	2.000
CSIZE	21.316	1.832	28.500	15.110
PROF	9.152	16.191	76.000	-74.090
LEV	41.587	226.969	99.880	-31.850
LIQD	1.182	1.252	13.970	0.000

Table 3 reports the correlations between the study variables. The results show that there are significantly positive associations (at 0.01 significance level) between the disclosure proxies TD, RD and VLTD and the committee composition proxies INED and DEXP. A significant positive association (at 0.01 significance level) is revealed between all the disclosure measures and CSIZE. These results indicate that bigger firms, and firms with more independent and financial experts are associated with higher disclosures. In addition, the results indicate that TD and RD are positively correlated with MEET and negatively correlated with LEV and LIQD. On the other hand, TD and VLTD have a positive significant association (at 0.05 significance level) with PROF and a negative significant association with LEV.

Table 4. Correlations matrix of variables

The table reports correlations for the study variables where DISC is the disclosure score represented by TD (the total number of items disclosed by a firm), RD(the total number of required items disclosed by a firm) and VD (the total number of voluntary items disclosed by a firm), INED is AC independence measured by the proportion of independent non-executive directors to AC size, DEXP is AC expertise measured by the proportion of directors with financial expertise to AC size, MEET is committee meetings measured as the number of AC meeting held during the fiscal year, CSIZE is the size of the firm measured by the natural logarithm of total assets, PROF is profitability measured by return on invested capital, LEV is leverage measured by the equity to total assets ratio and LIQD is liquidity measured by current ratio. ** and * represent 0.01 and 0.05 significance level respectively.

	TD	RD	VD	INED	DEXP	MEET	CSIZE	PROF	LEV
RD	0.442**								
VD	0.959**	0.158**							
INED	0.335**	0.341**	0.257**						
DEXP	0.246**	0.208**	0.203**	0.275**					
MEET	0.126*	0.166**	0.085	0.022	-0.027				
CSIZE	0.333**	0.218**	0.294**	0.366**	0.321**	0.133*			
PROF	0.125*	0.064	0.117*	-0.059	-0.039	0.026	-0.150**		
LEV	-0.262**	-0.059	-0.272**	-0.056	-0.140*	-0.129**	-0.463**	-0.045	
LIQD	-0.111*	-0.119*	-0.083	-0.179**	-0.010	-0.052	-0.014**	0.161**	0.154**

6.2 Regression results

Following other disclosure studies (e.g. Akhtaruddin 2005; Chau and Gray 2002; Chen and Jaggi 2000; Owusu-Ansah 1998), this study uses regression analysis to test the hypotheses developed in the study. Table 4 presents results from the regression analysis run using ordinary least squares (OLS). Three different regression models A, B and C are estimated to examine the relationship of the study independent variables on each of the three different measures of disclosure. The results from the regressions are reported in models A, B and C each reporting results of the dependent variables TD, RD and VLTD respectively.

The *F*-statistics for all the models are statistically significant at the 0.01 level. These *F*-statistic values indicate that the models used in this study significantly explain variations in disclosures by the sample companies. The R^2's are 0.232, 0.175 and 0.173 for models A, B, and C respectively. The first hypothesis H1 relating to AC independence and disclosure is statistically validated in all models as the INED variable is positive and statistically significant at 0.01, 0.01 and 0.05 significance levels in models A, B and C respectively. This result is consistent with the argument by Forker (1992) regarding the inclusion of independent directors on corporate boards and improvements in compliance with regulation relating

to disclosure. The second hypothesis H2 relating to expertise of AC members and disclosure is partially supported as reported in the models. The DEXP variable is positive and statistically significant at the 0.05 level in Models A and B while in Model C it is positive but not statistically significant. Overall, the results suggest that committee member independence leads to increases in TD, RD and VLTD while member expertise particularly leads to increases in TD and RD.

Table 5. OLS regression results

The table presents estimates of the regression results (White Heteroskedasticity-Consistent Standard Errors and Covariance) for the models used in the study where DISC is the disclosure score represented by TD (the total number of items disclosed by a firm), RD (the total number of required items disclosed by a firm) and VD (the total number of voluntary items disclosed by a firm), INED is AC independence measured by the proportion of independent non-executive directors to AC size, DEXP is AC expertise measured by the proportion of directors with financial expertise to AC size, MEET is committee meetings measured as the number of AC meeting held during the fiscal year, CSIZE is the size of the firm measured by the natural logarithm of total assets, PROF is profitability measured by return on invested capital, LEV is leverage measured by the equity to total assets ratio and LIQD is liquidity measured by current ratio. A coefficient for each variable is shown with *t*-statistics in parenthesis. ***, ** and * denotes statistical significance at the 1%, 5% and 10% levels respectively.

Variable	Model A (TD)	Model B (RD)	Model C (VD)
constant	10.632	4.137	6.495
	(4.566)***	(5.538)***	(3.053)**
Control variables			
MEET	0.254	0.144	0.110
	(1.548)	(2.765)**	(0.716)
CSIZE	0.265	0.052	0.214
	(2.371)**	(1.414)	(2.132)**
PROF	0.033	0.007	0.027
	(3.361)***	(2.336)**	(2.881)**
LEV	-0.017	0.002	-0.019
	(-2.468)**	(1.196)	(-2.855)**
LIQD	-0.122	-0.059	-0.063
	(-1.006)	(-1.649)	(-0.570)
Committee composition variables			
INED	0.788	0.262	0.526
	(4.567)***	(4.204)***	(2.779)**
DEXP	0.375	0.111	0.264
	(2.228)**	(2.061)**	(1.644)
R^2	0.232	0.175	0.173
Adjusted R^2	0.215	0.157	0.155
F-statistic	13.966***	9.791***	9.661***
n	332	332	332

The results from the control variables are also reported in the same models as above. The results in the models reveal that with the exemption of LEV in model RD, all other control variables have the predicted signs. As indicated in Model A, CSIZE and PROF are positive and statistically significant at the 0.05 and 0.01 levels respectively while that of LEV is negative and statistically significant at the 0.05 level. These results indicate that TD is positively associated with bigger and more profitable firms while negatively associated with leverage. The results in Model B show that only the MEET and PROF are significant. Both variables are positive and significant at the 0.05 level. These results suggest that more profitable firms and firms that hold more AC meetings are associated with more RD. Overall, the results in this model indicate that CSIZE, LEV and LIQD have insignificant effects on required disclosures pertaining to ACs and are thus not important in explaining these particular disclosures. Finally, the results in model C indicate that the coefficients of CSIZE and PROF are positive and statistically significant at the 0.05 level while that of LEV is negative and statistically significant at the 0.05 level. In other words, firm size and profitability lead to increases in VLTD pertaining to ACs while, in contrast leverage leads to reductions in VLTD.

6.3 Robustness checks

Additional test have been run to ensure the robustness of the empirical findings. In order to ascertain that the reported findings are not driven by industry related factors, the analysis is estimated separately for financial industry firms to confirm that there are no differences between financial and non-financial industries. The findings not report tabulated reveal generally similar results as those from the original data. These results therefore indicate that there are no differences between the two sample samples, thus suggesting that the results reported in Table 5 are not driven by industry.

Further still, the AC committee variables (AC independence and AC expertise) are considered separately and sensitivity analyses are run to ensure that analyzing the two together did not impact the results reported in Table 5. The results not tabulated are consistent with regression results reported in Table 5. It is worth noting that some of the variables lose a part of their explanatory power as compared to the main results reported in Table 5.

7 Conclusion

This study examines the relationship between disclosures and AC composition. The main focus is on two AC composition characteristics namely, committee independence and expertise and disclosures pertaining to AC membership, activity and findings. The study has been conducted on a sample of the 332 FTSE companies listed on the London Stock Exchange during the fiscal year 2008 and on a self-constructed disclosure score. The research hypothesizes a positive relationship between the AC composition characteristics and disclosures pertaining to ACs.

The findings of the study show that AC composition measured by AC member independence leads to increases in total disclosure, required disclosure and voluntary disclosure while AC composition measured by AC member expertise leads to increases in total disclosure and required disclosure. Specifically, companies with more independent and financial experts in their ACs disclose more required information regarding their AC membership and activity. In particular, the results reveal that the AC composition characteristics employed in the study are more closely associated with required disclosures than voluntary disclosures. This result indicates that companies listed on the London Stock Exchange place a lot of emphasis on the requirements stipulated by the laws on disclosures pertaining to ACs. It can be concluded from the findings of the present study that: (1) the inclusion of independent directors and financial experts on ACs is likely to improve the effectiveness of the AC members in carrying out their responsibilities and also to improve compliance with the existing disclosure regulation and consequently increases the comprehensiveness of disclosures as well as improving the transparency of corporate boards, and (2) AC disclosures in relation to compliance with disclosure regulations will certainly lead to strengthening trust and confidence in corporate governance, the financial reporting process and the audit functions.

The study results are important to institutional investors, existing and new boards as well as AC members, and disclosure and corporate governance policy makers as they provide important insights into some important aspects on improving the effectiveness of boards and their committees, the characteristics of UK listed companies, their corporate governance structures, disclosure practices and compliance levels. This study particularly provides brief highlights to UK policy makers on the impact that the different disclosure and governance policies in place have on corporate practices and indirectly sheds light on where improvements and efforts are required. The results revealed by this study may partly be attributed to the efforts by the assisting bodies which work hand-in-hand with the

ACs; for example, through the issuing of guidance with matters related to the code among others. This study therefore suggests that, policy makers and regulators should not only focus on policy and regulation setting but also identify ways of working together with corporate management in implementing the existing regulations on information disclosures as well as attaining the aims of the regulations.

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