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GENDER DIVERSITY IN SWEDISH BOARDROOMS

A study regarding gender diversity, firm performance and monitoring

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Bachelor thesis, Autumn 2015. 15 credits

Abstract

This thesis studies the relationship between gender diversity, corporate governance and firm performance. We study Swedish publically listed firms on the Stockholm stock exchange. After controlling for firm and board characteristics, we find that gender diversity has a negative effect on CEO turnover and no significant effect on firm market valuation, but a positive significant effect on firm performance. Overall, we contribute to a large body of literature examining the role of gender in corporate boards.

Acknowledgements

We wish to thank our thesis supervisor Moursli Mohamed-Reda for providing insightful help and support during the course of our thesis work. Most notably, his hand collected data we have used simplified much of our progress and enabled us to study our subject of interest.

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1. Introduction

Nowadays, gender equality in corporate boards is not a question of 'if', but 'when'. Many firms and organisations are very adamant in their belief that gender inequality is a problem, in society in general and in the boardrooms specifically. The chairman of The Swedish Corporate Governance Board states that at least 40% of the boardroom must consist of the least represented sex by 2020 (SvD 2014).

The Swedish Corporate Governance Board, which is responsible for drafting the Swedish Corporate Governance Code, urges Swedish companies to strive for gender balance on their board (The Swedish Corporate Governance Board 2014). Seemingly, the purpose of the code is to address the lack of gender equality. An interesting question that arises is whether or not gender equality affects other factors than the justice aspect itself.

Adams and Ferreira (2009) contend that a more equal composition of men and women in corporate boards changes the outcome of their activity. They find that the presence of female directors can have both a positive and negative effect on firm financial performance, depending on the nature of the firm studied. Thus, the effect of gender diversity could be another motivational factor to take into consideration. An additional paper from an organization expanding opportunities for women and business, finds a positive relationship between firm performance and diversity (Catalyst 2004). These papers are two of many suggesting that gender equality does not only affect the names in the board rooms, but other factors such as monitoring and firm performance (Adams and Ferreira 2009; Farrell and Hersch 2005).

This paper shows that female directors in Swedish boards actually influence the firms in different aspects. Studying roughly 238 Swedish publically listed firms over the course of 6 years, our main results indicate that a CEO turnover is less likely to take place in boards with a higher fraction of female directors. Additionally, we find a positive significant relationship of a gender diverse board on firm performance. Generally, our paper contributes to similar literature who also suggests there is a link between gender and board behavior.

The remainder of this paper is organized in following manner. In the next section we summarize related literature and in section 3 we define the hypotheses. Section 4 describes the sample and data used in our regressions while section 5 provides a description of the methodology and a general model. In section 6 the results of our regressions are presented. Section 7 concludes the paper. We provide additional statistics in the appendix.

2. Literature review

2.1. Gender differences and monitoring

A large body of economic literature examines the general differences between men and women. Using economic experiments, Croson and Gneezy (2009) find robust differences in risk, social and competitive preferences between men and women. They acknowledge that, on average, women are more risk-averse and averse to competition than men. However, the authors argue that these differences disappear when people move through the corporate ranks, since people in managerial positions tend to be more risk taking and choose to put focus on their careers.

In a study more related to ours, Adams and Funk (2012) study gender differences using a sample of directors in Swedish publically traded firms. They hypothesize that, in order for women to get appointed to influential corporate positions, they could be forced to behave more like men. However, they find fundamental gender differences in director values. Their study shows that female directors are more charitable and less interested in power than male directors. Contrary to traditional belief and the general findings in the study by Croson and Gneezy (2009) they also find female directors to be less risk-averse than their male colleagues. Adams and Funk (2012) use their results to argue that changing the gender balance in the boardroom can also change the behavior of the board and have a causal relationship with decision-making in the firm. They also underline that companies should not focus on the traditional image of women in the population when considering appointing women to top corporate positions, since there are significant differences in spirit between female directors and the general female population (Adams and Funk 2012).

Adams and Ferreira (2009) use gender differences between men and women as one of the cornerstones in their study. Starting with the current debate about female quotas on boards, they argue that these discussions are based on the view that having women on the board would affect the governance of the company. One effect could be that gender diverse boards would be more effective since there is a bigger supply of qualified directors to choose from when including women. Using a sample of US firms, they find that board monitoring is impacted by the presence of females in the board. They also show that women attend more board meetings and are more likely to be involved in monitoring committees than their male colleagues. These results are suggested to show that gender diverse boards put more effort into monitoring. The authors argue that if women attend more meetings, and are more involved in monitoring, women should affect the boards' overall position in monitoring matters.

To further study the monitoring principles in companies with gender diverse boards, Adams and Ferreira (2009) look at CEO turnover as a measure of the boards monitoring. They find that boards that are more gender diverse are more likely to fire a CEO for bad stock results and suggest that company boards with more women are tougher in monitoring than boards with a larger percentage of males.

The matter of monitoring managers and the CEO is one of the most important tasks of the board of directors in a firm. When monitoring the leadership, boards should look out for misbehaving managers. To keep track of the management, a board can use for example accounting measures and auditing to see misuse of company funds or bad decision-making (Adams et al. 2010).

Gul et al. (2008) study the impact of female board members on monitoring examining the differences in auditing fees in a sample of US firms from 2001 to 2003. In their study they hypothesize that boards containing female directors are more likely to have a higher level of monitoring. If this hypothesis was to be true, it would lead them to believe that firms with gender diverse boards would put more effort into auditing, and therefore demand higher audit

fees. They find evidence supporting that boards with a higher fraction of female directors is connected to the firm spending more money on auditing, in comparison to firms with lower gender diversity in their top governance.

Using agency theory as their starting point, Simpson et al. (2010) study a sample of S&P 1500 companies and discuss the effect of women on monitoring. Consistent with the results of Adams and Ferreira (2009) and Gul et al., the authors also show that women have a higher percentage representation in audit, corporate governance and nomination committee appointments than males. They also find that women executives are less likely to have a business background compared to men, and are more likely to have an academic or consulting background. Since women board members are more independent than male counterparts, the authors discuss that gender diverse boards should do a better job of monitoring managers. They argue that due to their minority status in the board room, they could feel less connected to the management, also implying a tougher monitoring.

2.2. Gender diversity and firm performance

To understand the potential relationship between gender diversity and firm performance, the subject frequently studied, often with mixed results (Adams et al. 2015). Adams and Ferreira (2009), who study a sample consisting of S&P 500, MidCap and SmallCap firms, use their findings on monitoring as a starting point to understand the potential relationship between gender diversity in board rooms and firm performance. They argue that more female director involvement could mean both positive and negative results for firm performance. A positive effect could be the smaller likelihood of agency problems with stricter monitoring, an important aspect of having a strong board of directors.

In their paper about corporate boards, Adams and Ferreira (2007) argue that director involvement in decisions could result in communication problems between management and directors. The authors also argue that because board members with diverse backgrounds can have different opinions, the possibility of disagreement and conflict could arise, making the decision making less effective and also resulting in negative effects for financial measures. Since they found that women attend more board meetings, Adams and Ferreira (2009) discuss that the higher attendance inevitably would lead to more involvement by female board

members in the daily operations. More involvement would increase the risk of interference between management and directors, and could therefore result in a negative effect of gender diverse boards on firm performance.

Adams and Ferreira (2009) find a significant negative effect of the fraction of females on the board and Tobin's q, as well as Return on Assets (ROA). They find that the fraction of female directors has a negative effect on firm performance in firms that are strong in governance. In companies with previously weak governance, the gender diverse board adds financial value, and the argument is made that gender diverse boards can cause "over-monitoring" in firms with otherwise strong governance. This result can be linked to the study of S&P 1500 companies by Faleye et al. (2011) who show that an improvement in monitoring can be costly. Putting more effort into monitoring, causes the firm to have less innovation, worse reactions to acquisitions and weaker strategic governance.

There are a few Scandinavian studies related to our own. Bøhren and Strøm (2010) use a sample of Norwegian companies between 1989 and 2002. In their study, they find a negative relationship between gender diversity and firm performance. They argue that the reason for the negative effect is that heterogeneous boards are less effective in their decision making. Related to this, two other studies of the Scandinavian countries have found that gender diversity does not have a significant relationship with firm performance. Rose (2007) uses a sample of listed firms in Denmark, and argues that his results could be due to that female directors could have adopted into the characteristics of the majority of male directors. Randoy et al. (2006) study the 500 largest companies in Sweden, Denmark and Norway and also find no significant effects. The authors conclude that their results mean that increasing diversity can be done without decreasing shareholder value, but also that diversity should not be seen as a fast solution for increasing firm performance.

Liu et al. (2014) study a sample of Chinese publically traded companies and find a positive impact of female board directors on firm performance. The authors explain these results by an improvement in company reputation, as well as decision making. In their study, they separate female executive directors from female independent directors, finding two separate effects

and concluding that the positive overall effect originates from the executive directors' leadership and decision-making, not from the monitoring effect of independent directors. Huang and Kisgen (2013), who study data of US firms, also find that a large number of female executives could help create shareholder value. They find that women make different corporate decisions than men, where females are not as likely to make an acquisition or issue debt as males. The authors argue that these results are due to male overconfidence. With these findings in mind, the researchers discuss that the gender composition of top leadership should be considered (Huang and Kisgen 2013).

Catalyst, an organization working to strengthen women's opportunities in business, study a sample of US Fortune 500 companies for the period 1996 to 2000. They suggest that there is a positive relationship between financial firm performance and gender diversity. It is argued that to have high representation of women in top management is linked with better financial performance. The report shows that on average, firms that had the best financial performance also had more women on the top management. In total, the results demonstrated that corporate performance is linked with gender diversity and vice versa (Catalyst 2004).

3. Hypotheses Development

With the literature on both gender and monitoring and firm performance in mind, we can summarize our own hypothesis. After the gender representation quota in Norway being noted by other countries, the debate about gender equality in Swedish boardrooms is present in the media landscape (SvD 2014). The current discussions could be a case for obtaining further knowledge on the subject and therefore testing if gender diversity affects board and firm outcomes.

Since there are differing preferences between men and women, in regards to risk preferences (Croson and Gneezy 2009; Adams and Funk 2012) this could suggest that a gender diverse board behaves differently from a homogenous one. As previous studies have shown, more gender-diverse boards can be correlated with higher levels of monitoring (Adams and Ferreira 2009; Gul et al 2008). Therefore, we expect that a gender diverse board is more sensitive to

stock performance in CEO-turnover, due to tougher monitoring of the CEO. Similar to Adams and Ferreira (2009) we measure monitoring of the CEO using CEO turnover.

Our hypothesis of the effect of gender diversity on monitoring is:

H1: A gender diverse board is more likely to replace the CEO after a period of bad stock performance.

A number of differing results have been found when researching the effects of gender diverse boards and their effect of financial performance. Bøhren and Strøm (2010) argue that their negative results are caused by diverse boards being less effective in their decision-making. Adams and Ferreira (2009) find negative effects in companies with strong governance, and discuss that this could be due to over-monitoring in the firm. The authors pose that boards that are tougher monitors can interfere and provide problems in communications between management and the board. Faleye et al. (2011) also show how a high effort of monitoring can cause negative effects for a company. In a ranking of countries by their overall corporate governance done by executive search firm Heidrick & Struggles (2009), Sweden ranked as the third best country, which would suggest that Swedish firms are on average strong in governance, and the tougher monitoring of a gender diverse board would therefore imply a negative effect on firm performance.

Like Adams and Ferreira (2009), we measure firm performance using ROA and firm market valuation using Tobin's q.

We state our hypotheses of the effects on firm performance as follows:

H2: A gender diverse board has a negative effect on firm market valuation.
H3: A gender diverse board has a negative effect on firm performance.

4. Sample construction and data description

4.1. Sample construction

The sample consists of a panel of firm characteristics and board members in publically listed Swedish firms from 2006-2011. We start with director level data such as age, gender, independence and position, which we aggregate to firm level.[1] Thomson Reuters DataStream has been used to collect financial data for each firm, where some data was needed to estimate Tobin's q and return on assets. Since data was not available for all firms, our sample varies from 233 to 238 firms.

4.2. Variable definition

Our main explanatory variable of interest, the fraction of females on the board, excludes employee representatives. Employee representatives are one of the characteristics of Swedish boards, and by excluding these directors we get a more accurate picture of females in boards (Adams and Funk 2012).

In order to control for other factors affecting CEO turnover and firm performance we control for common board and firm characteristics:

CEO compensation and other incentives such as stock ownership are connected with board monitoring. Monitoring has been shown to have a negative relation to the fraction of CEO shares. The relation is to be due to the CEOs interests which are more aligned with the shareholders if shares are owned. This, in turn, may lead to a lower need for monitoring. (Brick et al. 2006). CEO age and the board's average age are controlled for, in line with Coles et al. (2008). Natural CEO turnovers due to retirement will most likely result in a strong relationship between CEO turnover and CEO age, which is consistent with previous studies (Murphy and Zimmerman 1993; Weisbach 1988). Boards that are older on average could be more conservative, and could therefore affect both monitoring and performance (Randøy et al. 2006). The gender of the CEO is also included to control for CEO characteristics in the CEO turnover regressions (Adams and Ferreira 2009).

[1] Data regarding directors collected from Boards of Directors and Auditors in Sweden's Listed Companies, SIS Ägarservice. Data for ownership structure is collected from Owners and Power in Sweden's Listed Companies, SIS Ägarservice while data on compensation and ownership is collected from corporate reports. Mentioned data is provided by Moursli Mohamed-Reda.

We control for board size, which is measured as the total number of board members. This follows previous studies that find an inverse relationship between board size and Tobin's q. The size of the board also seems to have a connection with the likeliness of dismissing the CEO for poor performance (Coles et al. 2008); (Yermack 1996).

We also control for independent directors and female independent directors in the board, following Liu et al. (2014). Studies have shown that outside independent directors appear to strengthen the corporate board in such a manner that it better fulfils their obligations to the shareholders by controlling and monitoring the CEO. To protect shareholders' value, independent directors are not a solution in per se, but still an important element of the board (Petra 2005). Another study shows that the relation between past stock performance and CEO resignations are stronger in firms with higher degree of independent directors (Weisbach 1988).

We include a control for employee directors given that they often take sides with shareholders (Adams et al. 2011). We measure it as the fraction of employee directors. Employee directors could have different impacts on both monitoring and performance, according to Bøhren and Strøm (2010). They have also shown that firms with less employee representatives in the boardroom create less value. Fauver and Fuerst (2006) find that employee directors improve monitoring and reduces agency costs.

Adams and Ferreira (2009) find a significant negative relationship between CEO turnover and stock return. Their results indicate that the CEO is more likely to be replaced as the company exhibits poor stock performance. We control for the yearly stock return of the company, and also to examine the way gender diverse boards react to stock returns in their monitoring of the CEO. Following Goyal and Park (2002), we control for firm risk which we measure using the standard deviation of stock return. They argue that a high volatility in stock returns could indicate that the firm works in a more demanding setting, and that the board is less likely to dismiss a CEO due to bad stock performance in these cases. We control for firm size using the natural logarithm of the firm's yearly net sales, following Adams and Ferreira (2009). Firm

size could have an impact on the management structure, i.e. how much responsibility and help the CEO has in running the firm, as well as firm performance (Palmon and Wald 2002).

The three dependent variables are Tobin's q, Return on Assets and CEO turnover. CEO turnover is used as a proxy for firm monitoring, where the replacement of a CEO could be the result of an active board of directors that put more effort into monitoring. We measure CEO turnover with a dummy variable that is equal to 1 if the CEO was replaced the following year. In line with Adams and Ferreira (2009), the variable is defined to be missing in the last observed year for each individual firm. The two performance variables Tobin's q and Return on assets are used to include both a market-based measure and an accounting measure. Tobin's q is proxied by dividing equity market value plus liabilities market value by equity book value plus liabilities book value. At least 96% of the variability in Tobin's q is indicated to be reflected in this approximation (Chung and Pruitt 1994). This estimation is also consistent with much of the related literature (Coles et al. 2008). Return on Assets is measured by the ratio of net income on total assets.

4.3. Summary statistics

Summary statistics for the variables used in our regressions are provided in Table 1. The female representation on the board of directors is on average 16.9 percent, when employee directors are excluded. The total gender balance of the sample is depicted in Graph 1. It shows that in our sample, over the years 2006-2011, 20% are women. Graph 2 shows the female representation in the board for each individual year. 2006 the female representation was 17.5%. The female representation increases every year and reaches almost 23% in 2011. Out of 390 unique CEO individuals, our sample includes 11 female CEOs, a representation of approximately 2.8 percent. Graph 3 illustrates the fraction of female CEOs for each individual year in our sample. In 2007, not even 1% of the CEOs are women. The fraction of female CEOs reaches its maximum in 2011 with 3.6%. Out of 1294 observations 192 boards, or 14.83 percent, have no female representation.

The average age for CEOs in our sample is roughly 50 years, while the board has a mean of 54.36 years. Graph 4 shows the difference in male and female board member age for each individual year. Female board members have an average age about 50, while their male colleagues are on average 5 years older. The average board size is about 8 seats, but varies from 3 up to 15. 132 CEO turnovers have taken place during the time period of our sample.

We report correlation coefficients in Table 5. While a high correlation is displayed between some variables, such as volatility and stock return, most other correlations seem to be small in size. This insinuates that our analysis is not affected by multicollinearity to a high extent. There is a significant correlation between the fraction of female independent directors and the fraction of females in the board. The correlation is higher than 0,7 which could indicate a problem of multicollinearity (Liu et al. 2014).

5. Methodology

5.1. Gender diversity and monitoring

To study the effects of a gender diverse board on monitoring, we construct an econometric model as specified below:

$$Y_{it} = \alpha_{it} + \beta_1 Gender_{it} + \gamma X_{it} + \gamma Z_{it} + t + \theta_i + u_{it}$$

In this model, Y denotes our dependent variable CEO turnover, with the subscripts i for the specific firm and t for the time period (year). Gender is our main explanatory variable, the fraction of female directors in the board. X denotes a vector of board controls and γ is a vector for the coefficient of each individual variable. The board control variables included are CEO age, CEO gender, CEO shareholdings and CEO compensation. We also control for the average age in the board, board size, the fraction of independent directors and the fraction of employee directors. Z is a vector for firm controls and γ is again the vector for the coefficient of each control variable. The variables we control for are Stock return, Volatility and the logarithm of Net Sales.

The time variable t is included as year dummies in the regressions, and is included to adjust for trends in the data (Roberts and Whited 2012; Adams and Ferreira 2009). Graph 2 gives an indication that trends could be present in our data. Year dummies for the first and last years of our sample 2006 and 2011 are omitted from our regressions to avoid perfect collinearity. The letter θ denotes the firm specific unobservable factors that are constant over time. We elaborate on these fixed effects below. U denotes the remaining error term that varies over time in our estimated model.

Endogeneity, when the independent variables are correlated with the error term in a regression, is one of the most important problems facing a researcher when doing a study in finance. Since endogeneity leads to biased results, it's important to be aware of its consequences when doing empirical research. (Roberts and Whited 2012). When studying the impact of gender diversity on governance and performance, Adams and Ferreira (2009) point out that firm characteristics, that are impossible to observe and therefore left out of a regression, can lead to problems with endogeneity. If there are correlations between gender diversity and variables describing governance, the regression results can be misleading. Some firms might have a developed culture, resulting in the company having both a gender diverse board and a well-structured governance. Adams and Ferreira (2009) handle these problems by assuming that firm specific culture and other omitted factors don't vary across the time period of their sample, and therefore use a fixed effects regression to avoid biased estimators.

Following Adams and Ferreira (2009) we study our model above using both Pooled OLS and fixed effects regressions. The fixed effects regressions are done after a Hausman test assured us that our effects were unique for each firm, and random effects estimation should not be used. Fixed effects estimation allow us to handle problems due to time-invariant firm characteristics and reduce the severity of problems caused by variable bias (Roberts and Withed 2012).

When using fixed effects, Roberts and Withed (2012) stress that endogeneity can never be completely solved by the method and also discuss that other econometric problems can arise. Measurement problems could be a concern and when using lagged dependent variables as explanatory variables in a regression the coefficients can be misleading (Roberts and Withed

2012). In some of our regressions, we include one year lagged performance measures to control for present performance being affected by past performance as is commonly done (Adams and Ferreira 2009; Bøhren and Strøm).

Robust standard errors are used in all of our regressions. This is to avoid the problems of heteroscedasticity that can cause biased results (Adams and Ferreira 2009). Before using robust standard errors, we conduct the necessary Breusch Pagan test to ensure we have heteroscedasticity in our model.

5.2. Gender diversity and firm performance

We specify a second model constructed in the same way as in section 5.1, now with a set of different variables, to study gender diversity and firm performance.

$$Y_{it} = \alpha_{it} + \beta_1 Gender_{it} + \gamma X_{it} + \gamma Z_{it} + t + \theta_i + u_{it}$$

The definitions for the model is similar to the one in 5.1, however, in the model above, Y denotes the dependent variables in our regressions, Tobin's q and ROA.
Gender is our main explanatory variable of interest, the fraction of female directors in the board. X is a vector of board controls, and the control variables used in this model are the fraction of independent female directors and the fraction of independent directors as well as employee directors. The average age in the board and board size are also controlled for. Z denotes a vector of firm controls, and we control for Volatility, the logarithm of Net Sales and a one year lag of our dependent performance variables.

A problem when studying the effects of gender diversity on firm performance discussed by Adams and Ferreira (2009) is the matter of reverse causality. The authors pose that firm performance can cause women to want to join the firm, as well as a higher level of recruitment from the firm itself. Adams and Ferreira (2009) solve this problem by using an instrumental variable for the fraction of women on the board. They argue that male directors who sit on other boards (across their sample) with female directors is a valid instrument, as it is correlated to the fraction of females on the board but should be uncorrelated with firm performance. The theory behind their instrument is that a lack of connections is often cited as why women are a minority in the boardroom, and when the male directors are more connected

to females the more female board members should be observed. The authors conclude that the need of an instrumental variable approach is great in this research subject, as gender diversity is endogenous and complex in nature.

To try to solve the problems with reverse causality and endogeneity, we construct an instrumental variable similar to the one used by Adams and Ferreira (2009). We use a dummy variable that is equal to 1 if a board member is male and sits in multiple boards, in which at least one board has female board members. We then sum this variable and divide it by board size to get the fraction of male board members (for each firm and year) who sit in multiple corporate boards with female directors. On average 26.4 percent of board members in our sample are male that sit on multiple boards with female directors. 209 out of 1294 observations contain no male directors that sit on multiple boards with females, corresponding to 16.15 percent of our observations.

This instrument is significantly correlated with the fraction of female directors in the board, as is shown in the first stage regressions presented in our results-section. This significant correlation implies that our instrument meets the validity requirements of an instrumental variable (Roberts and Withed 2012). To be a proper instrument, the variable would also have to be exogenous. Adams and Ferreira (2009) argue that their instrument is uncorrelated with their measures of firm performance, due to controlling for other observable factors. The authors' stress that the independent directors of the board is an important control to achieve exogeneity using this instrumental approach, as the instrument could be a proxy for how connected the board is, which could be correlated with firm performance. Following this discussion by the authors we control for independent directors. They also discuss that fixed effects could remove problems of the instrumental variable being correlated with the dependent variable. However, in this thesis, we are only able to use our instrumental variable in Pooled OLS regressions. When using fixed effects, the instrument loses its significant first stage correlation with the fraction of female directors, and therefore the validity requirement is not met for fixed effects estimation. Despite not being able to use our instrument with fixed effects, we could avoid reverse causality problems that our ordinary Pooled OLS regressions could contain (Roberts and Withed 2012).

The problem of outliers is another econometric problem frequently discussed, and can cause unreliable test estimates in regressions (Gassner et al. 2008). In our sample, we observe that the data on Tobin's q may contain extreme values, since the maximum observed value is much higher than four standard deviations from the mean. To avoid problems with these possible outliers affecting our regression estimates, we winsorize Tobin's q at 1%. This method is frequently used to handle the problems of outliers causing biased estimators (Ghosh and Vogt 2012). The results for both winsorized and regular Tobin's q are presented in the Results-section.

6. Results

6.1. Gender and monitoring

The results from four regressions with CEO turnover as the dependent variable is presented in Table 2. The number of observations is 983 for every regression, and this number can be explained by the construction of our dependent variable as well as lacking firm data for a few companies in our sample.

In column 1, we present the results from a Pooled OLS regression. The coefficient for the fraction of females in the board is insignificant, but we find significant results for Stock return, CEO age, the average age in the board, Volatility and CEO shareholding. We interact stock return with the fraction of females in the board in column 2 and find no significant effect on the coefficient of the interaction variable.

Column 3 presents results from a fixed effects regression. It shows that the fraction of female directors in the board has a negative effect on CEO turnover, significant at the 5% level. This effect indicates that a more gender diverse board leads to lower CEO turnover in the firm, in contrast to previous research by Adams and Ferreira (2009). The effect of stock return is significant at the 5% level, and the negative sign is as expected, and implies that a decrease in returns leads to an increase in CEO turnover (Adams and Ferreira 2009).

In column 4, we interact the fraction of female directors with stock return in a fixed effects regression. On the contrary to Adams and Ferreira (2009) this interaction variable does not have a significant effect on CEO turnover. However, the fraction of female directors still has a significant negative effect on our dependent variable, but the effect of stock return is now insignificant. The interaction has the expected negative sign, which suggests, if it was significant, that CEO turnover decreases as returns increase in a gender diverse board (Adams and Ferreira 2009). Since our interaction variable is insignificant, we reject our hypothesis that a gender diverse board is more likely to replace the CEO for bad stock performance.

We also find another result regarding gender diversity, the effect of CEO gender is significant at the 1% level, and the positive effect suggests that CEO turnover is more likely if the CEO is female. This result, however interesting, should not be interpreted as a causal effect due to the low number of female CEOs observed in our sample (Roberts and Whited 2012).

Like Adams and Ferreira (2009) our result implies that there is a significant relationship between the gender diversity of the board and CEO turnover. In contrast to previous research, our findings suggest that gender diverse boards are not tougher in their monitoring of the CEO.

6.2. Gender and firm performance

In this section we present results from regression using our second model specified in 5.2, regarding the effects of gender diversity on firm performance. The results found from six regressions with Tobin's q as the dependent variable are presented in Table 3. The number of observations vary between 1018 and 975, due to winsorizing Tobin's q. The use of lags also makes us lose some observations, causing the difference from the number of observations presented in the Summary statistics section.

In column 1, we use Pooled OLS, and find no significant effect on the fraction of female directors on Tobin's q. In column 2 we use Pooled OLS again, after winsorizing Tobin's q at the 1% level. The coefficient for our main explanatory variable show no significant effect.

In column 3, we use the fraction of males who have board connections with women as an instrument for the fraction of female directors. The top row in the column displays that the instrument is negatively correlated with our main explanatory variable at the 1% level, after controlling for other factors. However, Adams and Ferreira (2009) find a significant positive correlation between the fraction of women board members and our instrumental variable. Our results could be due to the mentality of female board directors in Sweden. Adams and Funk (2012) prove that female directors in Sweden care less about conformity and could therefore be less connected to male colleagues, who often are a majority.

Column 4 displays the second stage results, and presents that the two-stage least squares coefficient for the fraction of females in board is not significant after using our instrumental variable.

Column 5 and 6 presents results from fixed effects regressions. In column 5, we find no significant effect of gender diversity on Tobin's q. The sixth column shows the results after winsorizing Tobin's q at the 1% level, and the coefficient for our main explanatory variable is not significant.

Even though we find no significant relationship between Tobin's q and gender diversity, the coefficients are positive, and not negative that we hypothesized. This is in line with the results by Rose (2007) who also finds insignificant, but positive coefficients. Our results could also be due to having low variation in the fraction of females in the board, which combined with fixed effects could result in insignificant findings (Roberts and Withed 2012). With our insignificant results in mind, we reject our hypothesis of a gender diverse board having a negative impact on firm market valuation, measured by Tobin's q.

The results from four regression with Return on Assets as the dependent variable are presented in Table 4. The 977 observations are lower than the observations presented in section 4, due to the use of lagged ROA as a dependent variable .In column 1, we find no significant effect of the fraction of female directors on ROA in our Pooled OLS regression.

These results are further reinforced in column 2 and 3, where we present the results for our instrumental variable. Column 2 shows the significant correlation between the instrument and the fraction of females in the board, as previously reported. In column 3, we find no significant results for our two-stage least squares coefficient using an instrumental variable.

In column 4, we use a fixed effects regression, and find a positive significant effect of the fraction of females in board on ROA. This effect is significant at the 10% level. Our results in column 4 suggests that gender diverse boards are correlated with higher firm performance. Although, our results could also be due to possible collinearity problems within the model. In their Chinese sample, Liu et al (2014) also find a significant positive relationship between gender diversity and ROA, and the authors provide several explanations. They discuss that gender diverse boards offer improved communication and improve the previous weak governance in Chinese firms. With this significant positive effect in mind, combined with the previous insignificant results, we reject our hypothesis of a gender diverse board having a negative effect on firm performance, measured by Return on Assets.

The majority of our results from gender diversity and firm performance and firm market valuation are insignificant, and are in line with the results of Rose (2007) and Randøy et al. (2006). Rose (2007) finds no connection between the female representation in boards and Tobin's q, and argues that females, who are a minority in the boardroom, could be forced to adapt to the mindset of the male majority and an eventual gender influence is lost. Therefore, the effects of board gender diversity can't be measured by firm performance (Rose 2007).

Randøy et al. (2006) find no significant effect of gender diversity on ROA with Pooled OLS regressions, and argue that it's hard to distinguish the effect of gender diversity on firm performance, since there are a lot of other factors that can affect the performance of a company. Like our regression results from fixed effects, Randøy et al. (2006) have a positive sign on their coefficients for ROA.

Instead of gender diversity, firm performance and firm market valuation overall seems to be affected by past performance, as we get highly significant effects from our one year lags of both Tobin's q and ROA. These significant effects are similar to many other studies, for example Adams and Ferreira (2009) and Bøhren and Strøm (2010). For Return on Assets, the coefficient for the logarithm of Net Sales is significant for both Pooled OLS and fixed effects regressions. This result suggests that firm size has a positive effect on firm performance and is in line with the results by Adams and Ferreira (2009).

7. Conclusion

In this thesis, we contribute to the literature studying the effects of gender diversity on board and firm outcomes. In our sample of Swedish publically listed companies, we find a significant relationship between gender diversity and CEO turnover, which suggests that gender diverse boards are related to less CEO turnover. We also study the effects of gender diversity on firm performance and firm market valuation, and find that there is no significant connection with firm market valuation, and a positive significant relationship with firm performance.

In studies examining the effects of diversity, a common problem is establishing a causal effect, due to endogeneity and reverse causality. The influence of gender diversity is hard to separate from other individual characteristics that are omitted from the analysis (Ferreira 2015). In our study, we use fixed effects and instrumental variable methods to try to prevent our results from being biased. However, there are still unobserved factors that we are not able to take into account, that often cause endogeneity problems in similar studies. Examples of unobservable factors are CEO and director ability (Roberts and Whited 2012) or the social network between directors (Ferreira 2015). Finding solutions for these problems could be important tasks for future research.

Since we find no significant effect of gender diversity on firm market valuation, and a positive significant effect on firm performance, this thesis does not give negative business motives for policy action regarding gender equality in boardrooms. Despite finding insignificant results for firm market valuation, equality in Swedish boardrooms could be beneficial in a broader scope. A quote by Ferreira (2015) puts the discussion into perspective: **"I do not think that the lack of evidence that female board representation improves profitability is a problem. The business case is a bad idea anyway. When discussing policies that promote women in business, it is better to focus on potential benefits to society that go far beyond narrow measures of firm profitability"**

References:

Adams, R.B. & Ferreira, D. 2007, "A Theory of Friendly Boards", *The Journal of Finance,* vol. 62, no. 1, pp. 217-250.

Adams, R.B. & Ferreira, D. 2009, "Women in the boardroom and their impact on governance and performance", *Journal of Financial Economics,* vol. 94, no. 2, pp. 291-309.

Adams, R.B. & Funk, P. 2012, "Beyond the Glass Ceiling: Does Gender Matter?", *Management Science,* vol. 58, no. 2, pp. 219-235.

Adams, R.B., Haan, J., Terjesen, S. & Ees, H. 2015, "Board Diversity: Moving the Field Forward", *Corporate Governance: An International Review,* vol. 23, no. 2, pp. 77-82.

Adams, R.B., Hermalin, B.E. & Weisbach, M.S. 2010, "The Role of Boards of Directors in Corporate Governance: A Conceptual Framework and Survey", *Journal of Economic Literature,* vol. 48, no. 1, pp. 58-107.

Adams, R.B., Licht, A.N. & Sagiv, L. 2011, "Shareholders and stakeholders: How do directors decide?", *Strategic Management Journal,* vol. 32, no. 12, pp. 1331-1355.

Brick, I. E., Palmon, O., Wald, J.K. 2006, "CEO compensation, director compensation, and firm performance: Evidence of cronyism?" *Journal of Corporate Finance,* vol. 12, pp. 403–423.

Bøhren, Ø, Strøm, R.Ø. &. 2010, "Governance and Politics: Regulating Independence and Diversity in the Board Room", *Journal of Business Finance & Accounting,* vol. 37, no. 9, pp. 1281-1308.

Catalyst, 2004. "The Bottom Line: Connecting Corporate Performance and Gender Diversity" Available at: http://www.catalyst.org/system/files/The_Bottom_Line_Connecting_Corporate_Performance_and_Gender_Diversity.pdf

Chung, K.H., Pruitt, S.W. 1994, "A Simple Approximation of Tobin's q" *The Journal of the Financial Management Association*, vol. 23, no. 3, pp. 70-74.

Coles, J.L., Daniel, N.D., Naveen, L. 2008, "Boards: Does one size fit all?" *Journal of Financial Economics,* vol. 87, pp. 329–356.

Croson, R. & Gneezy, U. 2009, "Gender Differences in Preferences", *Journal of Economic Literature,* vol. 47, no. 2, pp. 448-474.

Faleye, O., Hoitash, R. & Hoitash, U. 2011, "The costs of intense board monitoring", *Journal of Financial Economics,* vol. 101, no. 1, pp. 160-181.

Farrell, K.A., Hersch, P.L. 2005, "Additions to corporate boards: The effect of gender", *Journal of Corporate Finance*, vol. 11, no. 1-2, pp. 85-106.

Fauver, L. & Fuerst, M.E. 2006, "Does good corporate governance include employee representation? Evidence from German corporate boards", *Journal of Financial Economics,* vol. 82, no. 3, pp. 673-710.

Ferreira, D. 2015, "Board Diversity: Should We Trust Research to Inform Policy?", *Corporate Governance: An International Review,* vol. 23, no. 2, pp. 108-111.

Gassner, M., Dehon, C. & Verardi, V. 2009, "Beware of 'Good' Outliers and Overoptimistic Conclusions", *Oxford Bulletin of Economics and Statistics,* vol. 71, no. 3, pp. 437-452.

Ghosh, D., & Vogt, A. (2012). Outliers: An evaluation of methodologies. In *Joint Statistical Meetings* (pp. 3455-3460).

Goyal, V. P., Park, C. V. 2002, "Board leadership structure and CEO turnover", *Journal of Corporate Finance,* vol. 8, no. 1, pp. 49-66.

Gul, F. A., Srinidhi, B., & Tsui, J. S. (2008). Board diversity and the demand for higher audit effort. Working Paper. *Available at SSRN 1359450*.

Heidrick & Struggles. 2009. Corporate Governance Report 2009. "Boards in turbulent times". Available at: http://tomodomo.net/downloads/heidrickcg09screen.pdf

Huang, J. & Kisgen, D.J. 2013;, "Gender and corporate finance: Are male executives overconfident relative to female executives?", *Journal of Financial Economics,* vol. 108, no. 3, pp. 822.

Liu, Y., Wei, Z. & Xie, F. 2014, "Do women directors improve firm performance in China?", *Journal of Corporate Finance,* vol. 28, pp. 169-184.

Murphy, K.J., Zimmerman, J.L. 1993, "Financial performance surrounding CEO turnover", *Journal of Accounting and Economics*, vol. 16, no. 1-3, pp. 273-315.

Palmon, O. & Wald, J.K. 2002, "Are two heads better than one? The impact of changes in management structure on performance by firm size", *Journal of Corporate Finance,* vol. 8, no. 3, pp. 213-226.

Petra, S.T. 2005, "Do outside independent directors strengthen corporate boards?" *Corporate Governance: The international journal of business in society*, vol. 5, no. 1, pp. 55-64.

Randøy, T., Thomsen, S., & Oxelheim, L. (2006). A Nordic perspective on corporate board diversity. *Age*, *390*(0.5428). Available at: http://www.nordicinnovation.org/Global/_Publications/Reports/2006/The%20performance%20effects%20of%20board%20diversity%20in%20Nordic%20Firms.pdf

Roberts, Michael R. and Whited, Toni M., Endogeneity in Empirical Corporate Finance (October 5 2012). Simon School Working Paper No. FR 11-29. Available at SSRN: http://ssrn.com/abstract=1748604 or http://dx.doi.org/10.2139/ssrn.1748604

Rose, C. 2007, "Does female board representation influence firm performance? The Danish evidence", *Corporate Governance: An International Review,* vol. 15, no. 2, pp. 404-413.

Simpson, W. G., Carter, D. A., & D'Souza, F. (2010). "What do we know about women on boards?" *Journal of Applied Finance* vol. 20, no. 2, pp. 27-39.

Stockholm TT 2014, "Ökat tryck för jämn könsfördelning", *Svenska Dagbladet*.

Available at: http://www.svd.se/okat-tryck-for-jamn-konsfordelning

The Swedish Corporate Governance Board, 2014, "Swedish Corporate Code Governance"

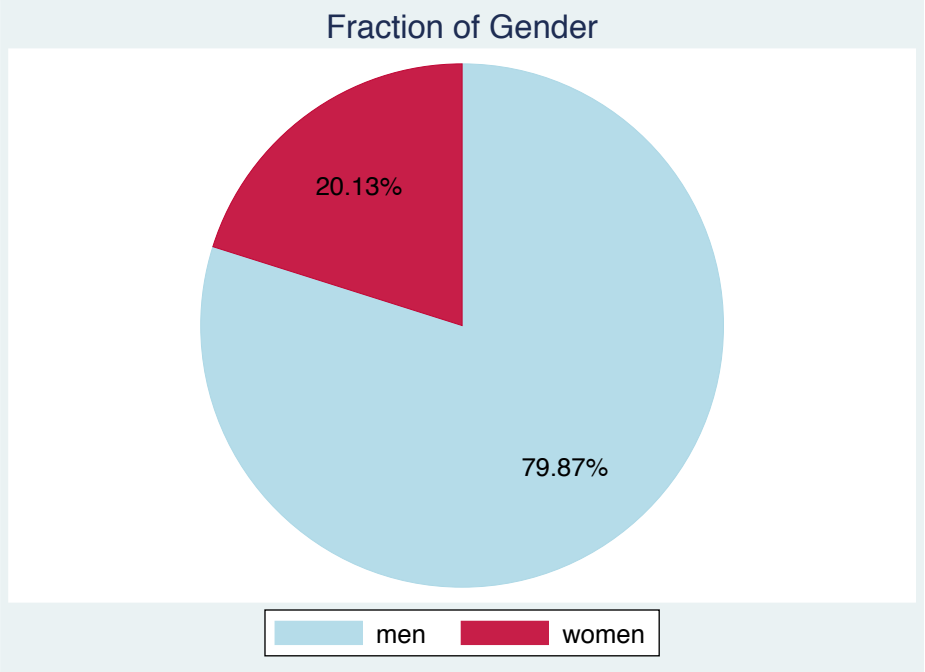
Updated version available at: http://www.corporategovernanceboard.se/media/69763/svenskkodbolagsstyrn_eng_2015_151124.pdf

Weisbach, M.S. 1988, "Outside directors and CEO turnover", *Journal of Financial Economics,* vol. 20, pp. 431-460.

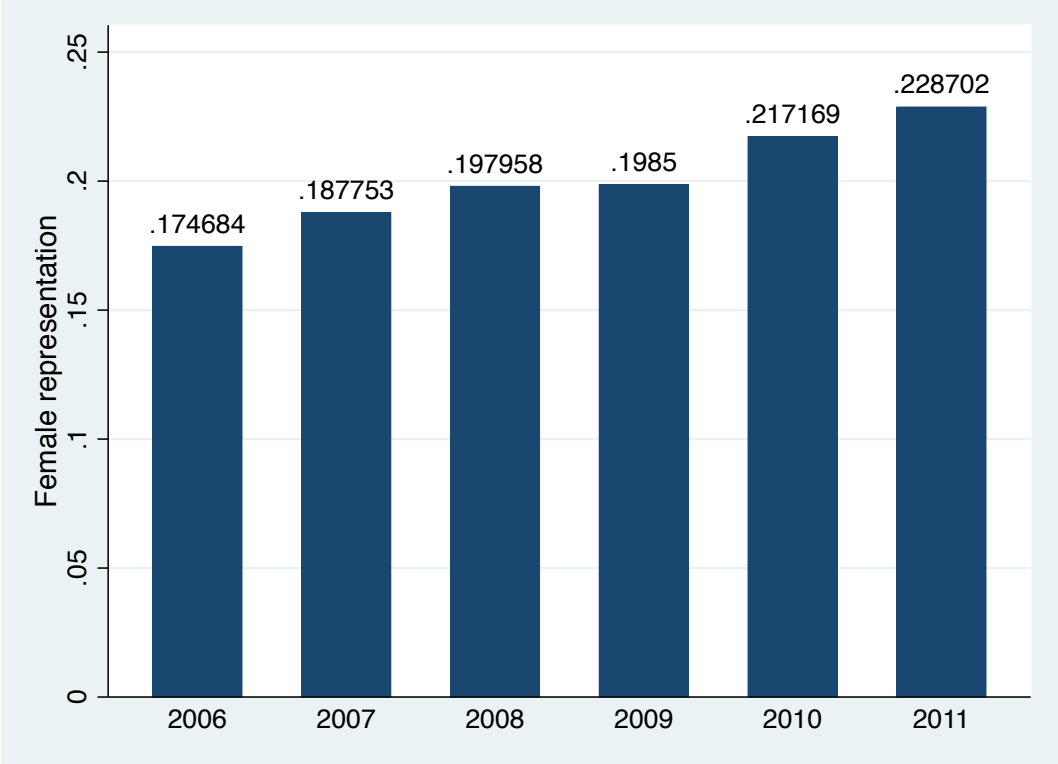
Yermack, D. 1996, "Higher market valuation of companies with a small board of directors", *Journal of Financial Economics*, vol. 40, no. 2, pp. 185-211.

Graphs and tables

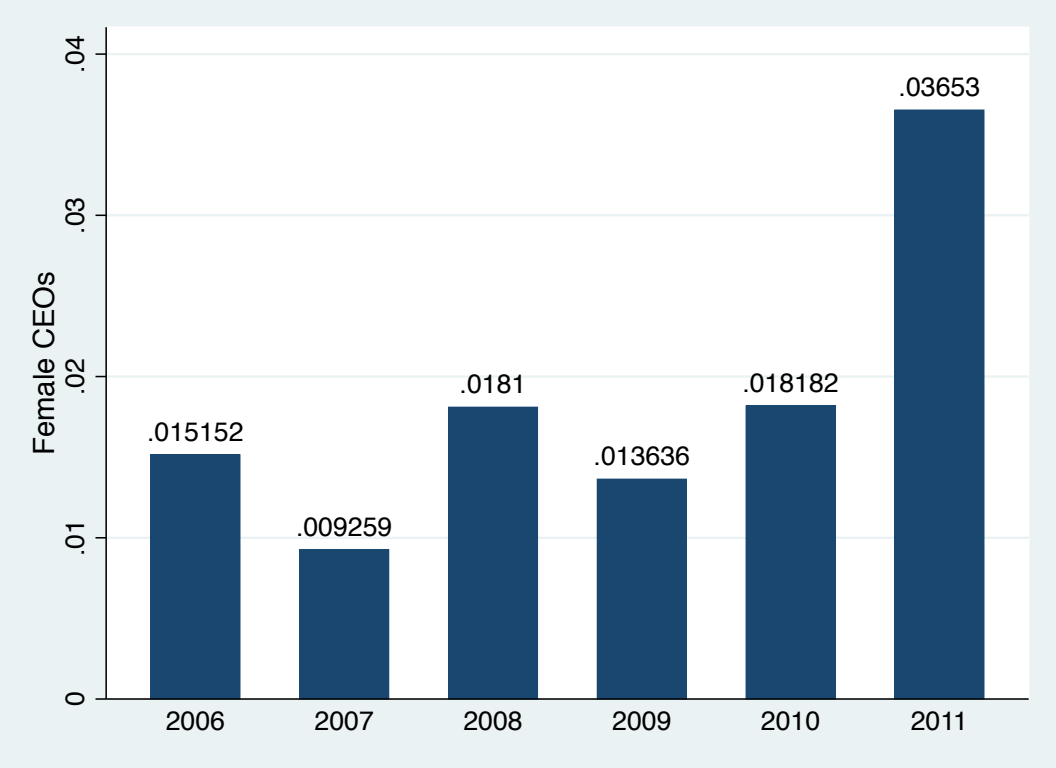
Graph 1: The total gender balance in the boardrooms of the firms in our sample



Graph 2: Female representation trend



Graph 3: Female CEO representation trend



Graph 4: Differences in average age between genders

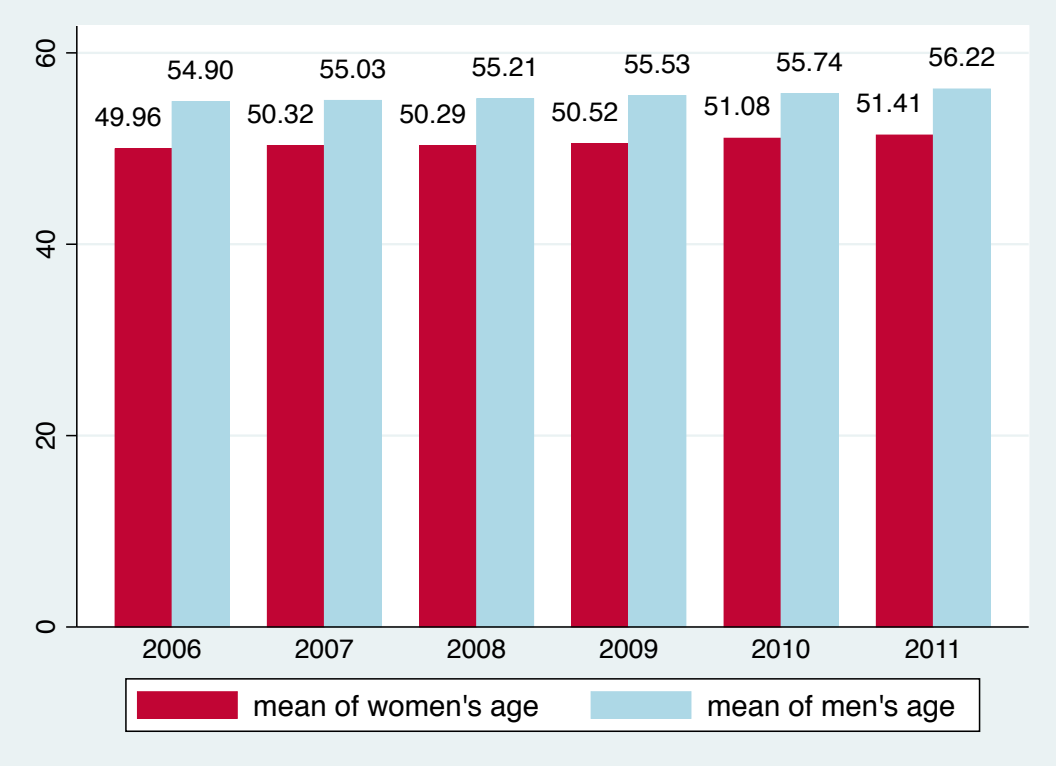


Table 1

VARIABLES	N	Mean	SD	Min	Max
Fraction females in board	1294	0.169	0.104	0	0.571
CEO turnover	1038	0.127	0.333	0	1
CEO gender	1294	0.019	0.135	0	1
CEO age	1294	50.065	7.015	32	67
Average age in board	1294	54.364	3.851	40	65.500
Board size	1294	7.974	2.144	3	15
CEO compensation	1294	4563.415	4816.657	0	28500
CEO shareholding	1294	0.234	0.309	0	1
Fraction independent female directors	1294	0.123	0.112	0	0.5
Fraction independent directors	1294	0.430	0.243	0	0.889
Fraction employee directors	1294	0.091	0.113	0	0.333
Stock return	1253	0.002	0.047	-0.173	0.187
Volatility	1250	0.109	0.056	0.024	0.587
ROA	1247	0.021	0.194	-2.295	0.764
Tobin's q	1251	1.895	1.936	0.433	27.954
Net sales	1246	12299.205	33211.450	-34172	310367

Table description: Fraction females in board is the number of female directors in the board divided by the board size, less employee representatives. CEO turnover is a dummy variable that is one if the CEO is replaces in the following year. CEO gender is a dummy variable that is one if the CEO is a woman. CEO age is the age of the CEO. Average age in board is the sum of the board member's age divided by board size. CEO compensation is the compensation for the CEO, presented in thousands. CEO shareholding is the number of A-shares and B-shares held by the CEO. Fraction independent female directors is the fraction of female independent directors in the board, while Fraction independent directors include both men and women. Fraction employee directors is the fraction of employee directors in the board. Stock return is calculated on a yearly basis while volatility is the standard deviation of the stock return. ROA is the ration of a firm's net income to its book value of assets. Tobin's q is the ratio of a firm's market value to its book value of assets. Net sales is the yearly net sales, presented in thousands.

Table 2 VARIABLES	(1) CEO turnover (Pooled OLS)	(2) CEO turnover (Pooled OLS)	(3) CEO turnover (Fixed Effects)	(4) CEO turnover (Fixed Effects)
Fraction females	-0.048	-0.045	-0.418**	-0.413**
	(0.104)	(0.108)	(0.203)	(0.202)
Stock return	-1.426***	-1.347**	-0.897**	-0.838
	(0.356)	(0.545)	(0.393)	(0.562)
Fraction females in board times Stock return		-0.478		-0.339
		(2.344)		(1.947)
CEO age	0.004**	0.004**	0.018***	0.018***
	(0.002)	(0.002)	(0.005)	(0.005)
Board size	0.006	0.006	-0.004	-0.004
	(0.008)	(0.008)	(0.020)	(0.020)
CEO gender	-0.011	-0.011	0.507***	0.505***
	(0.090)	(0.090)	(0.132)	(0.131)
Log (Net Sales)	-0.004	-0.003	0.033	0.033
	(0.007)	(0.007)	(0.033)	(0.033)
Average age in board	-0.006*	-0.006*	-0.003	-0.003
	(0.003)	(0.003)	(0.007)	(0.007)
Fraction independent	0.021	0.020	-0.012	-0.012
	(0.050)	(0.050)	(0.078)	(0.079)
Fraction employee	-0.041	-0.042	-0.555	-0.555
	(0.125)	(0.125)	(0.389)	(0.389)
CEO compensation	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
CEO shareholdings	-0.058*	-0.058*	-0.015	-0.016
	(0.034)	(0.034)	(0.131)	(0.131)
Volatility	0.439**	0.442**	0.057	0.059
	(0.204)	(0.205)	(0.311)	(0.313)
2007	-0.020	-0.019	-0.004	-0.003
	(0.037)	(0.037)	(0.039)	(0.040)
2008	-0.136***	-0.136***	-0.087*	-0.087*
	(0.043)	(0.043)	(0.046)	(0.046)
2009	-0.051	-0.051	-0.041	-0.041
	(0.033)	(0.032)	(0.034)	(0.034)
2010	0.010	0.010	0.017	0.017
	(0.036)	(0.036)	(0.039)	(0.039)
Constant	0.242	0.241	-0.958	-0.962
	(0.177)	(0.176)	(0.693)	(0.692)
Observations	983	983	983	983
R-squared	0.044	0.045	0.075	0.075
Number of firms			235	235

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 3	(1)	(2)	(3)	(4)	(5)	(6)
	Pooled OLS	OLS Winsor	First stage OLS IV	Second stage OLS IV	Fixed effect	Fixed effect Winsor Tobin's q
VARIABLES	Tobin's q	Tobin's q	Fraction female in board	Tobin's q	Tobin's q	Tobin's q
Fraction males connected to females (IV)			-0.040***			
			(0.012)			
Fraction females in board	0.928	0.572		4.272	1.838	0.843
	(1.279)	(0.449)		(5.753)	(1.812)	(0.820)
Fraction independent females	-0.384	-0.140	0.820***	-3.121	-1.070	-0.113
	(1.117)	(0.455)	(0.023)	(4.732)	(1.790)	(0.744)
Volatility	2.495*	1.398	-0.012	2.507***	2.383	1.409
	(1.338)	(0.987)	(0.040)	(0.808)	(1.594)	(1.037)
Log(Net Sales)	-0.045	-0.020	0.004***	-0.054*	-0.101	-0.052
	(0.045)	(0.026)	(0.001)	(0.030)	(0.459)	(0.318)
Fraction independent	0.045	0.181	-0.124***	0.442	-0.472	-0.125
	(0.245)	(0.195)	(0.012)	(0.726)	(0.368)	(0.229)
Fraction employee	-0.021	-0.059	-0.151***	0.419	0.860	1.006
	(0.410)	(0.328)	(0.026)	(0.920)	(0.689)	(0.672)
Average age in board	0.005	0.001	0.002***	0.014	-0.013	-0.011
	(0.011)	(0.009)	(0.001)	(0.018)	(0.023)	(0.016)
2007	0.258**	0.116	-0.005	0.273*	0.421***	0.353***
	(0.130)	(0.081)	(0.007)	(0.142)	(0.107)	(0.096)
2008	0.398***	0.336***	-0.005	0.383***	-0.418**	0.303***
	(0.152)	(0.086)	(0.007)	(0.143)	(0.175)	(0.082)
2009	0.586***	0.614***	-0.012*	0.628***	0.280**	0.330***
	(0.137)	(0.102)	(0.007)	(0.156)	(0.127)	(0.107)
2010	0.477***	0.395***	-0.005	0.495***	0.402***	0.352***
	(0.120)	(0.076)	(0.007)	(0.135)	(0.109)	(0.071)
Board size	0.020	0.018	0.005***	0.004	-0.040	-0.033
	(0.040)	(0.024)	(0.001)	(0.039)	(0.069)	(0.051)
Lag Tobin's q	0.608***	0.705***	0.000	0.606***	0.145***	0.197***
	(0.121)	(0.046)	(0.001)	(0.021)	(0.054)	(0.074)
Constant	0.199	-0.006	0.184***	-0.464	3.516	2.507
	(0.775)	(0.440)	(0.035)	(1.336)	(5.799)	(4.289)
Observations	1,018	975	1,018	1,018	1,018	975
R-squared	0.511	0.665	0.628	0.497	0.105	0.166

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 4	(1)	(2)	(3)	(4)
	Pooled OLS	First stage OLS	Second stage OLS	Fixed effects
VARIABLES	ROA	Fraction females in board	ROA	ROA
Fraction males connected to females (IV)		-0.045***		
		(0.012)		
Fraction females in board	-0.010		1.104	0.222*
	(0.074)		(1.017)	(0.129)
Fraction independent females	-0.062	0.830***	-0.985	-0.153
	(0.096)	(0.021)	(0.849)	(0.121)
Volatility	-0.438**	-0.026	-0.420**	-0.162
	(0.200)	(0.037)	(0.197)	(0.214)
Log(Net Sales)	0.024***	0.004***	0.021***	0.130**
	(0.006)	(0.001)	(0.005)	(0.064)
Fraction independent	-0.018	-0.124***	0.113	-0.046
	(0.031)	(0.013)	(0.121)	(0.051)
Fraction employee	-0.035	-0.143***	0.100	0.020
	(0.056)	(0.024)	(0.158)	(0.238)
Average age in board	-0.001	-0.002***	0.002	-0.000
	(0.002)	(0.001)	(0.003)	(0.004)
Board size	-0.009**	0.004***	-0.014*	0.018
	(0.004)	(0.001)	(0.007)	(0.012)
Lag ROA	0.380***	0.004	0.376***	-0.192***
	(0.074)	(0.013)	(0.073)	(0.043)
2007	0.015	-0.003	0.018	0.053***
	(0.014)	(0.007)	(0.016)	(0.019)
2008	-0.018	0.001	-0.020	-0.002
	(0.021)	(0.007)	(0.023)	(0.022)
2009	0.016	-0.009	0.026	0.008
	(0.019)	(0.006)	(0.022)	(0.022)
2010	0.012	-0.003	0.015	0.013
	(0.017)	(0.006)	(0.017)	(0.013)
Constant	-0.151	0.185***	-0.375	-1.967**
	(0.098)	(0.035)	(0.229)	(0.941)
Observations	977	977	977	977
R-squared	0.258	0.654	0.130	0.158

Robust standard errors in parentheses

***p<0.01, ** p<0.05, * p<0.1

Table 5	Fraction females in board	CEO turnover	CEO gender	CEO age	Average age in board	Board size	CEO compensation	CEO shareholding	Fraction independent female directors	Fraction independent directors	Fraction employee directors	Stock return	Volatility	ROA	Tobin's q	Net sales
Fraction females in board	1															
CEO turnover	0.00248	1														
CEO gender	0.145***	0.00551	1													
CEO age	0.0577*	0.0436	-0.0585*	1												
Average age in board	0.0831**	-0.0435	-0.0555*	0.444***	1											
Board size	0.111***	0.0261	0.0497	0.134***	0.0861**	1										
CEO compensation	0.133***	-0.00893	0.00424	0.127***	0.123***	0.539***	1									
CEO shareholding	-0.0282	-0.0694*	-0.0832**	0.241***	0.135***	-0.101***	0.0590*	1								
Fraction independent female directors	0.728***	-0.0253	-0.0553*	0.0974***	0.0157	0.0950***	0.158***	0.0859**	1							
Fraction independent directors	0.292***	-0.0199	-0.0211	0.0692*	0.0717**	-0.0345	0.0827**	0.160***	0.628***	1						
Fraction employee directors	-0.0408	0.0180	0.0277	0.147***	0.0529	0.681***	0.305***	-0.00229	-0.0330	-0.184***	1					
Stock return	0.0289	-0.126***	-0.0240	0.0158	0.0179	-0.00690	0.0367	-0.00596	0.0866**	0.115***	-0.0290	1				
Volatility	-0.0496	-0.00122	0.0193	0.0169	-0.100***	-0.111***	-0.134***	0.0160	-0.0228	0.0203	0.00430	0.208***	1			
ROA	0.0356	-0.0489	-0.0123	-0.0260	0.0108	0.0754**	0.125***	0.0243	-0.00284	-0.0348	0.0377	0.176***	-0.249***	1		
Tobin's q	0.0357	-0.00786	-0.0566*	-0.0537	-0.0672*	-0.108***	-0.0125	-0.0294	0.00555	-0.0281	-0.0791**	0.243***	0.147***	-0.0227	1	
Net sales	0.0372	-0.0218	0.0461	0.121***	0.120***	0.495***	0.504***	0.0886**	0.0653*	-0.0238	0.337***	-0.00392	-0.0889**	0.0695*	0.04	1
N	1294															

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Appendix 1

Dependent:	Included as dependent variables in regressions.
CEO turnover	A dummy variable that shows if the current CEO was replaced the following year. Defined to be missing in the last year of our sample.
Tobin's q	Estimated by the ratio of a firm's market value to its book value of assets.
ROA	Return on Assets is the ratio of a firm's net income to its book value of assets.
Explanatory:	Included as explanatory variables in regressions.
Fraction females in board	The fraction of female directors in the board, less employee representatives.
Board size	The sum of all board members.
Average board age	The sum of all board member's age divided by the board size.
Fraction employee directors	The fraction of employee directors in the board.
Fraction independent	The fraction of independent directors in the board.
Fraction independent female directors	The fraction of independent female directors in the board
CEO age	The age of the CEO.
CEO gender	A dummy variable that equals 1 if the CEO is female.
CEO compensation	The yearly compensation for the CEO.
CEO shareholdings	The number of CEO-owned shares, divided by the total number of shares held by the board.
Net sales	Yearly net sales for each individual firm.
Stock return	Stock return calculated on yearly basis.
Volatility	The standard deviation of the stock return.

Appendix 2

A-Com
AcadeMedia
Acando
ACAP Invest
Active Biotech
Addnode Group
Addtech
Aerocrine
aF
Affarsstratgerna
Alfa Laval
AllTele
Anoto Group
Arcam
Arise Windpower
Artimplant
Aspiro
Assa Abloy
Atlas Copco
Atrium Ljungberg
AudioDev
Avanza Bank Holding
Avega Group
Axfood
Axis
B&B Tools
Balder
Ballingslov
BE Group
Beijer Alma
Beijer Electronics
Bergs Timber
Betsson
Bilia
BillerudKorsnas
BioGaia
BioInvent International
BioPhausia
Biotage
Bjorn Borg
Boliden
Bong
Boras Wafveri
Brinova
Brio
Brostrom
BTS Group
Bure Equity
Byggmax Group
Cardo
CashGuard
Castellum
Catena
CDON Group
CellaVision
Cision
Clas Ohlson
Cloetta
Concordia Maritime
Connecta
Consilium
Corem Property Group
CTT Systems
Cybercom Group
D.Carnegie & Co
Dagon
Dedicare
DGC One
Dios Fastigheter
Doro
Duni
Duroc
East Capital Explorer
Elanders
Electra Gruppen
Electrolux
Elekta
ElektronikGruppen BK
Elos
Enea
Eniro
Ericsson
eWork Scandinavia
Fabege
Fagerhult
Fast Partner
Feelgood
Fenix Outdoor
Fingerprint Cards
FormPipe Software
G & L Beijer
Getinge
Geveko
Global Health Partner
Gunnebo
Haldex
Havsfrun
Heba
Hemtex
Hennes & Mauritz
Hexagon
Hexpol
HiQ International
HMS Networks
Hoganas
Holmen
HQ
Hufvudstaden
Human Care
Husqvarna
IAR Systems Group
IBS
IFS
Image Systems
Industrivarden
Indutrade
Intellecta
Intrum Justitia
Investor
ITAB Shop Concept
Jeeves
JM
Kabe
KappAhl
Karo Bio
Karolinska Development

Kinnevik
Klovern
Know IT
Kungsleden
Lagercrantz Group
Lammhults Design Group
Latour
Ledstiernan
Lindab International
Loomis
Lundbergs
Lundin Petroleum
Malmbergs Elektriska
Meda
Medivir
Mekonomen
Melker Schorling
Micro Systemation
Micronic Mydata/Micronic Systems
Midsona
Midway Holding
Moberg Pharma/Derma
Modul 1
MQ Holding
MSC
MTG
MultiQ International
Munters
NAXS Nordic Access Buyout Fund
NCC
Nederman Holding
Neonet
Net Entertainment
Net Insight
NetOnNet
New Wave Group
Nexus
Nibe Industrier
Nilorngruppen
Nobia
Nolato
Nordea Bank
Nordic Mines
Nordic Service Partners Holding
Nordnet
NOTE
Novestra
Novotek
Oasmia Pharmaceutical
Odd Molly International
OEM International
Opcon
Orc Group/Orc Software
Orexo
Ortivus
PA Resources
PartnerTech
Peab
Poolia
Precise Biometrics
Prevas
Pricer
Proact IT Group
Probi
Proffice
ProfilGruppen
Q-Med
Ratos
RaySearch Laboratories
ReadSoft
Rederi AB TransAtlantic
Rejlerkoncernen
Rezidor Hotel Group
RNB Retail and Brands
Rorvik Timber
Rottneros
Saab
Sagax
SakI
Sandvik
SAS
SCA
Scania
Scribona
SEB
Seco Tools
Sectra
Securitas
Semcon
Sensys Traffic
SHB
Sigma
SinterCast
Skanditek
Skanska
SKF
SkiStar
Softronic
SSAB
Studsvik
Svedbergs
Svolder
Sweco
Swedbank
Swedish Match
Swedish Orphan Biovitrum
Swedol
Systemair
Tele2
Teleca
TeliaSonera
Teligent
Thalamus Networks
Ticket Travel Group
Traction
TradeDoubler
Transmode Holding
Trelleborg
Tricorona
Uniflex
VBG Group
Venue Retail Group
Vitrolife
Volvo
Wallenstam
Wihlborgs
XANO Industri
Zodiak Television
Øresund