

Board composition as a way to increase corporate voluntary disclosure in a market with concentrated ownership

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Abstract

Companies might lack motives for voluntarily disclosing information to small shareholders when the ownership structure is dominated by large shareholders. Existing literature suggests that certain company internal governance structures related to board diversity, expertise and information sharing can mitigate the widening of information asymmetry gap between small shareholders and the board. The aim of this study is to examine which board composition improves voluntary disclosure when ownership is concentrated. I use a sample of 794 financial forecasts disclosed by Finnish NASDAQ OMX listed companies during years 2006-2013 and relevant board data. The findings of a binary regression analysis suggest that higher percentage of independent board members, audit committees, and regular meetings are associated with increased forecasting frequency, and CEO dual role has a positive association with the disclosure of numeric forecasts. However, older and longer tenured board members are negatively associated with forecast frequency.

Keywords:

Voluntary disclosure, forecasts, board composition, corporate governance, shareholding

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1 Introduction

Information asymmetry is an essential element in securities markets where ownership of the company is separated from managing it. Shareholders, who act as principals, outsource operational management to the board of directors and executive manager who act as an agent (Jensen and Meckling 1976) and run the company based on shareholders' authorisation. In the most basic form, shareholders are only able to affect company matters in a general meeting with powers directed to it in company law. This disbalance of information and lacking powers to influence company matters increase the cost of equity capital because shareholders require a return premium due to information asymmetries and risk of unqualified management.

Companies who are managed well and who perform well do not want to pay a premium for their capital and may hence wish to signal their high quality with additional disclosure to shareholders (Trueman 1986, Watts and Zimmerman 1986, 165-166, Healy and Palepu 2001). Additional disclosure is a signal for shareholders that they can trust the company and the people who manage it, which can decrease the cost of capital. This is particularly true in a market where ownership is dispersed and information asymmetry gaps between shareholders and the board of directors are high.

Dispersed ownership of listed companies is typical in the common law countries of U.S. and U.K. (Berle and Means 1932, La Porta et al. 1999, Ajinkya et al. 2005). However, companies located and listed in the civil law regime of continental Europe and Scandinavia typically feature a concentrated shareholding structure with large individual shareholders (La Porta et al. 1999). Unlike in the U.S., where large owners are usually institutions (Ajinkya et al. 2005), especially in Scandinavia large blocks of shares are owned by a variety of shareholders, including institutions, families and family offices, the state

and individual people (La Porta et al. 1999). Large owners have more powers compared to small shareholders to affect the choice of board members (Arcay and Vazquez 2005, Dai 2007, Armstrong et al. 2010, Connelly et al. 2010, Allegrini and Greco 2013, Khlif et al. 2017) or potentially even to participate in the management with e.g. a board seat (La Porta et al. 1999) which both are efficient ways to control the board and to reduce information asymmetry between the board and the shareholder (Ang et al. 2010) as well as a way to access private information that might not be available to anonymous shareholders owning small stakes of shares (Clemente and Labat 2009, Khlif et al. 2017). For instance, Article 11 of regulation No 596/2014 of the European Parliament and of the Council of 16 April 2014 on market abuse allows the board to discuss selected matters of material importance with large shareholders of the company before such information is disclosed to the public in order to conduct so-called market sounding. Shareholders with small stakes of shares, who lack these abilities of reducing information asymmetry need to primarily rely on other control mechanisms, such as corporate mandatory and voluntary disclosure (Jensen and Meckling 1976, Beekes and Brown 2006, Bushman and Smith 2001, Khlif 2017), to ensure that the company, and hence their investment, is well-managed.

In a market where large shareholders can affect the choice of board members and to receive private information, which both reduce the information asymmetry gap between them and the board of directors, the need for the board to voluntarily disclose information for signaling purposes is lower compared to a market with dispersed ownership. This situation is particularly hurtful for small shareholders who at worst face an information asymmetry gap in comparison to both the board of directors and large shareholders (Armstrong et al. 2010, Khlif et al. 2017). However, existing research suggests

that certain company internal corporate governance structure related, *inter alia*, to board composition, could be efficient in promoting transparency according to all shareholders' interests (Beekes and Brown 2006) thereby reducing the monitoring costs for small shareholders (Armstrong et al. 2010). As the board of directors is responsible for deciding which information to ultimately disclose, the choice of board members is the most apparent and easy way for shareholders to control the decision-making of corporate voluntary disclosure in the company and to improve transparency (Ajinkya et al. 2005, Biondi et al. 2009). Several corporate governance recommendations have been established around the world to improve the quality of corporate governance structures. Most of these recommendations both in the U.S. and in Europe, including the Finnish Corporate Governance Code, focus on the board of directors (Karamanou and Vafeas 2005).

The purpose of this study is to examine whether board composition which improves board diversity, expertise and information sharing and which is also aligned with the recommendations of the Finnish Corporate Governance Code is effective in promoting transparency in a market where the board of directors might not have incentives to voluntarily disclose information to the public due to the company's shareholding structure. Financial forecasts are a good indicator for voluntary disclosure because they reflect board composition particularly well as the board has direct control over what is disclosed (Karamanou and Vafeas 2005). In addition, the disclosure of forecasts may directly affect the value of a security which is a signal that the information is of material importance to all shareholders of the company (Kanto and Schadewitz 2003, Hirst et al. 2008).

To address the research question I use a unique, hand-collected sample of 794 forecasts disclosed by 103 Finnish listed companies during 2006-2013 in their annual finan-

cial statement releases. The results of a binary regression analysis suggest that boards with a higher percentage of independent board members, boards with a separate audit committee, and boards who have regular meetings are associated with increased forecasting frequency. In addition, boards where the CEO is a member are positively associated with forecast frequency and the disclosure of numeric forecasts. However, boards with older and longer tenured board members are negatively associated with forecast frequency. The results imply that board composition which improves board diversity, expertise and information sharing and which is at the same time aligned with the recommendations of the Finnish Corporate Governance Code is effective in improving transparency. The results underline the importance of having corporate governance recommendations for listed companies also in the future.

This research proceeds as follows. In Chapter 2 I present the research environment, and in Chapter 3 I review existing literature. In Chapter 4 I introduce the research design and in Chapter 5 I summarise the results of the main regression analysis and of the robustness check. In Chapter 6 I conclude the research with discussion and conclusions.

2 Institutional setting

The Finnish stock market is described in existing literature as one with sound corporate governance structures, high morale of companies to follow regulation (Doidge et al. 2007, Miihkinen 2008, Jarva and Lantto 2012, Kostander and Ikäheimo 2012), high protection of shareholder rights and concentrated ownership (La Porta et al. 1999). Disclosure of information by listed companies is regulated essentially by the Finnish Securities Markets Act (14.12.2012/746, as amended), and the law is complemented by the recommendations and guidance of the Finnish Financial Supervisory Authority (FIN-FSA), NASDAQ OMX Helsinki rules and the Finnish Corporate Gov-

ernance Code.

Generally speaking, corporate disclosure and financial reporting by Finnish listed companies is of high-quality (Jarva and Lantto 2012, Miihkinen 2012) and companies are willing to voluntarily disclose additional information to the public if so required by investors (Niskanen et al. 2000). However, in certain cases Finnish companies have also been shown to neglect the disclosure of negative information (Niskanen and Nieminen 2001). The study by Niskanen and Nieminen (2001) suggests that the disclosure of voluntary information is not always objective but the company takes an active role in deciding which information to publicly disclose.

In terms of the regulatory environment Finland has been described in existing literature as one with high protection of shareholder rights along with other Nordic countries, including e.g. Sweden and Denmark, measured by e.g. the protection of minority shareholders (La Porta et al. 1999, Pörssisäätiö 2015). In general, the thinking in the Nordic company law is that large shareholders need to be able to participate actively to company management (Pörssisäätiö 2015). However, certain protection for minority shareholders, such as equal treatment of shareholders, are guaranteed in regulation (Pörssisäätiö 2015).

The following chapters discuss the institutional and regulatory environment of the Finnish stock markets more in detail.

2.1 Regulation concerning the disclosure of forecasts in Finland

The Finnish securities markets regulation was created in the 1980's when investments in listed companies were increasing but where clear and uniform securities markets law was absent. Until the first Securities Markets Act in 1989 (26.5.1989/495), securities markets were regulated by general provisions of law only, e.g. the Limited Liability Companies Act (Governmental Bill 157/1988). One of the important provisions of the first Securities Markets Act

concerned the disclosure obligation which would ensure that sufficient and reliable information on the issuer would be available for investors (Governmental Bill 157/1988).

In 1993, after Finland started the negotiations of joining the European Union, an obligation to disclose assessments of the future development of the company in interim reports was incorporated in chapter 2 section 5a of the then current Finnish Securities Markets Act (26.5.1989/495) (Governmental Bill 318/1992). The amendment was based on section 2 article 5 of directive 82/121/EEC of the European Union which required that listed companies should disclose an assessment of their likely future development in semi-annual reports.

After the addition, chapter 2 section 5a of the Securities Markets Act (26.5.1989/495) required listed companies to provide in their interim reports "a description of the principal short-term risks and uncertainties relating to the business operations of the issuer *as well as an assessment of the likely development of the issuer during the current financial period* to the extent that this is possible and a report on the factors forming the basis for the assessment" [italics added]. In 2006, the obligation to provide assessments of the likely development of the company was extended to financial statement releases in chapter 2 section 6a of the Securities Markets Act (26.5.1989/495). In 2013, the obligation to disclose assessments was removed from the reformed Securities Markets Act (14.12.2012/746) because of a wish to align Finnish regulation with the European Union transparency directive 2004/109/EC which did not contain anymore the need to disclose half-yearly assessments.

According to section 5.7 of the standard 5.2b of the Finnish Financial Supervisory Authority concerning disclosure obligation, the assessment could include (i) a general future outlook which is either a) a description of the general market development or b) an estimate of future developments in the net sales

of the company or (ii) a more detailed profit forecast of which the wording directly or indirectly states the probable minimum or maximum level of the issuer's profit and loss and which enables the calculation of an approximate sum of future profits or losses. Further, forecasts should be disclosed so that they are clearly separated from other information presented in the same context, and the expressions used should be unambiguous, clear and consistent (FIN-FSA 5.2b, section 5.7 (57) and (59)). Regardless of the recommendations of standard 5.2b of the Finnish Financial Supervisory Authority, the issuer ultimately determines the extent and the areas for which it will provide guidance on its prospects (FIN-FSA 5.2b, section 5.7 (54)).

According to Penno (1996) and Khlif (2017), corporate disclosure is voluntary if it is not explicitly required by accounting principles or specific country rules. Considering the wording of the Securities Markets Act (26.5.1989/495) and the guidelines of the Finnish Financial Supervisory Authority, it can be concluded that the disclosure of financial forecasts was a hybrid of voluntary and mandatory disclosure under the previous Securities Markets Act (26.5.1989/495).

2.2 Finnish corporate governance recommendations

According to existing studies Finnish companies have one of the highest quality corporate governance systems globally (Doidge et al. 2007, Jarva and Lantto 2012, Kostander and Ikkäheimo 2012). Further, the managers in Finnish companies tend to think that compliance with applicable recommendations and laws is a matter of honor (Miihkinen 2008). The Finnish history of official corporate governance recommendations dates 20 years back and has been benchmarking international development since the issuance of the first set of recommendations. In order to increase the general public's trust towards listed companies, a Finnish panel of experts comprising of

members from industry, non-governmental organisations and the stock exchange have created a dossier of good corporate governance recommendations in a Finnish Corporate Governance Code. According to rule 2.2.5 of the Helsinki Stock Exchange the code is to be followed by all companies listed in the Helsinki Stock Exchange and which have their domicile in Finland. The first Corporate Governance Code was created in Finland as early as 1997 and it was benchmarking the so-called Cadbury Code of 1992 and Greenbury Code of 1995 of the UK (see the introduction to the Finnish Corporate Governance Code 1997). The creation of a separate Finnish corporate governance code was seen necessary in order to keep up with international competition and to enhance investors' trust towards good governance in companies (Finnish Corporate Governance Code 1997). The Finnish Corporate Governance Code is updated on a regular basis with the latest edition dating to year 2015.

Initially, the Finnish Corporate Governance Code mostly comprised existing company law and securities regulation codified in one book, but nowadays many of the recommendations can be described as "soft-law". The recommendations are to be followed by the principle of "comply or explain", i.e. if a company decides not to follow certain recommendations the board needs to disclose the non-compliance and reasons for this on the company's webpage and in a special corporate governance statement. The media, the general public as well as certain third-parties such as auditors scrutinise compliance with the Finnish Corporate Governance Code on a regular basis, hence creating pressure towards companies to follow all recommendations.

The recommendations of the Corporate Governance Code 2015 can roughly be divided into ones stipulating (i) the General Meeting of shareholders, (ii) the members of the board of directors, (iii) board committees, (iv) the chief executive officer, (v) executive remuneration.

neration practices of management and (vi) internal audit and control functions. Recommendations 5-18b which concern the board of directors give recommendations on the election of board members, board size, board term, board gender diversity, board member independence, and a set of committees including audit committee, remuneration committee and nomination committee.

2.3 The ownership structure of Finnish listed companies

In general terms, Finland is a country with thin securities markets, concentrated ownership and few widely held companies (Kasanen et al. 1996, Kostander and Ikäheimo 2012). Thin securities markets and concentrated ownership make larger blocks of shares quite difficult to sell and when executed, such transaction causes a notable market reaction (Kasanen et al. 1996, Kallunki et al. 1997). Weaknesses in liquidity lowers share prices as investors allocate a premium of between one and five percent for illiquid shares (PwC 2015). In addition, the agreement for market price is not always reached as the bid-ask spreads are wide for those shares with little trading (Kallunki et al. 1997). Hence, change of ownership is not as easy or common as in a market with many widely held companies, which sometimes causes liquidity problems of shares.

La Porta et al. (1999) examined in their extensive study the ownership structure of listed companies in 27 countries. The study suggested that only one in five of twenty largest listed companies in Finland were widely held when concentration of shareholding was measured with a 10% threshold (La Porta et al. 1999). The largest individual shareholders are most often the Finnish state or a financial institution (La Porta et al. 1999). Domestic households own about 23% of shares, and non-profitable organisations about 2% (Euroclear Statistics 2018).

The ownership structure in Finland is

almost opposite to that typically seen in the U.S. According to La Porta et al. (1999), 80% of U.S. companies are widely held, similar to the U.K. Nordic countries are a relatively homogeneous area in terms of ownership (La Porta et al. 1999, Kostander and Ikäheimo 2012). Central-European countries, including France and Germany, fall somewhere in between with the stake of widely held companies being around 30% and 35%. (La Porta et al. 1999).

3 Literature review

Disclosure of information is in essence a mechanism designed to reduce information asymmetry between shareholders and managers of the company (Healy and Palepu 2001, Miihkinen 2013). Information asymmetry derives from the separation of ownership and control, also known as the agency theory (Watts and Zimmerman 1986, 165). Due to separated ownership and control, shareholders are not aware of what is happening in the company, and hence the cost of capital may be increased to account for the risk of incompetent management of the company (Watts and Zimmerman 1986, 165, Healy and Palepu 2001). Disclosure of information is a way for the board to signal high quality and trustworthiness to the general public and to increase trust between the potential and existing shareholders and the board (Trueman 1986, Watts and Zimmerman 1986, 165-166, Healy and Palepu 2001). This is particularly true in an environment of widely dispersed ownership as already suggested by Berle and Means (1932). Also, public disclosure compensates the lack of information from other channels (Miihkinen 2013).

Especially since the past decade, academic research has turned its focus on examining how the ownership structure in a company affects voluntary disclosure decisions (Khelif et al. 2017). While the results of previous literature are mixed partly because of different focus points of studies, in general terms studies suggest that concentration of ownership

decreases the amounts of voluntary disclosure (Schadewitz and Dallas 1998 who use a Finnish sample, Chau and Gray 2002, Ajinkya et al. 2005, Arcay and Vazquez 2005, García-Meca and Sánchez-Ballesta 2010, Khlif et al. 2017).

Large shareholders may affect voluntary disclosure in two ways. First, large owners may affect the board composition of the company and hence control the board from the viewpoint of their own interests (Arcay and Vazquez 2005, Dai 2007, Armstrong et al. 2010, Connelly et al. 2010, Allegrini and Greco 2013, Khlif et al. 2017). Second, large shareholders with relatively high percentages of shares might be able to extract private information from companies (Ajinkya et al. 2005, Armstrong et al. 2010). For instance, Article 11 of the transparency directive 596/2014 of the European Parliament gives companies a possibility to give confidential information to large owners before issuing it to the public to conduct market sounding.

Because large owners have means to affect how the company is managed and to access additional information they do not necessarily need to include as large a return premium in equity capital as they would normally have to because of information asymmetry between themselves and company management. Simply put, when ownership is concentrated and when private information is available to large shareholders, the board of directors has a decreased need to publicly disclose information to signal the higher quality of the company to the general public. Whilst ownership is in general dispersed in the U.S. (although sometimes challenged in studies, see e.g. Demsetz and Lehn 1985, Shleifer and Vishny 1997, Holderness et al. 1999), the European and especially Scandinavian environment is typically dominated by large shareholders.

3.1 Board composition that promotes transparency

Board composition that promotes transparency is important when ownership is con-

centrated, and many studies that examine mandatory disclosure have found that a properly composed board generally improves the quality of corporate disclosure, which is seen as e.g. decreased financial fraud (Dechow et al. 1996, Beasley 1996, Klein 2002, Uzun et al. 2004, Matoussi and Gharbi 2011) and earnings management (Xie et al. 2003, Davidson et al. 2005, Johari et al. 2008, Abed et al. 2012, Mansor et al. 2013), more timely disclosure (Sengupta 2004) and increased internet reporting (Kelton and Yang 2008). The effect of board composition should be even more visible when voluntary disclosure decisions are made as the disclosure is completely at the discretion of the board of directors.

According to the introduction to recommendations concerning the board of directors of the Finnish Corporate Governance Code 2015, the board of directors should work for the benefit of the company and of all shareholders of the company regardless of which shareholder has nominated the board member. To ensure an efficient board composition, the Finnish Corporate Governance Code gives recommendations concerning board composition. These can roughly be divided, based on academic literature and how they affect the board's resources, to measures promoting board diversity, expertise and information sharing.

Board composition which affects board diversity

Board tenure and age

According to recommendations 5 and 6 of the Finnish Corporate Governance Code 2015, the annual general meeting elects the board of directors for a term of one year. In general terms, a term of one year, if it is not renewed, is not optimally long as a group needs time to develop (Katz 1982). Newly selected board members might experience difficulties in the beginning of their term in getting familiar with company matters and hence their decision-making capability is limited (Martikainen et al. 2015). Hence, the board might not func-

tion efficiently if board members are changing every year. Directors who serve on the board for multiple consecutive terms bring expertise, experience, continuity, and stability to the board, as well as a historical perspective that can be indispensable in determining the company's strategy (Vafeas 2003, Jones Day 2014). In addition, longer tenure as a board member helps to align the board member's thinking with the objectives of the company and make board members work along corporate interests (Donaldson and Davis 1991). Although tenure is not always a synonyme to older age, studies also imply that older individuals exhibit more moral reasoning and are more ethical in their decisions compared to younger colleagues (Ruegger and King 1992, Forte 2004, Post et al. 2011). In addition, older individuals might also be more risk averse in their disclosure choices (Martikainen et al. 2016).

On the other side of the coin, board members with many years of service may be entrenched, lack a fresh perspective, and inhibit healthy board turnover (Jones Day 2014). More than half of investors around the world, including U.S. and Europe, see over-tenured board members problematic as, among other things, over-tenure can cause the board to lack independence (Jones Day 2014, ISS 2016). Investors in general considered a tenure of more than ten years problematic (ISS 2016). In France, a board member that serves on the board for more than twelve years is no longer considered to be independent, and in the UK, the board must publicly state why it believes a board member serving beyond nine years is still considered to be independent (ICD report 2014). Lipton and Lorsch (1992) suggest that there should be term limits for board members as board members may take some of the CEO's tasks over time.

Board size and gender diversity

Recommendation 8 of the Finnish Corporate Governance Code suggests that boards should have enough members to allow for efficient

processing of company matters, and that both sexes should be represented in the board. Large boards provide the firm with a larger pool of resources, skills, experience and expertise (Alexander et al. 1993, Goodstein et al. 1994, Bédard et al. 2008, Ntim et al. 2017), and additional members should also enhance the board's knowledge base (Karamanou and Vafeas 2005). A small board may also suffer from a lack of competence (Matoussi and Chakroun 2008). Having both genders represented in the board should increase the resources available as well. In addition, female board members might bring diversity in thinking as women tend to consider multiple aspects, including ethics, in decision making which in turn should improve the board's ability to make strategic decisions (Ruegger and King 1992, Forte 2004, Nielsen and Huse 2010a and 2010b, Brunzell and Liljebloom 2012) and to direct more attention to audit and control issues compared to a male-only board (Stephenson 2004).

Board independence

Independence is one measure of diversity, and the lack of diversity may lead to a failure and weakness of corporate governance in general (Handajani et al. 2014). Recommendation 10 of the Finnish Corporate Governance Code suggests that a majority of board members should be independent of the company and that at least two of such members should be independent of significant shareholders of the company.

Existing literature suggests that independent board members have more transparent disclosure styles (Ajinkya et al. 2005, Miihkinen 2008, Biondi et al. 2009) and they are associated with increases in shareholder wealth (Rosenstein and Wyatt 1990, Cotter et al. 1997). In addition to transparent disclosure styles, independent board members have positive effects to firm corporate governance in general. Independent board members are more likely to remove poorly performing CEOs and to nominate CEOs from outside the

company (Weisbach 1988, Borokhovich et al. 1996).

CEO duality

Regardless of the many benefits of independent board members some studies question them (see e.g. Donaldson and Davis 1994, Eng and Mak 2003, Gul and Leung 2004, Adams and Ferreira 2007, and Hamed 2014). Independent board members may monitor executive managers too efficiently which tends to (i) reduce the need to disclose information to investors as a means of control and (ii) may make managers less inclined to share information with the board (Weisbach 1988, Gul and Leung 2004, Adams and Ferreira 2007). Non-executive board members are quite dependent on the CEO to provide information to them due to limited time spent otherwise on corporate matters (Adams and Ferreira 2007).

Board members, who are also executives of the company, may be superior to independent board members in formulating firm strategy and policy and in maintaining a clear strategic focus because of their detailed firm-specific knowledge (Muth and Donaldson 1998, Bédard et al. 2008). Executive board members have a daily access to firm-specific information, whereas non-executive board members must first acquire and then process a large amount of information in order to perform their duties (Armstrong et al. 2013). The inclusion of executive managers in the board empowers the manager, enhances the manager's credibility, and stimulates the manager's motivation to achieve (Muth and Donaldson 1998, Council on Foundations publication 2010). It should also be noted that in Finland many of the board members who are formally independent of the company are executives in another company, which makes their mindset aligned with executives compared to so called "civil servant" board members (Kostiander and Ikäheimo 2012). Hence, also the definition of independent members may not be self-evident.

Board composition which affects board expertise

Board committees

Recommendations 14-18 of the Finnish Corporate Governance Code suggest that in order to improve the board's working efficiency the board should form committees specialised in pre-set topics. Recommendation 16 specifically recommends that a separate audit committee should be founded, and the members of it should pay special attention to financial reporting and internal control.

According to recommendation 16, members of the audit committee should have relevant expertise and experience to perform their tasks. In addition, according to recommendation 16 a majority of the committee members should be independent of the company and at least one member should be independent of the largest shareholders of the company. Audit committees have also been documented in the academic literature to have a favourable impact on firm decisions aimed at enhancing shareholder wealth (Dechow et al. 1996). In addition, managers with expertise are sought for advice and they may have significant influence on a particular strategic choice (Tushman and Scanlan 1981, Yetton and Bottger 1982).

Board composition which affects board information sharing

Board meetings

Recommendation 12 of the Finnish Corporate Governance Code suggests that the board should ensure that all members receive enough information on company matters. Regular board meetings are an efficient channel for information distribution and they allow board members to strategize, discuss, and plan (Ntim et al. 2017). Boards who meet too rarely may have difficulties in performing their duties (Lipton and Lorsch 1992, Ntim et al. 2017). According to Carcello et al. (2002) board meeting activity complements auditor oversight.

3.2 Research hypothesis

Existing studies suggest that certain ways of composing the board of directors are more efficient than others in promoting transparency. Elements which improve transparency can be divided into elements improving board diversity, expertise and information sharing. Based on this article, Chapter 3.1, the main hypothesis of this study is that in an environment where ownership is typically concentrated and where large individual shareholders are able to extract private information from the company, also by means of legislation, board composition which follows the recommendations of the Finnish Corporate Governance Code and which increases diversity, expertise and information sharing between board members is an efficient tool to increase voluntary disclosure for the benefit of all shareholders. Board composition, as one part of a well-structured corporate governance setting, should work as a complement rather than a substitute to high shareholder rights. The main hypothesis can be summarized as follows:

H1: Board composition which improves diversity, expertise and information sharing increases voluntary disclosure when ownership is concentrated.

4 Research design

4.1 Selection of variables

Selection of variables measuring board composition

Based on the recommendations of the Finnish Corporate Governance Code and on existing research described in Chapter 3 on board composition and corporate disclosure I have chosen several variables with which to study the main hypothesis of this article. The variables are grouped to elements which improve board diversity, expertise and information sharing. Table 1 summarises all explanatory and control variables.

Measures of board diversity

Existing research suggests that independent board members may have a positive effect to disclosure. Independent board members have been documented to be more likely to issue a forecast (Ajinkya et al. 2005, Karamanou and Vafeas 2005, Truong and Dunstan 2011), the forecasts tend to have smaller errors (Ajinkya et al. 2005, Karamanou and Vafeas 2005, Mnif 2009, Truong and Dunstan 2011) and the forecasts tend to be less optimistic (Mnif 2009, Truong and Dunstan 2011). In addition, independent board members have been shown to increase the issuance of non-financial reporting, make companies publish financial reports earlier and decrease financial fraud in financial reports (Beasley 1996, Dechow et al. 1996, Klein 2002, Sengupta 2004, Rao et al. 2012). However, certain studies suggest that independent board members may practice too much monitoring which decreases the amount of information shared between executive managers and the board (Eng and Mak 2003, Gul and Leung 2004, Adams and Ferreira 2007, Hamed 2014). As financial forecasts require detailed information of the financial situation of the company a decrease in information flow could be particularly visible in the disclosure of forecasts (Penno 1996, Karamanou and Vafeas 2005).

Some studies recommend that the CEO should be a board member (Bédard et al. 2008, Council on Foundations publication 2010). CEO's dual role empowers and motivates the CEO which should improve company performance (Muth and Donaldson 1998). In addition, CEOs are typically quite tightly linked to board decision-making (Kostiander and Ikäheimo 2012). The formal inclusion of the CEO to board may make board decisions more informed and may hence allow more transparent corporate disclosure (Biondi et al. 2009, Council on Foundations publication 2010). However, recommendation 20 of the Finnish Corporate Governance Code suggests that the CEO should not be elected as the

chairman of the board.

Previous research has mainly received negative or insignificant results between the CEO dual role and corporate disclosure (see e.g. Gul and Leung 2004, Ajinkya et al. 2005, Cheng and Courtenay 2006, Bédard et al. 2008, Mnif 2009, Ahmad-Zaluki and Wan Hussin 2010, Allegrini and Greco 2013, Ntim et al. 2017). However, existing research is mostly based on the agency theory which looks at the relationship between the board and the CEO from the monitoring angle rather than from the viewpoint of information sharing (Fama 1980, Jensen 1993, Hermalin and Weisbach 2003). As independent board members and CEO dual role might improve corporate disclosure they are measured with variables NON_EXEC, which is a continuous variable describing the percentage of non-executive board members, INDEP_SHARE, which is a continuous variable describing the percentage of board members who are independent of the large shareholders of the company, and CEO_DUAL, which is a dummy variable denoted one if the CEO is a board member. As CEO dual role might be more likely when the CEO is also a founder of the company I control for the founder effect with a variable FOUNDER (see e.g. Lee et al. 2016).

Previous research suggests that board tenure may affect corporate disclosure although the direction of the effect is not clear. In the field of mandatory disclosure, Beasley (1996) documents that longer tenured board members are associated with decreased financial fraud. Long tenured board members are also suggested to increase the frequency of board interaction and board information exchange which may lead to better disclosure (Rutherford and Buchholtz 2007). In addition, older members may favor more transparent disclosure styles (Post et al. 2011, Handajani et al. 2014). In Finland, boards with many newcomers have been associated with lower levels of risk disclosure (Martikainen et al. 2015).

Certain studies, however, find that a

longer tenure of board members has a negative effect to corporate disclosure (see e.g. Handajani et al. 2014). Increased tenure may reduce intra-group communication and isolate groups from key information sources (Katz 1982). According to Katz (1982) tenure is first associated with an increase in group performance but then, after a tenure of five years, group performance decreases. Practitioners have also raised their concern of over-tenured directors (Jones Day 2014, ISS 2016). Recommendation 5 of the Finnish Corporate Governance Code recommends that board members are selected for a term of one year. I measure board tenure and age with two continuous variables TENURE and AGE.

While board gender diversity has been the interest of many existing studies, the relationship between women and corporate disclosure is not clear. Existing research suggests that female board members may improve disclosure because women consider multiple aspects in decision-making which makes strategic decision-making easier (Nielsen and Huse 2010a and 2010b, Brunzell and Liljeblom 2012).

Ntim et al. (2017) suggest that boards with a higher proportion of female members disclose more voluntary information in annual reports. Nalikka (2009) who uses a sample of Finnish listed companies fails to find a significant effect between the proportion of female board members and voluntary disclosure in annual reports (see also Ntim et al. 2013 for an insignificant relationship). Adams and Ferreira (2009), on the other hand, suggest that boards with both female and male members allocate more effort to monitoring. As suggested earlier, too strong monitoring may decrease the information exchange between board members and executive managers which could have a negative effect on disclosure. Omran and Abdelrazik (2013) encourage more examination on women's effect to voluntary disclosure.

Existing research has commonly stud-

ied the effect of women to transparency and board work in general by employing a percentage of female board members as a variable under examination. Assuming that female directors speak out their opinion and become legitimate members of the group, as they do according to Mathisen et al. (2013), diversity in communication and decision-making should be increased already by the addition of one female to a male-only board. As existing research has found that female members could improve the transparency of corporate disclosure I measure the presence of female board members with a dummy variable FEMALE denoted one if there is at least one woman on board.

Many existing studies support the positive association between increase in board size and voluntary disclosure (see e.g. Beekes and Brown 2006, Laksmna 2008, Truong and Dunstan 2011, Akhtaruddin and Rouf 2012, Al-Janadi et al. 2013, Allegrini and Greco 2013, Qu et al. 2015, and Ntim et al. 2017). Some studies, however, find the relationship between disclosure and board size insignificant (Arcay and Vázquez 2005, Karamanou and Vafeas 2005, Lakhali 2005, Cheng and Courtenay 2006, Bédard et al. 2008, Matoussi and Chakrou 2008, Ahmad-Zaluki and Wan Hussin 2010, Sartawi et al. 2014) or even negative (Mnif 2009, Truong and Dunstan 2011). Although the results of existing literature are contradictory, recommendation 8 of the Finnish Corporate Governance Code suggests that boards should have enough members to allow for efficient processing of company matters. Hence, I measure board size with a continuous variable BOARD_SIZE.

Measures of board expertise

Recommendation 16 of the Finnish Corporate Governance Code suggests that the board should have a separate audit committee the members of which should focus special attention towards internal control and accounting matters. In the field of voluntary disclosure

previous research has typically focused on the composition of audit committees (see e.g. Karamanou and Vafeas 2005, Ahmad-Zaluki and Wan Hussin 2010, and Truong and Dunstan 2011). However, audit committees should be quite homogeneous across companies due to recommendation 16 of the Finnish Corporate Governance Code which includes requirements towards audit committee members.

Papers by Bédard et al. (2008), Miihkinen (2008) and Allegrini and Greco (2013) examine the relationship between audit committee presence and corporate disclosure but fail to find a significant relationship between these two. However, as boards with an audit committee should be better aware of the company's financial situation due to increased attention paid towards financial matters of the company, I examine the effect of audit committee to corporate disclosure with a dummy variable AUDIT_CMT denoted one if the board has established an audit committee.

Legal knowledge

In addition to knowledge of financial and accounting matters, informative and well-planned corporate disclosure necessitates understanding of securities regulation and legal aspects, including risks and consequences of corporate disclosure. Xing et al. (2017) suggest that boards who have secretaries with legal expertise tend to disclose more forecasts. As legal consideration may impact corporate disclosure decisions, the legal understanding of the board is measured with a dummy variable LEGAL denoted one if at least one of the board members has a legal education.

Measure of information sharing

Recommendation 12 of the Finnish Corporate Governance Code puts forward that knowledge needs to be shared efficiently between board members. Previous research mainly suggests that increased meetings have a positive effect to the disclosure of forecasts (Laksmna 2008, Truong and Dunstan 2011

Allegrini and Greco 2013; but Karamanou and Vafeas 2005 fail to find a significant relationship). Lipton and Lorsch (1992) suggest that the optimal amount for meetings would be 8-12 per year which should allow the board to properly carry out its monitoring function (see also Vafeas 1999). Hence, I measure board meeting frequency with a dummy variable MEET denoted one if the board meets on average every month.

Selection of control variables

Previous literature suggests that larger companies disclose more earnings forecasts (Ruland 1979, Cox 1985, Lev and Penman 1988, Kasznik and Lev 1995, Ajinkya et al. 2005) which is why company size is controlled for with a continuous variable FIRM_SIZE. Also, previous literature suggests that future prospects of the company affect the choice of disclosure precision (Penno 1996, Kanto and Schadewitz 2003). Firms with good prospects tend to provide generic information in order to “not rock the boat” with too much details, while companies with poor prospects would disguise investors with precise wordings (Penno 1996, Kanto and Schadewitz 2003). Also, as analysts have difficulties in forecasting earnings for firms making losses (Brown 2001, Ajinkya et al. 2005, Spohr 2015 and 2017) the board of directors might suffer from similar difficulties. Since existing studies suggest that the prospects and insecurity of the future might affect the board’s disclosure decisions, I control the financial insecurity with a dummy variable LOSS denoted one if the company makes a loss in the accounting period.

The signalling theory also suggests that share valuation might affect disclosure decisions. Companies with an undervalued share might be more motivated to disclose information to shareholders to signal that their company is worth investing, while companies with an overvalued share would not have such incentives (Watts and Zimmerman 1986, 165-

166). I measure share under- and overvaluation with a dummy MKBK where one means that the market-to-book ratio is above one, i.e. the share is overvalued, also used in Bamber and Cheon (1998).

As shareholding might affect disclosure (see e.g. Bamber and Cheon 1998, Ajinkya et al. 2005), I measure shareholding with three variables. Because large shareholders have means to decrease the information asymmetry gap without public disclosure the concentration of ownership at 10% threshold is controlled with a dummy variable 10%SHR where one means that the company has shareholders with a stake larger than ten per cent. In addition, executive managers’ share ownership in the company has been documented to increase voluntary disclosure in annual reports because of alignment with shareholders’ interests (Barros et al. 2013, Martikainen et al. 2015). I measure the CEO’s share ownership with a continuous variable CEO SHR. Finally, as existing research has found a positive relationship between corporate disclosure and foreign ownership (Miihkinen 2013, Martikainen et al. 2015) I measure the percentage of foreign ownership with a continuous variable FORSHR. Last, prior research suggests that firms using Big Four auditors tend to have better disclosure (Lang and Lundholm 1993) which is why the choice of auditor is controlled with a dummy variable BIG4 denoted one if the company’s financial statement is audited by one of the Big Four auditors.

4.2 Data

To examine the association between voluntary disclosure and board composition I hand-collected board data from annual reports and corporate governance statements of Finnish listed companies and data on financial forecasts from the financial statement releases of the same companies, all data being for years 2006-2013. Financial data is withdrawn from *Amadeus* database and hand-collected shareholding data from Finnish listed companies’

annual reports. Financial forecasts are used as an indicator for voluntary disclosure because forecasts are both important for investors and, do to their disclosure being voluntary, reflect board composition particularly well (Karamanou and Vafeas 2005, Hirst et al. 2008). In addition to earnings forecasts, which allow investors to estimate the company's future earnings, I examine revenue forecasts as they are often disclosed in addition to or as a substitute to earnings forecasts (Lacina 2006, Bozanic et al. 2015), they make earnings forecasts more credible (Hutton et al. 2003), they revise investors' expectations and they provide investors with incremental information on the company's financial future (Ajinkya and Gift 1984, Lacina 2006).

I initially included in the sample all companies which had their share on NASDAQ OMX Helsinki main list on the 31st of December 2013 and which had been quoted on or before the 1st of January 2011. I excluded companies which had changed accounting years during the sample period, companies with no financial data available in *Amadeus* database and companies which disclosed financial forecasts of individual business units instead of the entire listed entity. I ended up with a final sample of 794 firm years and 103 companies. I classified the sample according to whether the company disclosed a revenue or an earnings forecast or both, and then divided the forecasts into quantitative estimates (such as "revenue is estimated to be MEUR 100") and qualitative estimates (such as "earnings are estimated to grow").

4.3 Regressions

Based on existing research and the variables presented above, I analyse the association between board composition and voluntary disclosure in company *i* year *t* with the following binary logistic regression using pooled data. Variables NON_EXEC, INDEP_SHARE, CEO_DUAL, AGE, TENURE, FEMALE and BOARD_SIZE measure board diversity, while variables

AUDIT_CMT and LEGAL measure board expertise. The variable MEET is an indicator for information sharing between board members. Variables and their selection are described above in Sections 4.1-4.2, and a summary of all variables is presented in Table 1.

The dependent variable FORECAST measures the disclosure of forecasts and forecast precision in five different models where all dependent variables are dummies. Models 1-3 examine the frequency of forecast disclosure. Model 1 examines whether a revenue forecast is disclosed (REVFOR_FREQ), model 2 whether an earnings forecast is disclosed (EARFOR_FREQ), and model 3 whether the financial statement release includes an estimate of both earnings and revenue development or not (BOTH_FREQ). Model 4 and model 5, on the other hand, examine whether the revenue or earnings forecast is quantitative (REVFOR_NUM and EARFOR_NUM, respectively).

5 Results

This section summarizes the descriptive statistics as well as the main regression results completed with the results of the robustness check for examining the relationship between board composition and voluntary disclosure.

5.1 Descriptive statistics

Table 2 presents the statistics regarding board of directors, and Table 3 the statistics on financial forecasts. The statistics describe the entire available sample. Table 2 suggests that on average a majority of board members are independent of the company, and/or of the large shareholders of the company, which is in line with recommendation 10 of the Finnish Corporate Governance Code. The statistics are similar to existing studies using Finnish data (see e.g. Miihkinen 2008, Kostander and Ikäheimo 2012, and Martikainen et al. 2015) and data from common law countries (Ajinkya et al. 2005, Karamanou and Vafeas 2005, Truong and Dunstan 2011).

Interestingly, the range of board members

Table 1. Variable definitions for regression models 1-5 examining the association between board composition and voluntary disclosure of forecasts.

VARIABLE	DEFINITION
The dependent variables:	
<i>Forecast frequency</i>	
FORECAST	= A dummy variable equal to 1 if the company discloses a revenue or earnings forecast or both at the financial statement release (Models 1-3, respectively), 0 otherwise, and whether the revenue or earning forecast is quantitative (models 4-5, respectively), 0 otherwise.
Independent variables:	
Board diversity	
NON_EXEC	= A continuous variable measuring the ratio of independent (i.e. non-executive) board members to all board members.
INDEP_SHARE	= A continuous variable measuring the ratio of board members who are independent of significant shareholders (i.e. shareholders who hold at least 10% of all the share or votes in the company) of the company to all board members.
CEO_DUAL	= A dummy variable equal to 1 if the CEO is a board member (regular, vice chairman or chairman of the board) at the end of the financial year, 0 otherwise.
AGE	= A continuous variable measuring board members' average age.
TENURE	= A continuous variable measuring board members' average tenure as years on board.
FEMALE	= A dummy variable equal to 1 if the board has at least one female member, 0 otherwise.
BOARD_SIZE	= A continuous variable measuring the number of board members.
<i>Board expertise</i>	
AUDIT_CMIT	= A dummy variable equal to 1 if the board has a separate audit committee, 0 otherwise.
LEGAL	= A dummy variable equal to 1 if at least one of the board members has a legal degree, 0 otherwise.
<i>Information sharing</i>	
MEET	= A dummy variable equal to 1 if the board meets at least 12 times a year, 0 otherwise.
<i>Control variables</i>	
FOUNDER	= A dummy variable equal to 1 if the CEO is a founder or a family member of the founder, 0 otherwise.
FIRMSIZE	= A continuous variable measuring company size as a natural logarithm of total assets (€ million) of the company at the end of the financial year.
LOSS	= A dummy variable equal to 1 if the firm reports losses in the current period, 0 otherwise.
MKBK	= A dummy variable equal to 1 if the market-to-book ratio is one or above, 0 otherwise.
BIG4	= A dummy variable equal to 1 if the financial statement of the company is audited by one of the Big 4 auditors (PwC, Deloitte, EY, or KPMG), 0 otherwise.
CEOSHR	= A continuous variable measuring the percentage of company shares held by the CEO.
FORSHR	= A continuous variable measuring the percentage of company shares held by foreign shareholders (marked as foreign or nomination registered holdings at the annual report of the company) at the end of the financial year.
10%SHR	= A dummy variable equal to 1 if the largest shareholder of the company owns 10 % or more of the company shares at the end of the financial year.
DUMMY (YR)	= A dummy variable for years 2006-2013.
DUMMY (IND)	= A dummy variable for industries as of 31 December 2013 according to NASDAQ OMX website classification. The industries include basic materials, technology, consumer services, consumer goods, industrials, health care, financials, telecommunications, utilities, oil & gas, and basic resources.

who are independent of large shareholders of the company varies from zero percent to one hundred percent. In other words, in some companies all board members are associated with majority shareholders while in others they are all independent of them. While there is also variation in the percentage of non-executive board members the data suggests there are no extremes.

According to Table 3 the CEO is not often a board member, which is in line with recom-

mendation 20 of the Finnish Corporate Governance Code regarding the separation of the CEO and the board of directors, and with what is suggested by Kostander and Ikäheimo (2012), nor is the CEO often a founder of the company. Existing research suggests that CEO dual role is more common in e.g. Canada and Italy (Bédard et al. 2008, Allegrini and Greco 2013).

The average board size is six members, which corresponds to Nalikka (2009) whose

Table 2. Descriptive statistics of independent variables for a sample of Finnish listed companies for years 2006-2013.

VARIABLE	N	MEAN	SD	MIN	MAX	VIF	
Continuous							
NON_EXEC	713	84.95%	19.99%	16.67%	100.00%	1.699	
INDEP_SHARE	649	75.74%	21.74%	0.00%	100.00%	2.031	
AGE	756	54.3	4.2	38	68	1.402	
TENURE	738	6.4	3.7	0.8	23	2.194	
BOARD_SIZE	754	6.2	1.4	3	11	2.002	
FIRM_SIZE (MEUR)	794	1 396.3	3 062.5	3.7	24 628.0	3.511	
CEOSHR	581	3.09%	9.84%	0.00%	78.93%	2.195	
FORSHR	744	18.58%	20.69%	0.00	93.08%	2.042	
		N (DUMMY=1)	%				
Discrete							
CEO_DUAL	127	16.9%				2.431	
AUDIT_CMT	416	55.8%				1.638	
LEGAL	390	51.2%				1.244	
FEMALE	537	67.6%				1.256	
MEET	456	63.2%				1.231	
FOUNDER	68	8.5%				3.576	
MKBK	236	30.6%				1.325	
LOSS	208	26.2%				1.218	
BIG4	714	96.5%				1.513	
10%SHR	613	77.2%				1.440	

This table presents the descriptive statistics for board data and data concerning the control variables for a sample of Finnish listed companies. Variables are defined in Table 1. N denotes the number of valid firm-year observations, and N(DUMMY=1) denotes the number of observations where the dummy is one. The descriptive statistics analyse the entire sample, and as all data has not been available for each company at each observation point the number of observations (N and DUMMY=1) differs between variables. Data cover years from 2006 to 2013.

sample also consists of Finnish listed companies. Most boards have female members, which is in line with recommendation 8 of the Finnish Corporate Governance Code. It seems that the percentage of female members has grown as time has passed considering that Nalikka (2009) found that less than half of boards had female members during 2005-2007. In compliance with recommendation 16 of the Finnish Corporate Governance Code most of the boards have a separate audit committee. Miihkinen (2008) documents that only one fifth of Finnish boards had an audit committee during 2004-2005, meaning that audit committees have become more common during time. According to Table 2, the average age of board members is 54 years, and the average tenure of board members is about six years. Also, Table 3 suggests that legal education is quite popular among board of directors as more than half of boards have legally educated members. According to Table 3 boards meet quite actively, most of the boards meet on average at least once a month.

The average company size is 1.4 billion measured by total asset of the company. Most companies are undervalued, i.e. their market-to-book ratio is below one. Almost all companies use a Big4 auditor, which is a bit more than what is documented in Miihkinen (2008). As already suggested by e.g. La Porta et al. (1999) it seems that shareholding is quite concentrated in Finland. The descriptive statistics in Table 3 suggest that fewer than one in four of listed companies in Finland are widely held. Interestingly though, the CEO holds on average quite low stakes of company shares. Foreign owners hold on average one fifth of shares, which is similar to Miihkinen (2012) and (2013).

According to Table 3, Finnish listed companies disclose forecasts quite frequently. A majority of the financial statement releases disclosed under chapter 2 section 6a of the Securities Markets Act (26.5.1989/495) include a revenue or an earnings forecast. The statis-

tics are similar to a study by Schadewitz and Kanto (2002) who found that 92% of Finnish listed companies issue outlooks in their interim reports. Disclosing forecasts is a way to signal the high quality of the company and hence to reduce the cost of capital (Trueman 1986, Healy and Palepu 2001). It is also a practice rather easily copied by competitors. Hence, it is not as such surprising that the practice of disclosing forecasts has spread to cover a majority of companies.

Most of the disclosed forecasts are qualitative and do not include a numeric estimate, and this is the case particularly with earnings forecasts. In general, the disclosure of forecasts has increased quite steadily during the observation period, and the increase is seen as a larger amount of qualitative forecasts (Table 2). The results are similar to Schadewitz and Kanto (2002) who report that only 1.5% of companies disclose earnings-per-share estimates in their interim reports, while almost 92% disclose other types of outlook.

The percentage of quantitative forecasts has stayed rather unchanged during the sample period except for years 2009 and 2010 during which the frequency of quantitative forecasts dropped and the amount of no forecast observations increased. In addition, year 2009 shows a large drop in the percentage of companies who disclose both an earnings and a revenue forecast at the same release. These years fall in the period of the global economic crisis. In line with the trend, also the percentage of companies who disclose both an earnings and a revenue forecast in their financial statement release has almost doubled during the observation period.

Certain differences can be spotted between the Finnish data and the data collected from common law countries in existing studies. Finnish companies seem to be more active in disclosing forecasts than companies in the U.S. Research made in the U.S. suggests that less than half of listed companies disclose an earnings forecast (Han and Wild 1991, Ajinkya

Table 3. Descriptive statistics of the entire sample of forecasts disclosed by Finnish listed companies in their financial statement releases during 2006-2013.

	Earnings forecasts		Revenue forecasts		Both earnings and revenue forecast	
	QUANTITATIVE FORECAST	NO FORECAST	QUANTITATIVE FORECAST	NO FORECAST	BOTH FORECAST	NO FORECAST
Whole sample						
N	72	531	118	426	488	306
%	9.1	66.9	14.9	53.7	61.5	38.5
Distribution by year	%	%	%	%	%	%
2006	7.1	58.8	17.7	41.2	48.2	51.8
2007	8.5	67.0	17.0	47.9	57.4	42.6
2008	9.9	63.4	18.8	46.5	58.4	41.6
2009	6.9	52.9	8.8	46.1	45.1	54.9
2010	6.8	70.9	7.8	64.1	64.1	35.9
2011	8.7	77.7	20.4	56.3	71.8	28.2
2012	10.7	72.8	12.6	65.1	71.8	28.2
2013	13.6	69.9	16.5	59.2	71.8	28.2

This table presents the descriptive statistics for financial forecast data collected from the financial statement releases of Finnish listed companies. Data covers years 2006-2013. N denotes the number of valid observations and % denotes the percentage of observations with the given value.

Table 4. Correlation matrix for variables

VARIABLE	NON-EXEC	INDEP_SHARE	CEO_DUAL	FOUNDER	AGE	TENURE	BOARD_SIZE
NON-EXEC		0.550	-0.291	-0.259	0.087	-0.459	0.204
INDEP_SHARE	0.451		-0.165	-0.179	0.106	-0.468	0.247
CEO_DUAL	-0.386	-0.191		0.592	0.026	0.275	0.055
FOUNDER	-0.313	-0.204	0.592		-0.114	0.267	-0.148
AGE	0.062	0.125	0.038	-0.111		0.035	0.248
TENURE	-0.311	-0.286	0.255	0.189	0.092		-0.161
BOARD_SIZE	0.168	0.248	0.062	-0.120	0.256	-0.040	
AUDIT_CMT	0.269	0.313	-0.178	-0.215	0.192	-0.294	0.476
LEGAL	0.106	0.031	0.053	0.058	-0.065	-0.016	0.152
FEMALE	0.122	0.179	-0.018	-0.077	0.044	0.013	0.342
MEET	0.030	0.027	-0.105	-0.045	-0.127	-0.141	-0.163
FIRMSIZE	0.259	0.358	-0.085	-0.247	0.380	-0.146	0.620
LOSS	-0.062	-0.067	0.068	0.126	-0.070	-0.157	-0.005
MKBK	-0.037	-0.007	-0.034	-0.098	-0.061	0.002	-0.101
BIG4	0.254	0.210	-0.277	-0.377	0.014	-0.267	0.233
CEOSHR	-0.258	-0.182	0.374	0.467	0.145	0.074	-0.223
FORSHR	0.170	0.276	0.072	-0.113	-0.113	0.303	0.416
10%SHR	-0.156	-0.458	0.063	0.124	0.124	-0.002	-0.069

This table presents Spearman (Pearson) correlations below (above) the diagonal. Correlation analysis is ran for the entire sample, and confidence level are reported in bold. For variable definitions see Table 1.

et al. 2005, Lu and Tucker 2012, Factset 2016).

The frequency of revenue forecast disclosure in the U.S. is not clear as previous research has mostly examined earnings forecasts (Lu and Tucker 2012, Bozanic et al. 2015). It is, however, estimated that non-earnings statements are twice as common as earnings forecasts, in which case the Finnish data would be comparable to the U.S. data (Bozanic et al. 2015).

It seems that Finnish companies disclose mainly qualitative forecasts, but companies in the common law countries are more inclined towards quantitative estimates (see e.g. Baginski and Hassell 1997, and Ajinkya et al. 2005 for U.S. research, Truong and Dunstan 2011 for data from New Zealand, and Baginski et al. 2002 for data from U.S. and Canada). The difference in disclosure precision could be at

least partly explained by differences in classification according to shareholder rights. La Porta et al. (1999) classify twenty-four countries according to the level of shareholders rights, including e.g. general meeting formalities, and Finland belongs in their classification to a different class than U.S., Canada and New Zealand. In addition, there might be certain differences in the litigation culture. In U.S. and Canada, the barrier for securities litigation is comparably low (see e.g. Baginski and Hassell 1997, Baginski et al. 2002, Ajinkya et al. 2005), while New Zealand (Truong and Dunstan 2011) and Finland can, in general, be described as low litigation risk countries.

Table 4 summarizes the correlations between variables. Spearman correlations vary from -0.430 between firm size and the percentage of shares held by the CEO to 0.669 be-

AUDIT_CMT	LEGAL	FEMALE	MEET	FIRMSIZE	LOSS	MKBK	BIG4	CEO SHR	FORSHR	10%SHR
0.290	0.159	0.119	0.041	0.288	-0.077	-0.034	0.303	-0.215	0.157	-0.171
0.334	0.053	0.178	0.056	0.369	-0.051	-0.002	0.257	-0.138	0.186	-0.408
-0.178	0.053	-0.018	-0.105	-0.062	0.068	-0.034	-0.277	0.508	0.132	0.063
-0.215	0.058	-0.077	-0.045	-0.230	0.126	-0.098	-0.388	0.681	-0.117	-0.117
0.192	-0.060	0.038	-0.123	0.361	-0.070	-0.062	-0.010	-0.139	-0.285	-0.011
-0.347	0.002	-0.017	-0.170	-0.236	-0.145	-0.032	-0.406	0.024	-0.230	0.156
0.471	0.145	0.334	-0.135	0.640	-0.007	-0.090	0.275	-0.249	0.386	-0.096
	0.145	0.171	-0.013	0.560	-0.013	0.005	0.212	-0.239	0.306	-0.048
0.145		-0.030	0.027	0.129	0.043	-0.043	0.026	-0.034	0.093	-0.132
0.171	-0.030		-0.076	0.310	-0.076	0.027	0.047	-0.127	0.148	-0.059
-0.013	0.027	-0.076		-0.179	0.128	-0.088	0.072	0.070	-0.088	-0.105
0.559	0.123	0.307	-0.166		-0.181	-0.118	0.194	-0.293	0.574	-0.122
-0.013	0.043	-0.076	0.128	-0.198		-0.208	0.001	0.178	-0.131	0.116
-0.005	-0.043	0.027	-0.088	-0.101	-0.208		0.098	-0.031	0.087	0.01
0.212	0.026	0.047	0.072	0.209	0.001	0.098		-0.292	0.107	-0.093
-0.278	-0.078	-0.090	0.123	-0.430	0.162	-0.104	-0.189		-0.109	0.155
0.363	0.028	0.199	-0.103	0.669	-0.164	0.092	0.154	-0.277		-0.232
-0.048	-0.132	-0.059	-0.105	-0.128	0.116	0.001	-0.093	0.145	-0.217	

hence the number of observations may differ among variables. Data cover years from 2006 to 2013. Correlations significant at the 1%

tween firm size and the percentage of shares held by foreign investors (Table 4). Other correlations above 0.500 exist between company size and board size, between CEO dual role and CEO being a founder of the company, and between company size and the board having a separate audit committee.

There is a risk that variables that are correlated above the level of 0.500 cause problems with multicollinearity. Such variables include especially FIRM_SIZE, AUDIT_CMT and BOARD_SIZE. However, none of the VIF-values presented in Table 3 are above five, which is typically considered a threshold for too high correlation. The highest VIF-value, 3,511 and 3,576, is for the variable FIRM_SIZE, and FOUNDER, respectively, but all other VIF-values are below three.

5.2 Main regression results

Table 5 and Table 6 report the regression results for estimating the relationship between board composition and voluntary disclosure of forecasts (models 1-5). In order to ensure robustness, the regression analysis is ran only for observations where there is no missing data. In general terms, the regression results suggest that in an environment of concentrated ownership board composition which follows the recommendations of the Finnish Corporate Governance Code improves corporate voluntary disclosure of forecasts. Especially composition which improves board diversity, expertise and information sharing seems to have a positive association with voluntary disclosure of forecasts. Models 1-3 fit the data reasonably well. In models 1-3, more than ninety percent of observations are

Table 5. Board composition and forecast frequency: Pooled binary logistic regression results for a sample of assessments of the future collected from Finnish listed companies financial statement releases for years 2006-2013.

DEPENDENT VARIABLE SAMPLE RESTRICTION VARIABLE	MODEL 1		MODEL 2		MODEL 3	
	REVENUE		EARNINGS		BOTH	
	TOTAL SAMPLE		TOTAL SAMPLE		TOTAL SAMPLE	
	B	P	B	P	B	P
NON_EXEC	0.017*	0.059	0.011	0.255	0.022**	0.010
INDEP_SHARE	0.008	0.345	0.019**	0.037	0.009	0.247
CEO_DUAL	0.950*	0.099	1.697**	0.010	1.551***	0.004
FOUNDER	-0.338	0.695	1.649	0.139	0.714	0.399
AGE	-0.070*	0.088	-0.010	0.819	-0.015	0.700
TENURE	0.029	0.605	-0.187***	0.004	-0.042	0.427
FEMALE	0.091	0.786	0.179	0.617	0.091	0.768
BOARD_SIZE	0.122	0.361	-0.113	0.449	0.091	0.455
AUDIT_CMT	0.437	0.228	0.692*	0.077	0.828**	0.013
LEGAL	-0.244	0.424	0.401	0.230	-0.209	0.448
MEET	0.405	0.163	1.053***	0.001	0.786***	0.004
FIRMSIZE	0.061	0.685	0.155	0.366	-0.085	0.539
LOSS	0.297	0.377	0.217	0.576	0.103	0.745
MKBK	0.520	0.149	-0.109	0.769	-0.093	0.768
BIG4	-0.405	0.666	-0.832	0.456	-0.051	0.952
CEOSHR	0.004	0.882	-0.072***	0.007	-0.034	0.110
FORSHR	-0.010	0.248	-0.016*	0.097	-0.008	0.334
10%SHR	-0.146	0.703	0.710	0.112	0.072	0.839
Constant	22.035	1.000	17.257	1.000	-24.960	1.000
Year controls	Yes		Yes		Yes	
Industry controls	Yes		Yes		Yes	
N	454		454		454	
Pseudo	0.317		0.359		0.319	
Correctly class (%)	93.8		95.0		90.0	

This table presents the results of a pooled binary logistic regression analysis on the likelihood that the company discloses a revenue or earnings forecast or both (models 1-3 respectively) for a sample of assessments of the future collected from Finnish listed companies' financial statement releases for years 2006-2013. B denotes for the beta coefficient of each explanatory variable. P denotes for the p-value of the coefficient. N denotes the number of valid firm-year observations per model. The regression analysis is ran only for observations with no missing values which is why the number of observations (N) does not correspond with the number of observations in Table 2 and Table 3. Data cover years from 2006 to 2013. See Table 1 for variable definitions.

*Significant at the 10% level.

**Significant at the 5% level.

***Significant at the 1% level. The tests are two-tailed.

Table 6. This table presents the results of a pooled binary logistic regression analysis on the likelihood that the disclosed forecast is quantitative (models 4-5) given a certain board composition for a sample of assessments of the future collected from Finnish listed companies financial statement releases for years 2006-2013.

DEPENDENT VARIABLE SAMPLE RESTRICTION VARIABLE	MODEL 4 REVENUE TOTAL SAMPLE		MODEL 5 EARNINGS TOTAL SAMPLE	
	B	P	B	P
NON_EXEC	0.000	0.991	0.008	0.664
INDEP_SHARE	0.016	0.177	0.011	0.435
CEO_DUAL	1.652**	0.014	2.244***	0.002
FOUNDER	-1.795	0.179	-1.302	0.494
AGE	-0.069	0.233	-0.122	0.136
TENURE	-0.210**	0.023	-0.084	0.488
FEMALE	0.616	0.218	0.306	0.613
BOARD_SIZE	0.065	0.715	0.169	0.398
AUDIT_CMT	-0.299	0.508	-0.958	0.091
LEGAL	0.352	0.352	-0.288	0.532
MEET	-0.289	0.450	0.110	0.813
FIRMSIZE	0.264	0.142	0.439*	0.059
LOSS	0.215	0.633	-0.361	0.510
MKBK	0.726*	0.080	0.719	0.152
BIG4	0.383	0.801	16.853	0.999
CEOSHR	0.014	0.688	-0.085	0.349
FORSHR	0.015	0.215	0.001	0.948
10%SHR	1.157*	0.035	0.650	0.253
Constant	-22.981	0.999	-39.567	0.999
Year controls	Yes		Yes	
Industry controls	Yes		Yes	
N	336		361	
Pseudo	0.388		0.340	
Correctly class (%)	35.5		28.9	

This table presents the results of a pooled binary logistic regression analysis on the likelihood that the disclosed forecast is quantitative (models 4-5) given a certain board composition results for the sample of assessments of the future collected from Finnish listed companies financial statement releases years for 2003-2103. B denotes for the beta coefficient of each explanatory variable. P denotes for the p-value of the coefficient. N denotes the number of valid firm-year observations per model. The regression analysis is ran only for observations with a forecast which is why the number of observations (N) does not correspond with the number of observations in Table 5. Data covers years from 2006 to 2013. See Table 1 for variable definitions. *Significant at the 10% level. **Significant at the 5% level. ***Significant at the 1% level. The tests are two-tailed.

correctly classified and the R^2 values are all above 0.3, which is satisfactory in this type of research ultimately based on qualitative data. In models 4-5 the percentage of correctly classed observations drops to about thirty percent, but the R^2 values are close to 0.4.

According to the results in Table 5, board independence, as one element of diversity, is an important way to increase transparency of corporate voluntary disclosure. Both variables NON_EXEC and INDEP_SHARE are positively associated with forecast frequency, NON_EXEC for revenue forecasts and the disclosure of both revenue and earnings forecasts in the same release and INDEP_SHARE for the disclosure of earnings forecasts. Previous literature has also found a positive association between non-executive board members and corporate voluntary disclosure (see e.g. Ajinkya et al. 2005, Karamanou and Vafeas 2005, Miihkinen 2008, Truong and Dunstan 2011) but independence from large shareholders of the company has not been studied before in this context. Existing studies argue that independent board members are more aligned towards making transparent disclosure decisions because they are more efficient in monitoring compared to board members who are also employed by the company (Miihkinen 2008). Board members who are independent of the largest shareholders of the company may be more aligned in thinking all shareholders' benefits in their decision-making compared to those board members who have an association to the largest shareholders of the company.

Table 5 and Table 6 suggest that CEO_DUAL, also one measure of diversity and expertise in terms of firm-specific knowledge, has a positive association with earnings and revenue forecast frequency and precision. The results are particularly interesting taking into account the simultaneous positive relationship between non-executive board members and corporate disclosure as described above and in Table 5. The results could signal

that the firm-specific knowledge of the CEO might be beneficial for board work and that cooperation between the board and executive management, as suggested already by Adams and Ferreira (2007), improves transparency and hence works for the benefit of all shareholders.

Existing research has either found that CEO dual role decreases the amounts of voluntary disclosure (Gul and Leung 2004, Allegrini and Greco 2013) or that there is no association between CEO dual role and disclosure decisions (Cheng and Courtenay 2006, Bédard et al. 2008, Mnif 2009, Ntim et al. 2013). Previous studies have, however, focused on examining the dual role of the CEO when the CEO is the chairman of the board, whereas this study also accounts for cases where the CEO is a regular board member. In fact, statistics which are only discussed here suggest that none of the CEOs is a chairman of the board. The potential negative effects of CEO dual role might be more highlighted when the CEO also has a controlling seat in the board as a chairman, and hence the difference in variable definition might partly explain the differing results between this study and existing literature. Also, as a large part of the other board members are typically non-executives (see descriptive statistics in Table 3), the potential negative impacts of CEO dual role are likely to be mitigated by non-executive board members.

The results in Table 5 also suggest that boards who have a separate audit committee disclose more revenue and earnings forecasts, while existing literature has typically not found a significant relationship between corporate disclosure and audit committees (see e.g. Bédard et al. 2008, Miihkinen 2008, Allegrini and Greco 2013). However, the results in Table 6 seem to weakly suggest that boards with a separate audit committee are less likely to disclose a numeric forecast. The results of this study seem to, however, imply that audit committees are an important

feature of an efficient corporate governance structure. After all, audit committee members spend extra time on financial matters of the company and hence it is not surprising that this type of additional knowledge of the financial matters of the company is seen as increases in transparency.

Table 5 and 6 suggest that board member age and tenure, which are also measures of diversity are both negatively associated with corporate voluntary disclosure. Table 5 implies that AGE has a weak negative relationship with the disclosure of revenue forecasts (see also Martikainen et al. 2016 who point that aged directors could be more conservative and risk averse in their reporting choices), while results in Table 6 suggest that TENURE is negatively associated with revenue forecast precision. It seems that investors' concern of any unhealthy effects of longer tenure and low managerial turnover rates to transparency (see Jones Day 2014 and ISS 2016) is justified based on the results of this study. The negative relationship between tenure and corporate disclosure could partly be explained by increases in agency problems, as long-tenured board members might dissociate themselves from shareholders and become friends with executive managers and hence decrease their monitoring efforts (Handajani et al. 2014).

Finally, the results in Table 5 suggest that boards who meet on average at least once a month, denoted by MEET, are more likely to issue earnings and revenue forecasts, consistent with existing studies (see e.g. Laksmana 2008, Truong and Dunstan 2011 and Allegrini and Greco 2013) which suggest that board information sharing is important for efficient board work, as also indicated by recommendation 12 of the Finnish Corporate Governance Code. Frequent meetings allow board members to communicate and strategise and are hence likely to lead to more transparent disclosure policies.

Other elements related to board compo-

sition do not seem to matter for voluntary disclosure decisions. For instance, it seems that the legal education of board members is not associated with disclosure decisions unlike so suggested by Xing et al. (2017). In addition, board gender composition does not seem to affect disclosure decisions, supporting the results of e.g. Nalikka (2009).

As a whole, the results in Table 5 and Table 6 regarding board composition and increases in voluntary forecast disclosure are in line with the recommendations of the Finnish Corporate Governance Code. It seems that especially recommendation 6 for board term, recommendation 10 for board independence, recommendation 12 for board communication, and recommendation 16 for audit committees are beneficial for transparency and hence should be cherished also in the future. While board size and gender diversity, included in recommendation 8 of the Finnish Corporate Governance Code, might have other beneficial effects to corporate governance quality, they do not seem to matter for corporate voluntary disclosure. The Finnish Corporate Governance Code does not say about board member age, but it could be considered whether it would be beneficial to add recommendations of board age diversity into the Code taking into account the negative results in Table 5 for board age and frequency of voluntary disclosure.

Certain of the control variables also had an association with corporate voluntary disclosure. The results in Table 5 suggest that CEOSHR has a negative association with the disclosure of earnings forecasts (see also Miihkinen 2013). The negative result supports the argument that voluntary disclosure of forecasts is partly motivated by the information asymmetry gap between shareholders and company management. In other words when shareholders, such as firm insiders, have other means of receiving private information of the company the motivation to publicly disclose information might be lower.

Table 5 also suggests a weak negative link between foreign shareholding and the frequency of voluntary disclosure measured with variable FORSHR (see also Miihkinen 2012). However, considering the low significance levels this result should not be interpreted too heavily. Similarly, the results in Table 6 imply that there is a vague positive association between FIRM_SIZE and earnings forecast precision, which is in line with existing studies suggesting that larger firms have more transparent disclosure styles (see e.g. Ruland 1979, Cox 1985, Lev and Penman 1988, Kasznik and Lev 1995, Ajinkya et al. 2005, and Miihkinen 2008 and 2012).

5.3 Robustness check

In order to confirm the results of the main regression analysis, several robustness checks are conducted. First, although the main regression results did not suggest that firm size would matter for voluntary disclosure decisions, the descriptive statistics in table 3 suggest that the VIF-value for the variable measuring firm size (FIRM_SIZE) is close to 4. In order to minimize potential effects of multicollinearity, I ran a robustness check of the main regression results by dividing the data according to the mean value of the variable FIRM_SIZE and then running the regression analysis again with the two data sets. The mean value for FIRM_SIZE is 5.403, which is a logarithm of the asset value, and 50.1% of the data falls in class lower than the mean, while 49.9% of the data are above the mean. The results of the robustness check are only discussed and not reported in detail here.

The main regression analysis suggested that the percentage of board members independent both from the company and from the large shareholders of the company, CEO dual role, the presence of an audit committee and frequent board meetings have a positive association with voluntary disclosure and CEO dual role also with forecast precision, while director age and tenure decrease voluntary

disclosure.

The robustness check mostly supports the main regression results. The robustness check confirms the positive relationship between board member independence from the company and from large shareholders of the company and the frequency of disclosure regardless of company size. The results also confirm the positive relationship between CEO dual role and forecast frequency and precision in both size categories. Interestingly, the robustness check suggests that companies below the mean size disclose less forecasts if the board has a separate audit committee, which was not seen in the main regression results. The results of the robustness check also confirm the negative effect of director tenure for companies above the mean firm size. Finally, the positive effect of frequent board meetings is confirmed for companies below the mean firm size.

The robustness check also suggests that some variables, which were not significant in the main regression analysis, become significant when the data is divided according to firm size. The results of the robustness check suggest that female board members are associated with an increase in the frequency of voluntary disclosure in companies below the mean value, which was not seen in the main regression results. Also, the results of the robustness check suggest that legal education of certain board members leads to more precise disclosure in companies above the mean value, which was not seen in the main regression analysis. In addition, the results of the robustness check suggest that board size is positively associated with voluntary disclosure in companies above the mean value and negatively associated in small companies, neither of which were suggested by the results of the main regression analysis.

Second, the main regression results for model 1 and model 3 suggest that both the percentage of independent non-executive board members and CEO dual role increase

the amount of voluntary disclosure. Because one of these two variables promotes board independence and the other the presence of executive managers on board I ran an additional analysis to test whether CEO dual role matters when *simultaneously* the percentage of non-executive board members is high. To run the additional analysis, a new variable CEO_DUAL*NON_EXEC was included in model 3. The results, which are not reported in detail here, suggest that after adding the new variable, both the percentage of independent board members and CEO dual role remain statistically significant for model 3, but for model 1 only the percentage of independent board members is significant. The new variable CEO_DUAL*NON_EXEC is not significant in any of the models. The results of the additional analysis confirm the importance of independent board members and CEO dual role to forecast frequency at least when both earnings and revenue forecast are disclosed at the same time.

Third, Lacina (2006) suggests that companies which forecast both earnings and revenue have more external financing needs and are more likely to be from a high technology industry compared to firms which forecast earnings only. Because model 3 measures the disclosure of both revenue and earnings forecast in the same release, I run an additional analysis to test whether membership in a high technology industry or external financing needs drive the main regression results. According to Lacina (2006), high technology industry is defined based on the industry's expenditure on research and development. Technology and health care qualify as such industries in my sample, because there the expenditures on research and development are typically high. About 20% of my observations are in high technology industry, which corresponds to Martikainen et al. (2015). Lacina (2006) defines external financing needs as the ratio of retained earnings to the number of total assets.

I first analysed the effect of high technology industry to corporate voluntary disclosure by dividing the sample into non-high-tech and high-tech observations and then running model 3 regression again in the two data sets. The results in the non-high-tech sample support the main regression results. In the group of companies belonging in the high-technology industry different variables become meaningful than in the main regression analysis. The results of the robustness check suggest, that for companies belonging in the high-tech industry variables which improve disclosure are independence from large shareholders of the company, director age, the percentage of female board members, and the frequency of board meetings. However, TENURE, BOARD_SIZE and FOUNDER all have a negative relationship with forecast frequency. Hence, it seems that factors which affect forecast frequency in companies that belong in the high-technology industry might be different compared to companies in non-high-tech industries.

To triple check the main regression results, I re-ran model 3 without the industry dummy but with a high-technology dummy and a dummy measuring external financing needs, both of which were suggested by Lacina (2006) to impact corporate disclosure. The results of the analysis support the main regression results, while also showing an additional positive association between board member independence of large shareholders of the company and forecasting frequency of both revenue and earnings forecasts, which was not statistically significant in the main regression analysis. The high-tech dummy is statistically significant and negative which is contrary to Lacina (2006), but the variable measuring external financing needs is not statistically significant. Further analysis, of which the results are only discussed here, shows that companies in the high-technology sample are smaller and are more likely to make a loss compared to companies in other

industries. Considering existing studies these two characteristics could partly explain why companies in high-technology industries seem to disclose the less forecasts in this particular sample.

6 Discussion and conclusions

The importance of board composition to voluntary disclosure is recognised in existing academic research, and the Finnish Corporate Governance Code gives a variety of recommendations towards achieving an efficient board composition. The role of board composition in corporate decision-making becomes even more important when shareholding is concentrated to few large owners. Large shareholders are able to reduce information asymmetry between themselves and the board of directors by affecting the choice of board members as well as by extracting private information from the company also by rule of law. Such powers available to the large shareholders of the company might align the interest of board members with those of the large shareholders of the company, which then could decrease the cost of equity capital coming from them. In such a market there is a danger that the board does not have a motivation to publicly disclose additional information voluntarily to all shareholders of the company.

Previous literature implies that certain ways of composing the board of directors could be more efficient than others in increasing transparency of disclosure. These elements can be classified to ones which improve board diversity, expertise and information sharing. The aim of this study is to examine whether board composition, which improves these elements and which is aligned with the recommendations of the Finnish Corporate Governance Code, acts as

an efficient tool to mitigate a potential reduction in forecasting frequency caused by concentrated shareholding.

To study the research hypothesis, I run a binary regression analysis which examines the association between board composition and forecasting frequency and precision with data collected from Finnish listed companies's financial statement releases, annual reports and corporate governance statements. The results suggest that, in general, board composition that improves board diversity, expertise and information sharing and which is aligned with the recommendations of the Finnish Corporate Governance Code is efficient in reducing information asymmetry between the board of directors and small shareholders when ownership is concentrated. Considering that the CEO dual role as both a board member and an executive manager increases both the frequency and precision of forecasts, it could be considered whether a recommendation of CEO inclusion to board work should be added to the Finnish Corporate Governance Code.

The results of this article are beneficial to especially small and dispersed shareholders who may try to improve transparency of corporate disclosure by electing independent board members in general meetings. It is important that the board not only represents the interests of majority shareholders but of all shareholders of the company. The results of this study may be used to strengthen, justify and develop the current corporate governance recommendations in order to promote a more transparent disclosure policy across companies. In the future it would be interesting to see whether changes in board composition affect the continuity of disclosure with e.g. a case study method.

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