IMPACT OF GENDER DIVERSITY ON VOLUNTARY DISCLOSURE IN ANNUAL REPORTS

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ABSTRACT

This study examines the impact of the firm director's gender on 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 female Chief Executive Officers and proportion of female board members have no significant impact on voluntary disclosure in company annual reports.

JEL: G14, G34, J1

KEYWORDS: gender, diversity, disclosure, annual reports

INTRODUCTION

The study of corporate disclosures in corporate annual reports is a key financial accounting research area. It has received a tremendous amount of attention in recent years. A majority of the research in this area has focused on corporate characteristics as they related to corporate disclosures in annual reports (see, e.g., Archamdault, 2003; Akhtaruddin, 2005; Wallace and Naser, 1995; Inchausti, 1997; Lang and Lundholm, 1993; Cooke, 1989, 1992; Raffournier, 1995; and Owusu-Ansah, 1998). 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). Recently a number of studies have investigated the effect of management factors like corporate governance, culture and management characteristics like director's financial experience as they related to issues like disclosure (see, e.g. Zarzeski, 1996; Chau and Gray, 2002; and Haniffa and Cooke, 2002; Matsunaga and Yeung, 2008).

The primary objective of this study is to examine the impact of the gender of firm directors on corporate disclosures in annual reports. The paper is motivated by two facts. First in practice corporate directors are directly involved in making decisions concerning which information is disclosed in the corporate annual reports. The second motivation is based on the grounds that there has been no prior research examining the impact imposed by gender diversity in general on corporate voluntary disclosures.

To investigate the study objective, the 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 voluntary disclosure by companies are 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 proportion of female board of directors have no significant impact on voluntary disclosures in annual reports.

The reminder 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 the methodology employed in the study is presented. Section 5 presents the results and discussion of findings while Section 5 provides the conclusion on the effect of gender diversity on voluntary disclosures in annual reports.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

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, Naser, and Mora, 1995). The categories are structure related, performance related and market variables. Structure related variables describe a firm based on 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. They include liquidity, earnings return, and profit margin. Market related variables are qualitative in nature unlike the previous two categories that 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 (see e.g., Archamdault, 2003; Akhtaruddin, 2005; Depeors, 2000). The association between corporate disclosure and profitability also has been of attention to many previous studies (e.g. Wallace and Naser, 1995; Inchausti, 1997; Akhtaruddin, 2005). Empirical results on profitability have mixed findings with researchers like Owusu-Ansah (1998) indicating a significant relationship and thus 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 from previous research. The relationship between industry type and disclosure was found to be insignificant in the findings of studies by Cooke (1992), Raffournier, (1995), Watson, Shrives and Marton (2002) and Owusu-Ansah's (1998). 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. In addition, capital structure as one of the corporate attributes that have been investigated in earlier studies 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.

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 (see e.g. Gibbins et al., 1992). This idea can be related to prior disclosure studies for example those studies combining corporate governance and director's financial experience with corporate disclosures (see e.g., Chau and Gray, 2002; Matsunaga and Yeung, 2008). Gender diversity is one of the interesting human aspects that has been of interest in many studies. This study considers it to be one of the important aspects to take into account when dealing with disclosure management and thus considers it to be another attribute that could be used to explain information disclosures in annual reports.

Gender diversity research has evolved into a challenging research issue in academia for the last decades. Most of this research has commenced from the fact that there are increasing numbers of women in top management as well as on corporate boards (see e.g., Singh et al., 2001). Related to the above is evidence from prior literature on the existence of differences between men and women regarding decision-making, risk taking, managing, leading, communicating and general performance in business enterprises (see e.g., Johnson and Powell, 1994; Powell and Ansic, 1997; 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 (see e.g., Alvarez and McCaffer,y 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 (see 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 women have better multi-tasking skills, risk management and communicative abilities as compared to their male counterparts. These abilities make them more competent and willing to take on different responsibilities at the same time as well 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, literature indicates that gender diversity also improves firm performance. A vast amount of literatures has examined the relationship between gender diversity and performance (see 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 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. Watson (2002) 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 not prefer to expand 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 business, there were no differences in the performance of male and female-controlled business. 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 that by Rose (2007) using a sample of listed Danish firms also reveal no relationship between gender and firm performance.

It can be assumed that the voluntary disclosure levels are affected by gender diversity considering the findings below. First, that gender diversity leads to improved firm performance (see, e.g., Erhardt et al., 2003; Siciliano, 1996) and second, that better performance by companies leads to an increase in the amount of information voluntarily disclosed by companies (see, e.g. Owusu-Ansah, 1998 among others who find a positive relationship between profitability and the extent of disclosure. It can further be assumed by this study that gender diversity of director's plays an important role during both the communication and decision-making process as to which information to disclose in the reports by the firm directors. This is related to earlier findings of a positive relationship between gender diversity (in terms of female representation and the differences between men and women) and the effectiveness of corporate boards. Based on the above discussion, this study expects gender diversity to have an impact on voluntary disclosure. It is of interest to examine whether gender diversity affects the amount of information voluntarily disclosed in corporate annual reports. This study therefore hypothesizes as below;

H1: There is a positive relationship between gender diversity of firm directors and the voluntary disclosures in annual reports.

DATA

The data for this study is 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 like 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. Further the study eliminates 11 companies with insufficient data for carrying out the study analysis. The remaining 108 companies representing a significant proportion (91.5% and 80%) of the total population of non-financial and companies listed on the Helsinki Stock Exchange respectively comprise the final sample for this study. The data used in this study covers the fiscal years 2005 to 2007.

The two main data sources for the study are the company annual reports for the years 2005, 2006 and 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 like 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 (FCEO) is set to 1 if Chief Executive Officer is female, (ii) female Chief Financial Officer (FCFO) is set to 1 if Chief Financial Officer is female, and (iii) 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 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 (CSIZE) which is measured by logarithm of assets at the end of year $_t$, firm leverage (LEV) measured by ratio of equity to total assets at the end of year $_t$, firm liquidity (LIQD) measured by the quick ratio at the end of year $_t$, firm profitability (PROF) measured by the return on assets at the end of year $_t$, board size (BSIZE) measured by the total number of board

members for each company and industry (IND) measured as 1 if the company falls under the manufacturing industry.

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			
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	(+)

This table presents the operational definitions of the variables employed in this study.

Table 2 shows the breakdown of female director's of the sample companies by industrial groups identified by their SIC codes. It is shown that the number of women in top corporate positions has generally increased during the three years under investigation. This is especially evident for the years from 2006 to 2007 for example, an increase of FCFO's and FBOD's from 22.22% - 23.15% and 42.59% - 50.93% respectively. It is also shown that for the three years, majority of the companies have at least one female member on the board. With regards to industry, more than half of the sample companies are seen to fall under the manufacturing industry.

Table 2: Industry Group Classification by Female Director's Representation for the Sample Firms

SIC Code	Industry Description	Sample in Industry	Firms with FCEO			Firms with FCFO			Firms with at least one 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 number and percentage of women director's by industry group classification. The table presents a breakdown of the sample firms by standard industry classification (SIC) codes and female director's representation .The sample consists of firms listed on the Helsinki Stock Exchange exclusive of financial institutions and firms with inadequate data.

METHODOLOGY

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 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 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 TD for each company is therefore (Total disclosure [TD] score list available on request):

$$TD = \sum_{i=1}^{m_i} d_i \qquad (1)$$

Where d_i is 1 if an item is disclosed and 0 if not; m_i is total number of voluntary items disclosed in the annual report by company i.

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

$$TD_i = \alpha + \beta_1 BSIZE_i + \beta_2 LEV_i + \beta_3 IND_i + B_4 LIQD_i + \beta_5 PROF_i + \beta_6 CSIZE_i + B_7 DGEN_i + \varepsilon_i \qquad (2)$$

where TD is the firm total number of items voluntarily disclosed, BSIZE is the size of the board in terms of total number of board members, LEV is company leverage measured by ratio of equity to total assets, IND is industry in which the company is and this is measured by 1 if the company is in the manufacturing industry, LIQD is company liquidity measured by the quick ratio, PROF is company profitability measured by return on invested capital, CSIZE is the size of the firm measured by logarithm of assets and DGEN is the gender diversity variable measured as follows: female Chief Executive Officer (FCEO) is set to 1 if Chief Executive Officer is female, female Chief Financial Officer (FCFO) is set to 1 if Chief Financial Officer is female, female board members (FBOD) is the proportion of female board members.

Separate models are run in order to illustrate the effects of the different gender measurement variables as well as to avoid any possibilities of multicollinearity problems between these variables. The multicollinearity problem is detected by calculated 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.

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 FCFO's and those with more FBOD's are higher than those with MCFO's and MBOD's (50.467 and 49.135 vs. 47.000 and 47.802) suggesting that disclosure are higher for those firms with female representation as measured by MCFO's and FBOD's. 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 FCFO's and FBOD's as compared to MCFO's and MBOD's (10.202, 9.799 and 6.939, 7.694 respectively).

Table 3: Descriptive Statistics

	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 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
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

	Mean	Median	Maximum	Minimum	Std. Dev.
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 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).

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 (see, e.g. Carter et al., 2003; Erhardt et al., 2003; Catalyst, 2004).

Table 4: Correlations Matrix of Variables

	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*

*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 percent levels respectively.*

Table 5 summarizes the regression results for the study variables. In regression Model A, only the control variables (BSIZE, LEV, IND, LIQD, PROF and CSIZE) are regressed against the dependent variable voluntary disclosure (TD). In regression Model B, C and D, disclosure is regressed against all control variables and gender diversity variables (FCEO, FCFO and FBOD). In all models the four models employed, the *F* values are significant at the 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 VIF's below 2. The variables in the models (A, B, C and D) when regressed on TD produce adjusted R^2's of 0.196, 0.194, 0.222 and 0.198 respectively.

All control variables in the regressions contain the signs as predicted by this study. It can be observed that board size (BSIZE) and profitability (PROF) are not statistically significant in the regression results. The other three control variables of leverage (LEV), industry (IND), and firm size (CSIZE) are positive and statistically significant at the 5%, 1% and 1% levels respectively for all models. Company liquidity is also significant at 5% in all the models but having a negative relationship with disclosure. These results on the control variables are consistent with most studies on information disclosure. 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. The results from Model C show that the variable FCFO is positive and significantly associated with voluntary disclosure (at 1% level). The results for Model D show a positive but insignificant relationship between FBOD and voluntary disclosure.

Table 5: Regression Results

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***

*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 reported in parenthesis. ***, ** and * denote significance at the 1, 5 and 10 percent levels respectively.*

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 finding on the gender diversity variable of FCEO can partially be explained by the differences in the roles played by company CEO in the disclosure process. This finding may indicate that company CEO's as compared to CFO's are more involved in corporate strategic planning matters than they are with preparation of company reports and therefore having less influence on the information disclosed in the reports. The results suggest that gender diversity is one of the attributes influencing the voluntary information disclosures in annual reports as indicated by the positive results from the two gender diversity variables of FCFO and FBOD.

This study is limited to only companies listed on the Helsinki Stock Exchange. The results should be interpreted with caution as they may be different for different setting for example they do not include small and unlisted companies. Future research could be carried out to investigate the differences between listed and unlisted companies as well as small companies as this might reveal interesting and probably different results on the relationship between gender diversity and voluntary disclosures.

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