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# Board Diversity – an insight of Demographic Effects of the Norwegian Quota Rule

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## **Executive Summary**

In the wake of the Norwegian quota law implementation of a minimum fraction of 40% of both genders on corporate boards of directors, an interest naturally arises of how this ground-breaking regulation has turned out to affect the boards. The law fully enacted the 1<sup>st</sup> of January 2008, and companies not complying faced delisting. More women on boards imply more diverse boards in terms of gender. It also may imply more diverse boards in terms of board member demographics. With the aim of investigating the development of board demographics in relation to the quota law, this thesis has quantified and described board member characteristics on age, citizenship, level- and type of education of boards of directors of 20 Norwegian listed firms over the years 2003, 2005, and 2008. Not surprisingly, the quota rule has implied some effects for the sample's board demographics. Corresponding to the expectations, this thesis finds that the number of foreigners on the boards has increased. Contrary to the expectations, the average board member's age has kept steady over the observation period. Further, this research finds that in addition to have higher education, the newly added women bring educational knowledge mostly within economics and law to the board, whereas the levels of other, firm specific knowledge decrease. These findings may suggest that the boards are more business orientated post the quota law. The boards' business orientation, along with the constant board member average age, might suggest that the boards are not that diverse post the quota rule implementation after all. It could be that the attributes the female directors brought to the boards actually are making the boards more homogenous – quite contrary to the Norwegian government's intention. This presumption may support several researchers' skepticism towards the quota, especially since it is dubious whether the government actually knew the factual impact of the law pre implementation.

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## **Chapter 1: Introduction**

In Norway, a country commonly viewed as highly egalitarian, a new corporate law was made compulsory yearend 2007. The law requires that all boards of Norwegian listed firms (ASAs) have a minimum representation of 40% of both genders around the board table (Nordic Gender Institute). The law is controversial, since no such law exists in any other country in the world. Board composition and board diversity are both themes that capture the interest of different stakeholders around the world. Thus, eyes are watching Norway, eager to discover what kind of consequences this pioneering law has given boards and subsequently corporations.

Boards of directors have long been quite homogenous, typically consisting of older men (Nadler, 2004), and these uniform board members might only prefer to talk business with each other since similarity breeds trust (Adams and Ferreira, 2004; Kanter, 1967). As the people in the board room are homogeneous, the knowledge around the board table is more or less similar, which could make it difficult to add value (Burke, 1997).

Other than the principle of equality between sexes, one of the main arguments put forward by the Norwegian government representatives for undertaking the law was that a more gender-diverse board would add a wider set of knowledge since novel information resources were brought to the board (Teigen, 2008). Another of the underlying intentions of the quota rule was that a diverse board would merely reflect the investors' profile and get the company closer to the industry, market and business in general (Teigen, 2008). Also, having greater variety on the board was argued to lead to increased profitability of the companies since new business opportunities may be discovered.

In the aftermath of the corporate scandals around the world in 2001-2002<sup>1</sup> boards have been given a lot of the blame for the corporate failures and bankruptcies, (see for instance BusinessWeek 6<sup>th</sup> of May 2002). This ‘blaming’ reflects the prevailing perception of that at the end of the day; boards are merely viewed as responsible for companies’ survival. The bankruptcies have therefore given rise for a major call for corporate governance interventions (especially for boards). Board design is thus a “hot” topic in corporate surroundings. All types of stakeholders, i.e. shareholders, institutional investors, governments, banks, public debate and media have significant interest in who sits around the board table.

Independence<sup>2</sup> of board members is commonly assumed to strengthen shareholder protection (www.oecd.org), as independent boards are regarded as tougher monitors (Adams and Ferreira, 2005). Therefore is board composition a recurring theme in corporate governance literature and independency of directors is highly recommended – and in certain cases also mandatory<sup>3</sup>.

Board diversity may increase board independence (Thomsen et. al, 2006, Adams and Ferreira, 2008). Women may especially be regarded as independent since they never have belonged to the “old-boys-club” (Adams and Ferreira, 2006), which is frequently associated with homogenous boards consisting of men (Nadler, 2004).

Despite the independency focus, some researchers stresses that it is the inner workings of the board that really matter (Hermalin and Weisbach, 2002; Carter and Lorsch, 2004, Nadler, 2004), while others argue that boards on average does not really matter (Thomsen, 2006). Still, researchers and stakeholders all around the world are eager to find some kind of “recipe” of desirable characteristics of board members.

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<sup>1</sup> Enron, Exxon, Parmalat, WorldCom, etc.

<sup>2</sup> If you are not a independent director you are affiliated. Affiliation is defined in the *IEEE-SA Standards Board Bylaws*, 5.2.1.5 as: “An individual is deemed “affiliated” with any individual or entity that has been, or will be, financially or materially supporting that individual’s participation in a particular IEEE standards activity. This includes, but is not limited to, his or her employer and any individual or entity that has or will have, either directly or indirectly, requested, paid for, or otherwise sponsored his or her participation”.

<sup>3</sup> For instance, independency of all members of audit committees of US corporations is required by the Sarbanes-Oxley Act of 2002.

The corporate governance world continuously develops and does research on “best practices” which boards may apply with the aim of achieving the optimal board structure and hence performing their greatest. The Norwegian quota law is therefore of special interest, as it gives a new and *forced* structure to the board, thereby providing a “new practice” to do research on.

It is reasonable to expect that the quota law may imply some consequences for the demographics of the boards. For instance, it is intuitively rational to imagine that the introduction of the quota law may imply some difficulty for some companies to get hold of the right women for the board. Thus, it could be sensible to suppose that board nomination committees may search *broader* than earlier in terms of for instance age and nationality in order to find the women required for the board. The new female directors may bear different educational backgrounds than men as women tend to choose education differently than men (Statistics Norway). Hence, a change in the *board demography* may, among other things, be expected to be one of the outcomes of the Norwegian quota law. These expectations are the underlying rationale for this research and imply that it can be expected that the boards, post the law implementation, bear *changed* board member characteristics such as wider age diversity, more foreigners on the board, and different competence set among the board members.

### **1.1 Aim of the study**

Board characteristics that are able to be measured are of great interest for various stakeholders and the quest for finding new evidence is vast and continuously ongoing (Carter and Lorsch, 2004). This thesis will concentrate on readably *observable* board member characteristics of a sample of 20 Norwegian well-known listed firms. These observable board member characteristics will be examined and put in context to the Norwegian government’s quotation law of a minimum representation of 40% of both sexes on listed companies’ (ASAs) boards<sup>4</sup>. In

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<sup>4</sup> The law was imposed in 2006 and companies were given two transition years, fully enacting from the 1<sup>st</sup> of January 2008. According to Statistics Norway and the Norwegian government, there was full compliance to the requirements in April 2008.

order to investigate the Norwegian board demographics' development, panel-data on age, nationality, and education will be collected from 20 different boards over three periods of time (2003, 2005 and 2008) for examination.

The aim of the study is to investigate *the demographic implications of the Norwegian quota law on boards of directors of Norwegian listed firms*. This paper's purpose is to give the reader insight to whether the quota rule has given a measurable effect on Norwegian board's demography.

By examination of a sample of 20 Norwegian corporate boards' board member characteristics in terms of age-, nationality-, and education, this study aims to quantify and describe board member characteristics in the period shortly before, during and just after the law was undertaken. The underlying rationale for conducting this research is that mapping such information could give an indication of the possible demographic effects of the quota rule and hopefully give rise of interest for future studies on the theme.

## **1.2 Problem statement**

The introductory background information and subsequently the aim of the study in previous sections lead to the following problem statement of the thesis:

- 1) *Have the Norwegian quotation law of a minimum representation of 40% of both sexes on boards of Norwegian listed firms (ASAs) affected board demographic characteristics?*

In order to answer the problem statement, the following sub-question will be addressed:

- i) *If the board demographic characteristics are altered, how has the distribution of the board membership characteristics in terms of age-, citizenship- and education- distribution changed from the period shortly before the Norwegian quotation law was undertaken (2003) to just after the law was fully put into force (2008)?*



## **Chapter 2: Research Methodology**

*According to Andersen (1990) methodology is in principal about decision making of procedures. This part describes briefly the line of reasoning when approaching the problem statement, then model specifications, validation issues and finally delimitations.*

### **Methodological Preface**

The research method in this thesis is quantitative, based on summarized statistics of panel-data on board member characteristics from a sample of 20 Norwegian listed firms (ASAs). The aim is to map the development of the Norwegian boards' membership demographics, measured by board member characteristic on age, nationality, level- and type of education, in 2003, 2005 and 2008.

With the use of descriptive statistics this thesis research seek to describe the development of readably observable characteristics of board members related to 20 well-known Norwegian firms listed on Oslo Stock Exchange (OSE) in terms of age, nationality and education.

### **2.1 Sample**

The sample consists of a collection of board member characteristics of corporate boards of 20 Norwegian firms. From the sample, a panel-dataset of quantitative characteristics of the sample's board members was accumulated. These board member characteristics were found in the board members' mini-CVs located in the annual reports of the relevant firms, and were collected from three specific years: the period before (2003), during (2005) and right after the quotation rule was imposed (2008).

The board sample is selected from 20 relatively well-known Norwegian listed firms from varied industries. The samples' companies were firstly selected on the principle of *corporation size*<sup>5</sup>, where the largest companies were prioritized to be included, and secondly on the principle *availability*, as not all desired companies were able to provide the necessary information in every relevant year. This sample may thus be characterized as a convenience sample. By selecting companies on these two criteria, the outcome resulted in a collection of firms from various sectors, as subsea, banking, energy, software, furniture and utilities. An overview of the companies, their industry, and size is presented in table 1 below.

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<sup>5</sup> Size expressed as each company's number of employees yearend 2008.

**Table 1:** Overview of Companies included in this research

<b>Firm</b>	<b>Industry</b>	<b>Employees Yearend 2008 (approximated)</b>
Ekornes	Furniture	1600
Schibsted	Media	8100
Tomra	Recycling	2100
Eltek	Telecom	3600
Hafslund	Energy	1000
Tandberg	Software	1500
Farstad Shipping	Shipping	1600
Norske Skog	Utilities	6400
Petroleum Geo services	Subsea	5200
Frontline	Shipping	N/A
Norman	Software	200
Blom	Software	1200
Exense	Consultancy	100
Sparebank 1 Midt-Norge	Bank	1100
Statkraft	Energy	2300
Veidekke	Infrastructure	6500
DnB NOR	Bank	13500
Storebrand	Bank/Insurance	2200
Telenor	Telecom	38800
TGS-Nopec	Geoscience	700

## 2.2 Variables

In order to uncover some of the demographic characteristics of the sample's boards, board member characteristics were gathered and organized. These variables comprise information on board members' age, gender, citizenship, and level- and type of education.

The level- and type of education variables were split into sub-variables. The *level of education* was divided into four sub groups: <BA, BA, MA/MBA, and >MA, reflecting respectively the board member attribute of having no education or education on a lower level than a bachelor degree (<BA), having a bachelor or equivalent degree (BA), having a master or a MBA degree (MA/MBA), and having a Ph.D degree or higher (>MA). The *type of education* was divided into five sub groups: Economics, Law, Engineering, Other, and None, reflecting a director with the attribute of having a business economics degree or equivalent, having a law degree, having an engineering degree or similar, having other type of degree, or having no higher education at all. Having an 'other' type of education involves having a any type of degree but economics, law or engineering. This may include degrees as graphic design, political science, ethics, language, pedagogy, or human relations.

The gender, citizenship, and the two education variables were classified binary in order to code whether the board member in question held the relevant attribute or not. This type of classification was made in order to make it relatively straightforward to conduct significant tests of changes using dummy variables when investigating the study's results.

## 2.3 Data Analysis

Every variable in the panel-dataset, except for the age distributions, were analyzed firstly by inspection of the fractions of the variable in relation to the overall board, both graphically and numerically in relative terms. Secondly, the variables' fractions were analyzed in relation to

gender. The results were subsequently tested in order to see whether the prospective changes were significant or not.

The age variable was measured on interval scales, and presented graphically with histograms and the use of descriptive statistics.

## **2.4 Applicability and reliability**

According to Andersen (1990), *validation* can be understood as whether the research gives answer to what it is supposed to. It could be claimed that this thesis contributes as it provides insightful information about the demographic implications of the quotation rule. By enlightening these effects, this work may add some new knowledge to the corporate governance literature on board diversity and board demographics, and could perhaps work as an inspiration for future research on the theme.

It is arguable whether the paper's method is *reliable*, i.e. to which degree an equivalent study investigating the same problem would find the similar findings. In principal, the board demography mapping is relatively uncomplicated and gives the preliminaries for a straightforward descriptive analysis. Therefore is it reasonable to assume that a second study will to a certain degree find analogous results along with similar conclusions.

It is probably difficult to *generalize* to a high degree from this research since the sample is relatively small. Certain insight may however be obtained and lessons can be made. The research might possibly give an idea of the tendency of board membership characteristics for the entire population of boards of OSE listed firms. In addition, the companies included in this study are relatively large and may have the opportunity to attract women with a certain set of characteristics to their board as opposed to other smaller companies, thus influencing the sample's representativeness for the population and thereby the ability to generalize.

Consequently, it is associated uncertainty of drawing definite conclusions on the whole population of Norwegian ASAs based on this study's results.

The paper can be viewed as *relevant*, as the paper deepens the understanding of the development of the quality effect on board composition of the Norwegian quotation rule. The research is also relevant with regards to the fact that the quota rule is still novel and has earlier not been examined extensively in such a manner.

## **2.5 Delimitations**

There are possibly infinite factors that may influence boards' behavior and quality of task execution. Many different perspectives could be examined, such as board member cognition, cooperation or board task performance. Further, it is reasonable to believe that the board behavior is not only dependent on group-specific matters, but also external factors such as for instance type of industry or a financial crisis.

This thesis is only focused on a few specific board member characteristics that together comprise a demographic overview over the sample's boards over the relevant years. Other characteristics could have been included such as for instance whether the foreigners on the boards came from countries featuring common law or civil law; whether the board members had ownership in the company they served as directors, whether the board members had CEO-experience, or whether the board members were insiders or outsiders.

In the theory of board composition, inside-outside-director fractions are viewed as a good measure of board independence. This could have been interesting to investigate on this research sample as well, but it is viewed as not too relevant since the general tendency among Norwegian boards is that there are relatively few insiders on the board. Interlocking directorships however, could be more relevant when focusing on gender, as it could be interesting to see whether the pool of female candidates really are as limited as critiques of the law claim ([www.e24.no](http://www.e24.no)).

The geographical scope of the thesis is Norway. An alternative extension of this study could for instance have been to look at Swedish board member characteristics. Even though Sweden does not have a similar quota law as the Norwegian one, Sweden does have a relatively high share of women on their boards (according to Thomsen et. al, 2006; there are about 20% females on the Swedish boards). In addition, Sweden and Norway both belong to the same Scandinavian civil law system (La Porta et. al, 2000) and therefore interesting to compare. Hence, it could have been valuable to take a look at the demographic characteristics of Swedish boards and compare them with the results from this study.

The sample scope of this thesis is 20 companies. The limited number of boards included in this study is mainly due to time and availability constrains. This sample is too small in order to generate general assumptions on the whole population of boards associated with companies listed on Oslo Stock Exchange. Ideally, the sample should have consisted of all the boards of the companies listed on the OSE, or at least of 50 random companies. A larger sample would give a better analysis.

Additionally, the sample consists of relatively large companies, which could influence the results to some extent as it can be argued that large companies may have more resources to get more experienced female directors to their board. This may also contribute to the earlier mentioned conjecture of that it may be difficult to generalize from this research's findings.

Instead of using the panel-data set (that is: 20 companies observed 3 times), it could have been interesting to take use of cross-sectional data (60 companies observed 1 time each, i.e. 20 companies each year in question). The cross-sectional data set would have provided a larger sample, not suffered endogeneity problems and maybe give better grounds for generalizing of the population. However, such amount of data would be harder to get hold of and it can be argued that is beneficial to "follow" the firms with regards to the demography scope of this thesis, which is the case when using panel-data.

It is not the scope or the focus of the thesis to explain what a board should look like and how it should be constructed. The time is too limited in order to conduct such a task. Instead, this thesis

seeks to map some of the demographic characteristics of the sample's boards and view them in relation to the quota law.

An alternative investigation could be to look into the behavioral patterns of the board members before, under and after the law undertaking and compare the results, as for instance Adams and Ferreira did in their 2008 study. Another alternative investigation could be to define and create a couple of “board-quality-indexes”, observe the development of these over the relevant period of time, compare them to each other, and investigate whether the “quality” of the Norwegian boards changed from 2003 to 2008.

### **Chapter 3: Theoretical Framework – Board Composition and Board Diversity**

*This research seeks to investigate some demographic characteristics of board members of 20 Norwegian listed firms (ASAs) and view them in relation to the Norwegian quotation rule. It is the author's interest to help the reader to get an understanding of some of the relevant background information, so that he or she can put the study in relation to the corporate governance literature, surrounding theories and associated paradoxes. This chapter will not only attempt to provide the reader the line of reasoning behind the research, but also seize to put the investigation in a corporate governance literature framework.*

#### **3.1 Introduction**

*Corporate governance is, to a large extent, a set of legal, institutional and cultural mechanisms that help owners, as well as other stakeholders, to protect themselves against expropriation by insiders and management (La Porta et al., 1999; Shleifer and Vishny, 1997; Thomsen et al., 2006).*

Many would agree on that the ultimate objective for a corporation is to maximise company value and thereby shareholders wealth (see e.g. Bøhren and Strøm, 2008; Allen et al., 2006). In view of



Principal-Agent theory<sup>6</sup>, shareholders can be perceived as principals that hire managers (agents) in order to reach this goal. Agency costs might be associated with this arrangement, as conflict of interest may arise since managers may wish to manage the company differently than shareholders (Hermalin and Weisbach, 2003). Without an appropriate motive for managing the organisation, managers could be tempted by several alternatives that could benefit in her or his' own interest rather than the company's (Allen et al., 2006).

One mitigating initiative to the abovementioned conflict of interests may be installing a third party; inauguration of a board. Boards of directors work as one of the most important governance mechanisms when resolving conflicts of interest among decision makers and residual risk bearers amongst various other mechanisms such as corporation law, the market for managerial talent, capital markets, the internal structure of the firm, and so on (Baysinger and Butler, 1985). Boards work on the owners – shareholders – behalf, making sure that the company moves in the right direction and generate value of the shareholders' investments. In general, board's main tasks are to monitor the company's performance and progress, evaluate the company's management, approve corporate strategic plans and assess the succession of the company management and board members (Carter and Lorsch, 2004). Paradoxical, even though a board is inaugurated in order to work in the owners' interest, conflict of interest may arise within boards as well (Baysinger and Hoskisson, 1990).

Several initiatives are perceived as useful when dealing with the potential conflicts of interests between absent owners and insightful CEOs, such as smaller boards, board independence, board ownership, or CEO-part ownership (Thomsen et. al, 2006).

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<sup>6</sup> Principal-Agent theory is central in contract theory, where one part (the principal) hire another part (the agent) to exercise activities that the principal cannot directly control themselves as they may for instance not have the required expertise. The common examples are Patient-Doctor, Klient-Lawyer, Customer-Carpenter, etc. The theory stresses that there might be agency costs associated with this deal made by the two parts, as the principal have restrictions to scrutinize and evaluate the work done, thereby making room for underperformance or slack of effort by the agent. Hendrikse (2003).

A board's most important task is usually viewed as being monitoring management, and it is commonly assumed that it is only independent board members that can monitor effectively (Bhagat and Black, 2002), thereby strengthening shareholder protection (www.oecd.org). Shareholder welfare is improved by boards of directors which are capable of monitoring management, that is: making independent judgments on the managerial performance (Baysinger and Butler, 1985). According to Baysinger and Butler (1985), all else equal, firms with more independent boards should perform better.

Increased board diversity may be means to increase board independence (Thomsen et. al, 2006; Adams and Ferreira, 2008). Especially, in relation to *gender diversity*, the fact that female directors never have belonged to the “old-boys-club”, implies that female directors may more strongly correspond to the concept of independent directors (Adams and Ferreira, 2008).

### **3.2 Call for changes**

In the aftermath of the corporate failures of companies such as Enron, Exxon, Parmalat, WorldCom and Xerox in 2001-2002, boards and especially their audit committees were, among other factors, given a lot of the blame for the bankruptcies. The corporate scandals have contributed significantly to the present policies of board design, as governments around the world reacted to the bankruptcies with new governance codes and laws in order to recover lost confidence in markets of publically traded firms. The most obvious response to the corporate failures was the Sarbanes-Oxley Act in United States, which enacted on the 30<sup>th</sup> of July 2002 and requires, among other things, auditor committee independence and enhanced corporate governance. Laws similar to the Sarbanes-Oxley act appeared also in other countries; such as Bill 198 in Canada, J-SOX in Japan, Loi sur la Sécurité Financière in France, and several other new regulations and codes of conduct have also come forward in countries around the globe. These efforts were made with intention to improve governance and prevent corporate failures to occur in the future.

Institutional investors are also noteworthy contributors to the call for change of board design norms. For instance, CalPers<sup>7</sup> and TIAA-CREF<sup>8</sup> have for a long time called for board structure changes such a greater proportion of independent directors, separating the job of board chairman and CEO and limiting the number of boards on which a director should serve. Especially, TIAA-CREF has called for more female directors in the boardroom.

Even though these corporate laws and governance codes are made with good intentions, several researchers (see for instance Carter and Lorsch, 2004 and Bøhren and Strøm, 2008) entitled point out that the codes are not necessarily appropriate for all firms. They argue that regulations that are apparently intended to prevent scandals only are relevant to a small number of firms, and the regulation may actually end up destroying more value than gaining value in most other firms. Further, another noteworthy aspect is that regulation and recommendations might put restrictions on the owners control rights in boards (Bøhren and Strøm, 2008).

Despite great interest and huge efforts made in generating laws and codes for boards of directors, Thomsen (2008) finds that boards on average actually do not matter much<sup>9</sup>. This is because boards only account for a very small fraction of the overall business activities in companies. The board's tasks are important yet limited. According to Thomsen (2008), the board's marginal contribution is overall most likely insignificant. This paradox is important to bear in mind, as it questions whether the focus on board is really needed that much as stressed in the corporate governance literature. Nonetheless, regardless that the actual value added by a board may be small, the worldwide attention given to boards, their role and composition by researchers, scientists, media, corporations and investors is undeniable enormous.

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<sup>7</sup> California Public Employees' Retirement System (USA)

<sup>8</sup> Teachers Insurance and Annuity Association - College Retirement Equities Fund (USA)

<sup>9</sup> The proposition is concerned with “normal” boards, i.e. what would happen in extreme situations is not emphasised.

### 3.4 Best Practices

The pressure for change is substantial, and the call for optimization of boards is greater than ever. The ideas of “best practices” are numerous and apparent all over the world. Especially in Anglo-American countries<sup>10</sup>, a consensus has gradually arisen on what are boards’ best practices:

Primarily, boards must be empowered to govern the corporation well (Carter and Lorsch, 2004). A board is thought of being empowered if it consists of directors that are independent of company management and also if the boards incentives are closely aligned with the shareholders. This is also reflected in corporate governance literature which is generally concerned with shareholder protection and high levels of financial disclosure (See for instance Becht et al., 2003, Schleifer and Vishny, 1997, or La Porta et al., 1999). According to Carter and Lorsch (2004) and Bøhren and Strøm (2007), shareholders are protected and well informed if the board is empowered, independent and aligned.

Thus, the best practices adopted by boards are all initiatives that seek to improve board power and encourage independent thinking with shareholders interest in mind (Carter and Lorsch, 2004). Some of these best practices include: each board should have a majority of independent directors, the chair of the board should not be the CEO, each board should have three committees – audit, compensation, and corporate governance (or nomination) – and the committee members should all be independent directors, boards should be as small as feasible, and so on (Carter and Lorsch, 2004).

By inspection of the best practices briefly mentioned above, independence of directors seems to be the common theme in many of them. Thus, it is apparent that board composition may be an important approach to reach the board independency ambitions. As earlier mentioned, Thomsen et. al (2006) claim that board diversity may help enhance board independence, and in Norway the government has taken this presumption into practice.

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<sup>10</sup> That is: countries that operate under civil law, which is considered the law system protecting shareholders best (La Porta et. al, 2000).

### 3.4.1 Pioneering Norwegian Corporate Law

In Norway, several of decisions on board composition can be argued to have been moved from owners to regulators (Bøhren and Strøm, 2007; 2008). While in some countries the best practices serve as recommendations and function as comply or explain codes, some best practices have become corporate law in Norway. In the following, some of the general tendencies of Norwegian boards and the most important corporate laws regarding board composition are put forward:

- i. The chairman of the board cannot be the CEO of the corporation<sup>11</sup>.
- ii. Corporations in Norway are required by law to let employee elected directors count for one third of the board members<sup>12</sup>.
- iii. Average board size tends to be relatively small in Norwegian firms. This research's sample had an average of 8.25 board members in 2003 and 7.85 in 2008. Thomsen et. al (2006) found an average of 6.4 members in their study of a sample of 144 Norwegian firms.
- iv. The CEO tend to be a board member in approximately 1/3<sup>rd</sup> of the Norwegian firms (Bøhren and Strøm, 2008; Thomsen et. al, 2006).
- v. Although not regulated by law, managers of the corporation other than the CEO tend not to be directors (Bøhren and Strøm, 2008).
- vi. At last but not least; the Norwegian government made it recently mandatory to have a minimum of 40% representation of both sexes on all boards of Norwegian listed firms.

The 40% requirement is a proxy term; the actual fraction of women required on the board is dependent on the size of the board. In praxis the fractions of females directors varies from 33.3%

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<sup>11</sup> This law applies to firms with share capital above NOK 3 million (approx 0.35 mill Euros or 0.5 mill USD). In praxis, this means every listed firm.

<sup>12</sup> The law of employee election of one third of the corporate board members applies to firms that employ more than 200 employees.

to 50%. Please see the table below for an overview of the implementation rule. Please also note that the law only applies for shareholder elected directors, not the employee elected.

**Table 2:** The Norwegian quotation rule

<b>Number of shareholder elected board members</b>	<b>Minimum number of female directors</b>	<b>Fraction of female directors</b>
3	1	33.3 %
4	2	50 %
5	2	40 %
6	3	50 %
7	3	42.9 %
8	3	37.5 %
9	4	44.4 %
10	4	40 %
11	4	36.4 %
12	5	41.7 %

The law was put in force on the 1<sup>st</sup> of January 2006, with immediate effect for newly established companies and a transition period of two years for ASAs founded before 1<sup>st</sup> of January 2006.

The law fully enacted from the 1<sup>st</sup> of January 2008.

According to Teigen (2008), other than the principle of equality between sexes, some of the main arguments put forward by the Norwegian government representatives for undertaking the law were that a more diverse board would add a wider set of knowledge to the board, increase profitability, and get the companies closer to the industry, market and business in general (please see Appendix I for more information on the quota law). Moreover, it was argued that the quota rule was especially relevant for companies listed on the stock exchange since they featured a broader spread of ownership and this should be reflected in the boardroom<sup>13</sup>. In addition, one of the government's intentional side-effects of the quota law was that more female directors around the board tables would encourage women further down the pipeline to break the 'glass ceiling' and approach managing positions otherwise not approached (www.npr.org).

In Norway, the law was in general perceived controversial. Many viewed the law as "yet another Norwegian equality-between-sexes-political-invention, clearly in conflict with owner's autonomy" (Teigen, 2008). Others complained about difficulty to get the right women for the board, and argued that the law, among other things, was one of the instrumental determinants for their delisting during the transition period <sup>14</sup>(www.e24.no).

From a global perspective, the law is ground-breaking, as Norway is the first country in the world to carry out such a law and no other country has currently a similar rule. Unsurprisingly, curious eyes around the globe are observing the Norwegian example and some are following Norway's example. Sweden was about to undertake a similar law but did not pass it after all due to change of government during the fall of 2006<sup>15</sup>. Spain, apparently a less egalitarian country

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<sup>13</sup> Please see Appendix I for excessive background information about the inauguration of the law, a small discussion of it and the political game underlying the decision of undertaking the law.

<sup>14</sup> About 200 companies delisted themselves in the period from 2007 to 2008. There are multiple reasons why this happened, but according to the media many companies announced that the quota law was in many cases one of the weighing reasons for going private (www.e24.no).

<sup>15</sup> Interestingly, the listed companies in Sweden were preparing themselves for the quotation law to be put in force by the beginning of 2007 and were recruiting female directors for their boards. Even though the law was not put into force, the female fraction of the boards in Sweden was kept – on a level of approximately 20% in 2006 (Thomsen et

than the Scandinavian ones, passed recently a gender quota law similar to the Norwegian one, that will be put into force in 2015 (Adams and Ferreira, 2008).

### **3.5 Diversity as a solution**

There is ample agreement on that boards' core assignment is primarily to serve as an organ that select and monitor management on behalf of the shareholders (see e.g. TIAA-CREF; Carter and Lorsch, 2004; Thomsen, 2008). Three key concerns when designing a board are to make sure the board is aligned, informed and decisive (Bøhren and Strøm, 2008; Carter and Lorsch, 2004). In other words; when designing a board one need to be concerned about constructing board that aligns the interests of the principals and the agents, that provides information for monitoring and advice, and at the same time foster decision-making effectiveness (Bøhren and Strøm, 2007, 2008; Carter and Lorsch, 2004; Becht et al., 2003; Hermalin and Weisbach, 2003).

As Bøhren and Strøm (2007, and 2008) point out, the public debate argue that one possible way of obtaining aligned, informed and decisive boards could be, among other means, to create a more *diverse* board. Diversity can in principle be defined as “variety” or “a point or respect in which things differ”, Milliken and Martins (1996)<sup>16</sup>.

#### **3.5.1 Why explore diversity?**

Diversity in the workforce has been an issue receiving vast amount of attention both in academia and popular press (Farrell and Hersch, 2005). Different kinds of stakeholders have different kinds of attitudes towards diversity (Thomsen et al., 2006). For example, with regards to gender, politicians, corporations and institutional investors will typically have a positive attitude towards

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al., 2006). Thus, the government's signal of undertaking a quotation law gave a positive effect to the women fraction in corporate boards.

<sup>16</sup> Milliken and Martens (1996) reviews a rather vast amount of literature on top management teams, organizational task groups and board of directors.



diversity (Farrell and Hersch, 2005; TIAA-CREF; Thomsen et al., 2006). This can be due to facts like; females are generally more present in work life today, there are more females with higher education than ever, societies have become more egalitarian, and there is a public demand for diversity (Thomsen et al., 2006). Further, an expectation to firms to include women more actively in business is more prevalent than ever (Joy, 2008; Farrell and Hersch, 2005).

On the other hand, researchers seem to have a more negative attitude towards diversity (Bøhren and Strøm, 2007; 2008). The corporate governance literature overall fail to give strong support for diversity (Teigen, 2008; Thomsen et al., 2006). For instance, Bøhren and Strøm (2008) finds that firms are more valuable than others and create more market value (in terms of market to book ratio) when boards are smaller, have less employee directors and when gender diversity is low, that is: when the board is more decisive. Tacheva and Huse (2006) investigated gender diversity in Norwegian boards and found that the number of female directors has a significant negative effect on board task performance (in terms of financial control and service tasks).

Thomsen et al. (2006) have a more neutral attitude towards diversity. They find that board diversity is not significantly related to company performance. However, the firms in Thomsen et al. (2006)'s study does not seem to perform worse, which suggest that enhanced board diversity, as a choice or as forced by law, can be achieved without negative effect on firm performance and shareholder return. Farrell and Hersch (2005) came to similar conclusion; their results suggest that adding women to the board does not imply value creation or value destruction.

In a later study, Thomsen et. al (2009) finds that firms that have heterogeneous boards in terms of gender-, citizenship-, and age diversity, generally perform better (measured by Tobin's Q and growth rates) than firms with more homogenous boards. Erhardt et al (2003) finds that board diversity in terms of women and minorities are positively associated with firms' financial performance (measured by ROI and ROA), thus suggesting that board diversity has an impact on overall organisational performance. Carter et. al (2003) find that there is a significant, positive relationship between the percentage of women on corporate boards and firm value (measured by Tobin's Q).

Firm size are in general positively related to female representations on boards (Adams and Ferreira, 2004; Carter et al., 2003). This may be due to that larger companies may experience greater demand for diversity due to the fact that the firms are in public scrutiny and women may be attracted to boards of larger firms and thereby easier required (Adams and Ferreira, 2004).

It is important to keep in mind that the corporate governance literature on diversity is vast and to some extent unforeseeable. Formal theory on boards is relatively limited and consequently, the majority of the studies are empirical and not motivated by formal theory. According to Hermalin and Weisbach (2003), the studies are based on assumptions on issues that are assumed mattering for boards. Further, it is difficult to compare studies as they often look at different aspects of diversity in terms of type of diversity and dependent variable (see for instance Wiersema and Bird, 1993; Milliken and Martins, 1996; Hambrick and Mason, 1985; Adams and Ferreira, 2008; Tacheva and Huse, 2006; Erhardt et. al, 2003; Thomsen et. al, 2009).

Thomsen et al. (2009) point out that there it is difficult to measure the effect of board structure precisely, as there is reasonable that there are several other factors that may be instrumental to company performance. In addition, findings may be sensitive to model specifications, which imply that the findings cannot be taken as evidence without closer inspection (Thomsen et. al, 2009).

### **3.5.2 Benefits of Diversity**

Resource dependency theory addresses the synergy potential between directors and the owners, as board members may be connected to various valuable resources such as capital, customers, suppliers or cooperative partners (Thomsen et al., 2006; Sciciliano, 1996; Kesner, 1988). By becoming more diverse, a board may strengthen its links between the organization and its environment; thereby secure critical resources (Stiles, 2001). This resource access suggests that more diverse boards may subsequently experience a positive performance impact due to diversity as it relates to gender, age, and nationality (Thomsen et. al, 2006).

According to Cox and Blake (1991), sound management of organizations with regards to diversity (both gender and in citizenship) may create competitive advantages for companies within within six areas: (1) cost, (2) resource acquisition, (3) marketing, (4) creativity, (5) problem-solving, and (6) organizational flexibility. Cox and Blake's reasoning behind this argumentation is as follows: Firstly, as organizations become more diverse, integrating costs increases. Companies that manage this well will create cost advantages to those companies that do not. Second, firms with the best reputation of managing diversity will attract better human capital. Third, the insight foreign members bring to the marketing effort should improve these efforts in important ways. Fourth, diversity of perspectives should improve the level of creativity. Fifth, heterogeneity in decision making and problem solving groups may potentially produce better decisions through a wider range of perspectives. Sixth, implementation of a multicultural model for managing diversity implies less standardization and more fluidity, which in turn may create greater flexibility for corporations to react on environmental changes. In other words, according to Cox and Blake (1991) reasoning, there is potential for great benefits if diversity is acknowledged and managed properly.

From an agency theory point of view, board diversity may increase board independence and thereby help mitigate agency problems in boards (Thomsen et al., 2006). This can happen because board independence is perceived necessary in order to reduce potential problems of CEO-dominated boards (Hermalin and Weisbach, 1998). That is, if the board is more heterogeneous, the CEO may be less able to manipulate it and less CEO entrenchment are expected to be observed. Thomsen et al. (2006) point out that this matter is of special importance in small Nordic countries which features limited pools of board candidates, in which conflicts of interest may easily arise in relation with interlocking board membership.

In a rather comprehensive study, Adams and Ferreira (2008) find evidence for women having positive impact on board governance. Female directors have better board meeting attendance patterns than male, and the greater fraction of women on boards, the better is the attendance behaviour of male directors. In addition, gender diverse boards tend to have more board meetings. This suggests that boards with more female directors are characterized by greater

participation of directors in decision-making (through overall greater attendance and more meetings), thereby promoting better governance. Adams and Ferreira (2008) also find that gender diverse boards tend to have more equity-based pay, which suggests that gender diverse boards are more aligned with the interests of shareholders.

In the same study, Adams and Ferreira (2008) find that firms perform worse the greater the gender diversity of the board<sup>17</sup> on both market valuation and operating performance measures (Tobin's Q and ROA, respectively). Investigation of this counter-intuitive result, given the earlier findings above, reveals that these results are driven by companies with greater shareholder rights. This suggests that gender diversity may have beneficial effects in companies with weak shareholder rights, that is: in firms where it is likely that additional board monitoring may increase value. And on the other hand, gender diverse boards may actually reduce board effectiveness in well-governed firms, i.e. companies with strong shareholder rights.

With regards to female board members, Burke (1997) argues that women are a necessary corporate resource in their own right. This is not only because females in boards enhance board decision making, creativity and innovation (Burke, 1997), but for other reasons such that women may appear encouraging and inspirational for other women further down the pipeline, acting as role-models (Joy, 2008; Burke, 1997). Joy (2008) explains; "talented women recruited by companies will want to see women in leadership position – not just as tokens – to know that their skills will be valued and rewarded".

### **3.5.3 Costs of Diversity**

Managerial and psychological scientists argue that diversity of any type creates difficulty for groups (Milliken and Martins, 1996). This is due to complex and often implicit, differences in perspectives, assumptions, and casual beliefs among its members. A diverse group could have members who may have different experiences and therefore different perspectives on key issues. Further, Milliken and Martins (1996) continues, underlying differences in the individual board

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<sup>17</sup> Once corrected for endogeneity problems and omitted variables

member's *schemas*, or the conscious and unconscious preconceptions and beliefs that organize people's thinking, can give coordination problems for groups.

Group loyalty may be dependent on similarity of group members (Thomsen et al., 2006). Thus, board diversity may reduce teamwork effectiveness because of lower group loyalty. According to Milliken and Martins (1996), the more diverse a group is with respect to gender, race or age, the higher the group's turnover rate. That is, more diversity implies a higher probability of dissimilar individuals will turn over and be absent.

Kanter (1967) looks at top management teams and claims that they cooperate better when the team members are alike, or homogenous, because social likeness breeds trust. Trust is an important mechanism of team governance. Especially when uncertainty is high, Kanter argues that homogeneity is preferred to heterogeneity in order to tackle the uncertain situation. Thus, diversity and uncertainty are negative related. According to Thomsen et. al (2006), this implies that in highly volatile firms, like for instance high-tech firms, board diversity is more "costly", but nonetheless potentially more valuable. Adams and Ferreira, whom look into what they call "Kanter's conjecture"<sup>18</sup> in their 2004 study, argue that Kanter's idea of 'similarity breeds trust' implies that when board diversity increases, directors' identification with each other will decrease. Subsequently also their keenness to work together will weaken.

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<sup>18</sup> Adams and Ferreira's "Kanter's conjecture" (2004) states that uncertainty and diversity are negatively related, and thus incentive pay and group homogeneity may act as substitutes. Diverse groups will face difficulties to cooperate the argument goes, and thus will diverse teams need additional mechanisms, as for instance pay-performance contracts, to provide incentives for cooperation. Further they argue, as a natural consequence, when uncertainty is high, firms rely more on homogeneity of the managerial team than formal governance mechanisms as the contracts become too costly. Adams and Ferreira (2004) find empirical evidence for Kanter's conjecture. Firms with higher variability in their stock return have fewer women on their boards. Further, they find that firms with a greater proportion of female directors on their boards seem to use restricted shares as a greater part of the compensation to directors. Thus, more diverse boards actually seem to do need additional mechanisms to encourage cooperation, and incentive pay increases as diversity increases.

Corporate governance scientists state that when board diversity increases, there are especially two associated costs; it takes time to build trust between the directors, and decision-making gets slower as heterogeneous groups can increase conflict (Adams and Ferreira, 2004). Thomsen et al. (2006) point out that board diversity may make board task conduct more complex, be the source of disruption of existing power structures and further it might weaken the bargaining power of the board versus shareholders or other important stakeholders.

#### **3.5.4 Tradeoffs between costs and benefits**

To sum up, some of the possible positive outputs of board diversity include access to additional resources, competitive advantages, improvement of board monitoring behaviour, the anticipated inspirational influence of females on corporate boards for women further down the pipeline, and the possible mitigating effect of board diversity on agency problems when assuming board diversity increases board independence. These effects may be offset of the potential downsides of diversity; which are, among other things, the costs associated with low level of trust and group loyalty, which materializes in the time it takes to build trust in a heterogeneous group, the low board effectiveness and slow decision-making.

The abovementioned possible effects, among other factors, should be taken into consideration when composing boards. The costs and benefits of board diversity should be balanced by the board nomination committees and put into a purposeful mix of board members that comprise valuable characteristics and at the same time homogenous enough so effective decision-making can be made (Thomsen et. al, 2006; 2009). These considerations should be made along with deliberation about company- and industry factors (Thomsen et. al, 2006; 2009).

It is difficult to come to conclusions when comparing the up- and downsides of board diversity. This is due to mainly three things. Firstly, the relevant literature, hereunder especially the corporate governance literature on board diversity, features a very diverse range of studies and it is in principle hard to compare studies and create definite conclusions from studies that do not

investigate the same issue (see for instance the studies of Tacheva and Huse, 2006; Adams and Ferreira, 2008; Bøhren and Strøm, 2008; Erhardt et. al, 2003; Thomsen, 2009).

Second, if the studies in fact do seek to investigate the same issue, they may still end up with diverse results as several of the studies may suffer endogeneity problems (Hermalin and Weisbach, 2003). However, endogeneity problems seem to more often plague studies of board composition in relation to performance rather than in relation to specific board tasks (Hermalin and Weisbach, 2003). The problem of endogeneity drives around the issue whether the studies are able to capture the actual true relationship; is there in fact a causal relationship, or are the results just subject to spurious correlation? (Hermalin and Weisbach, 2003). As Adams and Ferreira (2004; 2008) point out when addressing their study's endogeneity problems: Data on inner workings of corporate boards are unobtainable and therefore it is impossible to give direct evidence on director interaction within boards, thus only indirect proof can be given.

Third, it appears to be complicated to measure the effect of board diversity (Thomsen, 2009). Many other factors may influence the outcome of the board behaviour and work (Hermalin and Weisbach, 2003; Thomsen, 2009).

### **3.6 Board Composition**

*“Board composition is as important to the theory of corporate governance structures as the structure of organizations is to the theory of the firm” (Baysinger and Butler, 1985).*

#### **3.6.1 Board Design**

The board can be put in a system of three design elements: board structure, board composition and board processes, Carter and Lorsch (2004). The board *structure* is aspects as size, leadership and the committees the board requires to accomplish its role. The board *composition* reflects the mix of experience, skills and other attributes of its members. The board *processes* is how the board gathers information, builds knowledge and makes decisions.

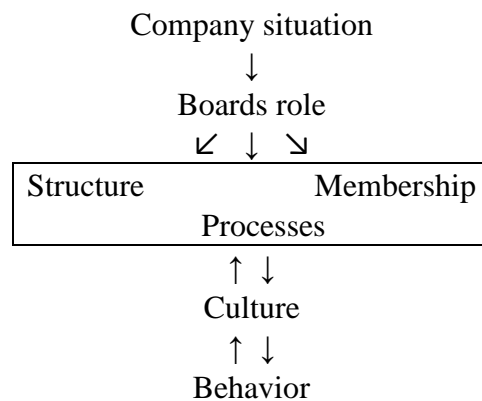
The design decisions undertaken by the board should be corresponding to the complexity of the company and the role the board intends to play (Carter and Lorsch, 2004; Nadler, 2004)<sup>19</sup>. These decisions may have implications for the behaviour that take place in the boardroom later on.

With regards to gender diversity, these implications could be for instance board meeting attendance (Adams and Ferreira, 2008), or organizational performance<sup>20</sup> (Erhardt et. al, 2003).

Board composition is potentially relevant to the financial performance and success of the corporation as the board is made up of individuals that may possess valuable qualities of judgment, maturity, and leadership (Baysinger and Butler, 1985). Therefore, the selection of the particular individual director may affect firm performance.

Carter and Lorsch (2004) state that a board, like any other organisation, is a system in which the behaviour of the directors is shaped by the design elements and the board’s culture (please see figure 1).

**Figure 1:** The board as a system – Adopted from Carter and Lorsch, 2004 pp.9



<sup>19</sup> Carter and Lorsch (2004) stress that the board needs to understand its role before considering its explicit design choices. The board’s role could be determined based on an assessment of questions like: What are the company’s legal obligations? On whose behalf are the board members governing, and what do these parties require from their investment or other involvement with the corporation? In order to meet their duties, what kind of efforts and activities must the board employ? What are the hindrance for doing the job right, and what resources are needed?

<sup>20</sup> Measured by return on asset (ROA) and return on investment (ROI).



Underlying the process of creating an optimal board based on defining the board's role and purpose, and subsequently request tailored board members based on those definitions, may involve interesting issues. Nonetheless, this thesis is only concerned with the *board members demographic characteristics* of the sample's boards, and Figure 1 is included solely in order to put the board membership aspect in relation to the board as a system.

### **3.6.2 Board demography**

Organizational demography is in general defined as the study of the composition of social entity in terms of its members' attributes (Lawrence, 1997). Pfeffer (1985) defines demography of an organization as means of describing the organization in terms of the distribution on various dimensions (age, sex, nationality, etc). Organizational demography focuses on attribute variables on an aggregate rather than individual level, and suggests that they aggregately influence behaviour independently of individual-level attributes (Lawrence, 1997).

Pfeffer, 1985; stresses that demographic factors are important for understanding and managing organizations, as similarity is an essential source of interpersonal attraction and demographic characteristics such as age, race, and gender may help determine this similarity. He continues; similarity in these characteristics may also signal that those who share these attributes have a higher probability to be similar.

Organizational demography reflects similarity and dissimilarity among individuals, providing perspective for understanding output and processes affected by group dynamics, such as the level and extent of within-group communication, outcomes of group dynamics, the level of agreement in a group, innovation and turnover (Wiersema and Bird, 1993). However, it is important to keep in mind that the influence of demographic effects may vary across nations as population and sociocultural patterns vary (Wiersema and Bird, 1993).

The general theme in theory on top management teams are that in order to be efficient and value adding, teams should consist of people with complementary skills (Nadler, 2006). Groups with members with such knowledge are believed to be more successful and harmonized, than homogenous groups featuring homogenous thinking (Nadler, 2006).

There are possible infinite factors that may influence board quality, board effectiveness and board productivity. In the following, a few indicators of director- and board characteristics commonly applauded in the in management- and corporate governance literature on group workings both represented is introduced and briefly discussed.

### **Board meeting attendance**

Regular meeting attendance is a practice viewed by many as a hallmark of the conscientious director (Sonnenfeld, 2002). However, Sonnenfeld argues, yet important for the individual director, it is not crucial for the company to be successful. Adams and Ferreira (2008) find that in gender-diverse boards, that female directors are more likely to have better attendance pattern than male directors. Further, the greater the female fraction on a board is, the lesser problems have male directors with attendance. In other words, these findings suggest that gender-diverse boards may be more reliable.

### **Equity involvement**

From an agency point of view, board members are assumed to be more alert if they have equity involvement (Sonnenfeld, 2002). Adams and Ferreira (2008) find that gender-diverse boards tend to have more equity-based compensation, which suggests that gender diverse boards may be more aligned with the interests of shareholders. Proving the contrary, in the aftermath of the corporate scandals in 2001/2002, it turned out that all but one of Enron's directors held stock, and some of them were even buying when the stock collapsed (Sonnenfeld, 2002).

## **Board member skills / Education**

A certain set of board member skills are appreciated around the board table. This may be abilities as for instance: financial literacy – the ability to analyze complex financial issues, CEO experience, retail analysts, ability to assess risk, etc (Sonnenfeld, 2002; Nadler, 2004). Diversity along skill- or knowledge based dimensions could have some positive cognitive outcomes, i.e. innovative solutions to problems (Milliken and Martins, 1996; Hambrick and Mason; 1984). On the other hand, Milliken and Martins (1996) argue that higher turnover rates and higher coordination- and integration costs are associated with educational background diversity.

Hambrick and Mason (1984) point out that there has been little research on the effects of formal professional education on corporate outcomes. With regards to the MBA degree, it is argued that people that have achieved the degree might only pursue short term goals at the expense of innovation and asset building (Hambrick and Mason, 1984). On the contrary, it is argued that the MBA degree does not have a significant effect in the long term for either the MBA graduate him-/herself or for the corporation. It only serves as a way of filtering employee candidates and jobs. Regardless, MBA candidates are probably not as innovative and they are most likely more risk averse than self-made executives (Hambrick and Mason, 1984).

Based on Statistics Norway, sociological studies (Useem and Karabel, 1986), and board composition theory (Carter and Lorsch, 2004); educational degrees of economics, law, and engineering may be assumed to be the three most frequent educational backgrounds of boards of directors in general.

## **Age**

Sonnenfeld (2002) points out that there seem to be a general opinion concerning boards becoming less effective as the average age of their members increases. Sonnenfeld (2002), on the other hand argue that age often may be perceived as an asset because a person's age may reflect

experience and maturity. Milliken and Martins (1996) conclude that groups that have more age diversity represented tend to have higher turnover rates. Further they argue that diversity in age may lead to increased absence, lower performance, and less communication<sup>21</sup>.

Hambrick and Mason (1984), argue that managerial youth appears to be associated with corporate growth, along with volatility of sales and earnings. In other words, young people may be associated with taking more risks. On the contrary, Hambrick and Mason (1984) points out that older executives is associated with conservatism. This could be due several reasons; older executives may be less able to grasp new ideas and learn new behaviors, thereby having low ability to integrate information in making decisions, they may have greater psychological commitment to the organizational status quo, and older executives may be at a point in their lives at which financial- and career stability are important and thus they are risk averse. Yet, older executives appear to be positively associated with tendencies to seek more information, to evaluate information accurately, and to take longer to make decisions (Hambrick and Mason, 1984).

## **Independence**

As already discussed earlier in this research, advocates of good governance and stock exchange heavy-weights argue that boards with too many insiders are less accountable and stresses the importance of independency of boards of directors (Baysinger and Butler, 1985; Sonnenfeld 2002, NYSE). However, many seem to agree on that some inside directors are good to have on the board as they may be very candid and well-informed (Sonnenfeld, 2002; Baysinger and Butler, 1985).

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<sup>21</sup> Milliken and Martins (1996) ask the interesting question: Do members who are different than the majority identify less completely with the group because they are communicated with less frequently, or do they withdraw first and thereby decrease their availability for communication?

## **Gender**

Milliken and Martins (1996) argue that women are more likely to be absent or turn over than men. However, Milliken and Martins (1996) point out that when women counted for less than 20% of the group, their performance rates were lower than the men's, but when their proportion was greater than 50%, they scored higher than the males. These findings support Kanter's (1977) arguments on that the proportion of representation is likely to be an important variable in predicting the outcome of (gender) diversity.

Some researchers points out that female directors may be viewed as more independent than male directors as females do not belong to an "old-boys-club", which commonly have been referred to as one of the main features of boards with majority of inside directors and thus potentially suffer board entrenchment (Adams and Ferreira, 2008; Thomsen et. al, 2006).

## **Citizenship**

Participation of foreign directors is often considered to increase the level of board independence (Thomsen et. al, 2006). Foreigners might encompass unique knowledge on international business issues (Cox and Blake, 1991), but may lack the domestic. Diversity in ethnic background may have negative influence on process effectiveness and performance in the beginning, but after a while more efficient processes and higher performance seem to occur (Milliken and Martins, 1996).

## **The Board Quality Function**

In sum, there are many factors that might affect boards, their effectiveness, their trustworthiness, or in other words: their quality. From the short briefing of the different aspects mentioned above, board quality may be expressed as a function of culture, ownership, knowledge, age, CEO-experience, independency, and so on. This may also be expressed in the following way:

Board quality = f(board meeting attendance, equity involvement, skills, age, CEO-experience, diversity).

These variables are presumably rather difficult and comprehensive to gather data on and conduct study of. Nevertheless, it is feasible to obtain data on age, gender, nationality and education of this thesis sample of board members.

### **3.7 The Research**

In order to uncover some of the possible demographic effects of the Norwegian quotation law, data on board member characteristics of 20 boards of well-known Norwegian listed companies from the years 2003, 2005 and 2008 was collected and investigated. Attributes of the board members on age, gender, citizenship and educational level and type, i.e. demographic variables of the board members, were put in relation to the Norwegian quota law. Thus it might be possible to get insight to the potential development and change of the board demographics before, under and shortly after the law undertaking.

#### **3.7.1 Expectations**

It is reasonable to expect that the Norwegian quotation law may involve some implications for the demographic characteristics of the sample's boards. First of all, it is viewed rational to suppose that the introduction of the law may imply some difficulties for companies to get hold of the right women for the board. As a matter of fact, about 200 companies delisted themselves in the period from 2007 to 2008, i.e. the last year of the two transition years before the law fully enacted. There could be multiple reasons why the delisting occurred, but according to the media many companies reported that the quota law was in many cases one of the weighing reasons for going private (see for instance [www.e24.no](http://www.e24.no)). Further, when diversity is augmented for reasons other than improving corporate profitability (i.e. equality), companies may be forced to hire directors sub standard, which means getting new board members which are less talented and less experienced (Thomsen et. al, 2009).

Thus, it could be sensible to assume that board nomination committees had to search broader in order to find the required women to the boards. The term *broader* may involve getting younger (female) director candidates, as one might presume that the female director pool at the time was not sufficient enough; fetching foreign (female) directors, since it could be reasonable to expect companies to look abroad in order to get the desired candidates; and finding (female) director candidates with different type and level of education, as it may be sensible to expect women to have different educational patterns than men.

For instance, according Statistics Norway, the number of women over 16 years having a lower degree of education (that is: Bachelor level) is higher than men. Men, on the other hand, count for a higher fraction having a higher educational degree (that is: MA or >MA) than women<sup>22</sup>. Therefore it is reasonable to expect that for the overall board, the fractions of board members having a lower level of education increases, and the fractions of board members having a higher educational degree decreases. With regards to the gender it is expected that the female fractions of all levels of education increases, despite the fact that fewer women have a higher educational degree than men as because it is assumed that nomination committees manage to fetch females from the whole specter of educational levels. All the male fractions are expected to decrease as the number of male directorships decreases.

In addition, males and females tend to choose a bit different when selecting profession. While engineering, economics and law are the top choices of males, women seem to choose health- and pedagogy careers over law, economics and engineering (Statistics Norway). Yet, women's choice of law, economics and engineering are not disturbingly small. For instance, in 2008; the number of men having a higher law degree (23.000) equals approximately the same number of women having the same degree (21.000)<sup>23</sup>. So, in principle the level of difficulty of getting hold of a woman or a man with a higher law degree should be more or less equal. However, it was not

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<sup>22</sup> For instance, in 2008 there were approximately 307.000 Norwegian males over 16 years that had a lower degree of education(BA), as opposed to 436.000 females. The same year, 143.000 men had a higher degree (MA or higher), and at the same time there were 90.000 women having a higher level of education.

<sup>23</sup> For more information about this, please see Statistics Norway's homepage: [www.ssb.no](http://www.ssb.no).

possible to get statistics on whether females and males differed in what *kind* of lawyer they tended to be. Moreover, it is expected that the overall level of board members being engineers will decrease as it is regarded reasonable to assume that even though the newly added female directors may be engineers, it is believed that they might not outweigh the fraction of male engineer directors they are replacing.

Thus, it is expected that the female fractions of all the types of educational degrees increase over the period of investigation. In addition to an increase in the fractions of female directors with a degree within Economics, Law or Engineering, it is reasonable to expect an increase in the magnitude of (female) directors that having other kind of education or no education. This is because the ‘other’ term is a broad term including all kinds of educational degrees except from economics, law, and engineering, and the educational patterns provided by Statistics Norway could be understood to suggest that females may choose other kinds of education than economics, law and engineering. An increase in the fraction of females having no education is based on the law opponents claiming that the pool of female director candidates are limited ([www.e24.no](http://www.e24.no)) and on the premise that nomination committees may search broader when looking for candidates and this may involve searching one step down in the hierarchy ([www.forsking.no](http://www.forsking.no)).

So, the broad search for director candidates may therefore be expected to result in changes in the board demographics of the sample, thereby picture some of the many possible outcomes of the Norwegian quotation law. The abovementioned expectations are the underlying rationale for this research and imply that it can be expected that the boards, after the law is fully implemented, bear *changed* board member characteristics such as wider age diversity (especially an expectation of younger executives), more foreigners on the board, and different competence set (in terms of educational background) among the board members. In table 3 an overview of the research’s expectations can be found.



**Table 3:** Expectations of the investigation

<b>Variable</b>	<b>Specification</b>	<b>Expectation</b>
<b>Age</b>		Fatter left tail
	Mean	-
<b>Number of Foreigners</b>		+
<b>Number of Female foreigners</b>		+
<b>Educational Level on Overall Board</b>	< BA	+
	BA	+
	MA	-
	> MA	-
<b>Educational Level Females</b>	< BA	+
	BA	+
	MA	+
	> MA	+
<b>Educational Level Males</b>	< BA	-
	BA	-
	MA	-
	> MA	-
<b>Educational Degree of Overall Board</b>	Economics	+
	Law	+
	Engineering	-
	Other	+
	None	+
<b>Educational Degree Females</b>	Economics	+
	Law	+
	Engineering	+
	Other	+
	None	+
<b>Educational Degree Males</b>	Economics	-
	Law	-
	Engineering	-
	Other	-
	None	-

## **Chapter 4: Results**

In this section, the results from the study of the board members' demographic characteristics of the sample of 20 Norwegian listed firms' boards will be presented along with some comments. The findings will be attended by descriptive statistics and some tests of significance were appropriate. The results will be discussed more extensively in chapter 5.

### **4.1 Board Demographic Characteristics**

In the following, this research's findings of the board member demographic characteristics, as discussed in chapter 3, is put forward. These are: age, citizenship, level-, and type of education. The citizenship-, level-, and type of education variables, in addition to the analysis of the overall board as a whole, will be analyzed with regards to board members' gender.

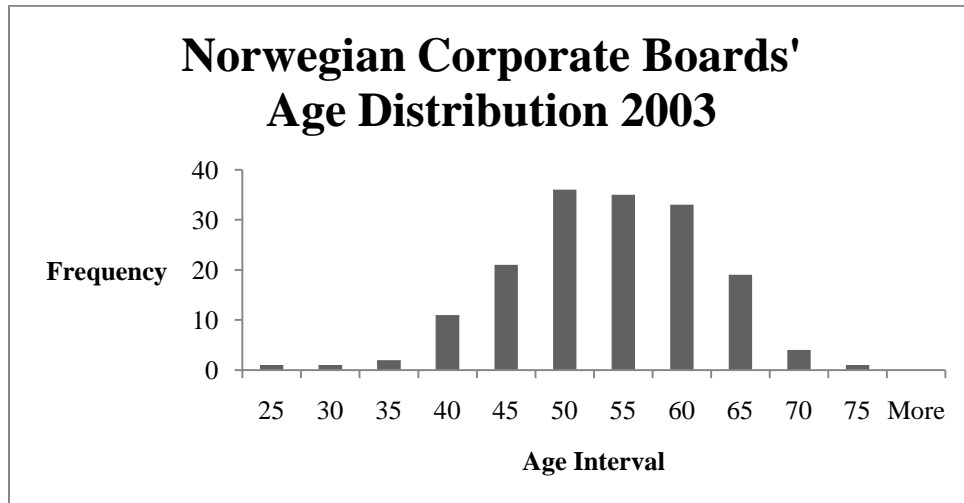
#### **Board Size**

It is initially of interest to note that the sample's average board size decreased from 8.25 board members in 2003 to 7.85 in 2008. This has been accounted for in the presentation of the results in the following, except from the age histograms which are merely interval charts of the frequency of age for the board members over the observation years, i.e. not reported in relative terms.

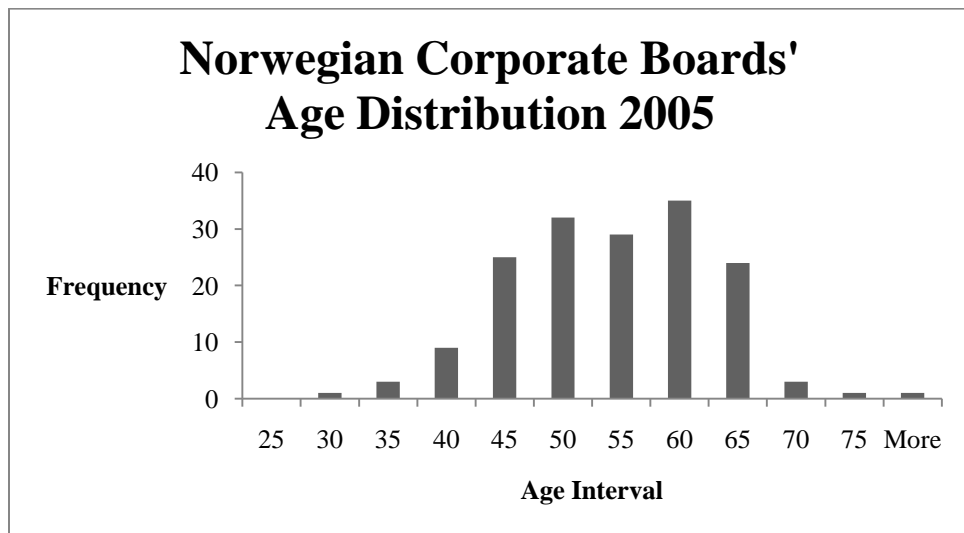
#### **Age**

The three histograms in the following, graph 1, graph 2, and graph 3, chart the age distribution development of the sample's board members from 2003 to 2008.

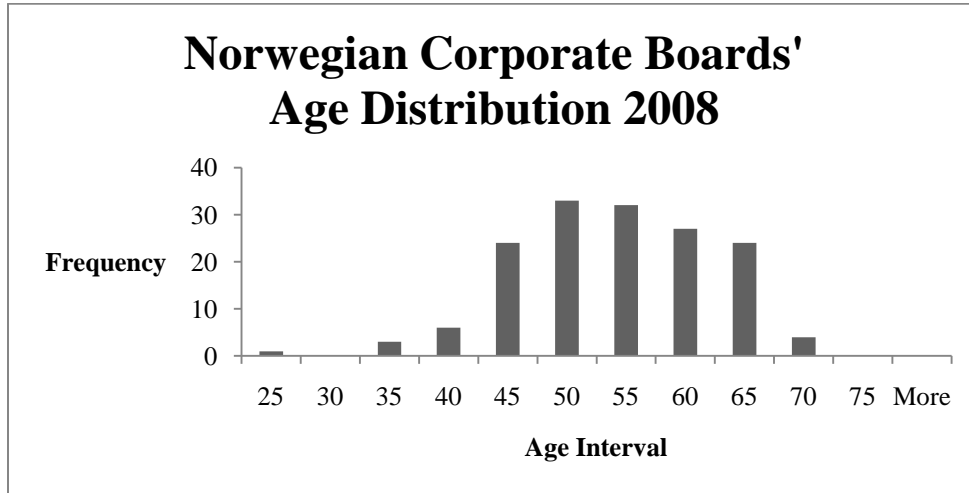
**Graph 1:** Histogram of board members' age distribution 2003



**Graph 2:** Histogram of board members' age distribution 2005



**Graph 3:** Histogram of board members' age distribution 2008



The distributions look relatively similar, but it can be argued that the age allocation has changed from an approximately pointy 'normal distribution' in 2003 towards a flatter distribution in 2008. Excel provides additional information about the sample which can be found in table 4.

**Table 4:** Characteristics of board members' age distributions for 2003, 2005, and 2008.

Year	2003	2005	2008
Mean	51,7	52,3	52,0
Median	52,0	53,0	52,0
Mode	55,0	53,0	54,0
Standard Error	0,6	0,7	0,7
Standard Deviation	8,3	8,5	8,1
Variance	68,5	72,3	65,2
Kurtosis	0,2	-0,1	-0,2
Schewness	-0,3	-0,1	-0,3
Minimum	24	26	25
Maximum	75	77	68
N	165	164	157

The mean, median, mode, standard error, standard deviation, variance, and schewness have more or less the same value each year. An ANOVA-test confirms that the means of the three years are not statistically different. The null hypothesis of  $\text{mean}_{2003} = \text{mean}_{2005} = \text{mean}_{2008}$  cannot be rejected as  $F = 0.1842 < 5$  and  $p = 0,8318 > \alpha = 0.05$ .

Even though the abovementioned figures are relatively similar in every observation year, it does not imply that they do not hold noteworthy information about the age distributions. According to the standard deviation, it is evident that 68. 2 percent of the samples' board members have approximately their age between {43, 60}; {44, 61}; {44, 60} for respectively the years 2003, 2005, and 2008. Further; 95.4 percent of the board members age lies between {35, 68} ;{ 36, 69}

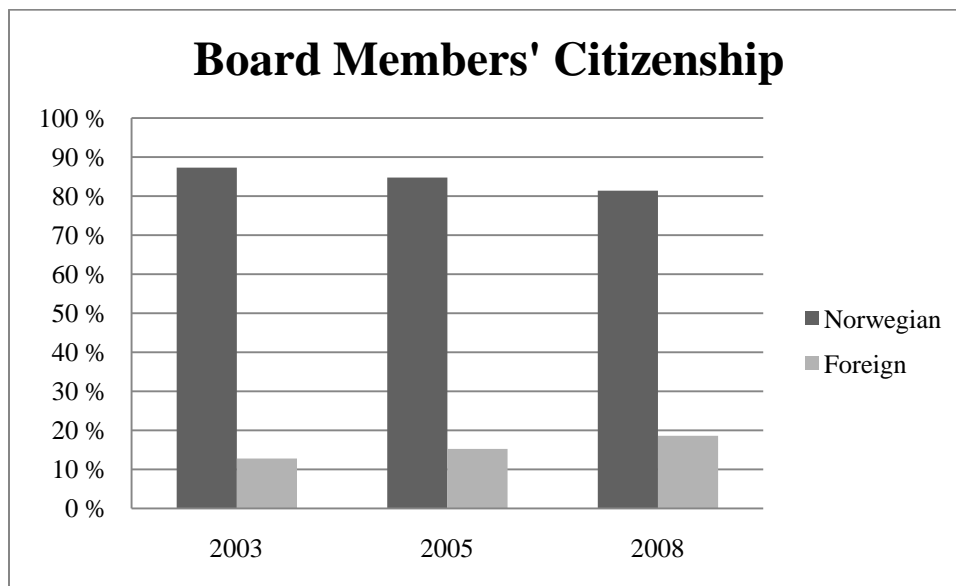
{ 36, 68}. The distribution is slightly negatively skewed for all three observation years, which implies longer tails to the *negative* (left), that is: the *younger* side of the distributions.

The kurtosis, commonly understood as the “peakness” of the distribution (Løvås, 2005), appear however to have declined a bit during the period in question; from 0.2 in 2003, -0.1 in 2005, to -0.2 in 2008. More specifically; the distribution has altered from a leptokurtic shape in 2003 towards a more platykurtic shape in 2008. In other words; the distribution has moved from a more pointy distribution with long tails to a flatter distribution with fatter tails. These results support the findings discovered when observing the histograms previously.

The range for the three observation years have changed as well, from {24; 75} in 2003, {26; 77} in 2005 to {25; 68} in 2008. This can thereby be said to be supporting the abovementioned statement about a tendency to a more ‘squared’ or *focused* distribution of board members age in 2008 giving the distribution fatter tails.

### **Citizenship**

The subsequent graph provides an overview of the development of the sample’s board members’ citizenship, in terms of Norwegian/Foreign, shown in graph 4 as a fraction of the sample for the three observation years; 2003, 2005, and 2008.

**Graph 4:** Development of board members' citizenship 2003, 2005, and 2008.

In 2003, 12.7 percent of the sample's board members were foreigners. In 2005, the fraction was 15.2 percent; and in 2008 there was 18.6 percent non-Norwegian directors around the sample's board tables. This implies a 5.9 percentage point increase in this sample's foreign board members from 2003 to 2008<sup>24</sup>. Said in another way; more than 1/6<sup>th</sup> of the sample's board members tended to be foreigners in 2008 as opposed to about 1/8<sup>th</sup> in 2003. Even though the change seem noteworthy, it is not significant. An F-test conducted in Excel provides the

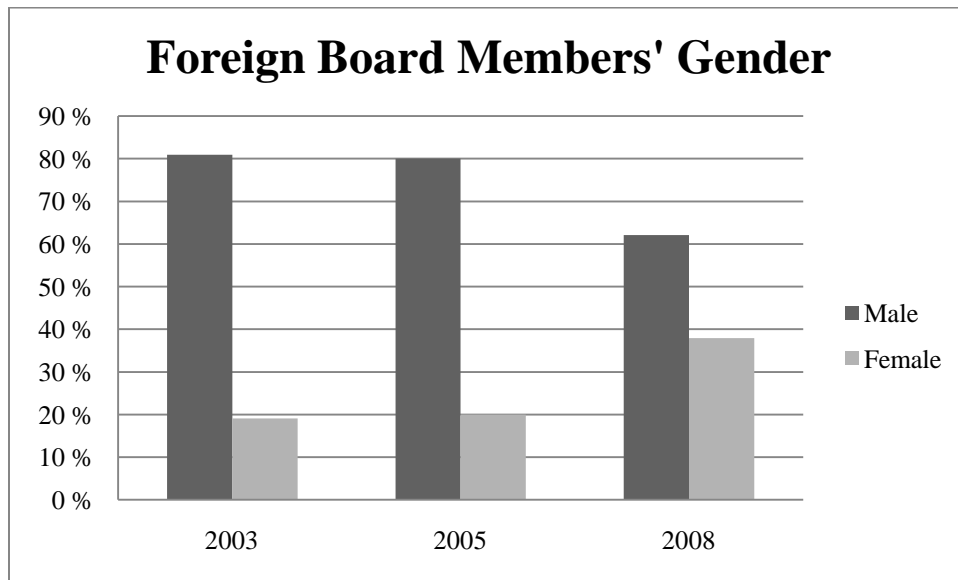
<sup>24</sup> Here is *percentage points* used in order to look at change in ratio. This approach will also be used in the rest of the result chapter. *Percentage change* could be utilized also, but the numbers might appear a bit large and misleading. This is because percentage change calculations are better for calculating change in values, not ratios. In this particular case, the percentage change in fraction of foreigners in the boardroom from 2003 to 2008 would be  $(18.6\% - 12.7\%) / 12.7\% = 46.5\%$ .

following results:  $F = 0.8431$  and  $p = 0.4309$ . Since  $F < 5$  and  $p > \alpha = 0.05$ , the null of “no changes in the foreign board member fractions” cannot be rejected.

### Gender and Citizenship

One of the a priori expectations of this research’s results was the probability of increased level of foreigners on the boards post the law implementation, since looking abroad was regarded being one possible reasonable way of getting hold of female directors in order to meet the quota. Therefore, it is viewed as relevant to inspect the increase of the fraction of foreign board members additionally with regards to gender. An overview of the gender of the *foreigners* of the sample’s board members is provided in graph 5 below. The graph should be interpreted along with table 5.

**Graph 5:** Foreign board members’ gender 2003, 2005, and 2008





**Table 5:** Foreign board member's gender in relative terms

	2003	2005	2008
Male	0,81	0,80	0,62
Female	0,19	0,20	0,38

Observable from table 3, the fraction of male foreign board members reduced by 19 percentage points from 2003 to 2008, and the female fraction increased by 19 percentage points in the same period. Despite that the changes in the fractions of the foreign male- and female board members may seem relatively large, the changes are not statistically significant on a 5% significance level ( $\alpha = 0.05$ ) as the findings' corresponding statistics are respectively  $F = 0.1576$  and  $p = 0.8542$  for the male fraction and  $F = 2.5074$  and  $p = 0.0825$  for the female fraction. However, the p-value of 0.0825 for the female observations may imply that the change in the female fraction of foreigner board members actually is statistically different on a 10% significance level<sup>25</sup>.

## Education

Among the earlier mentioned expectations, there was an expectation of the possibility of different educational patterns of men and women, as they women may chose differently than men when selecting education (Statistics Norway). Also, men tend to be higher educated than women. Thus, it might be likely that the general educational pattern tendencies reported by Statistics Norway could be observed on boards as well. This leads to the expectation of a

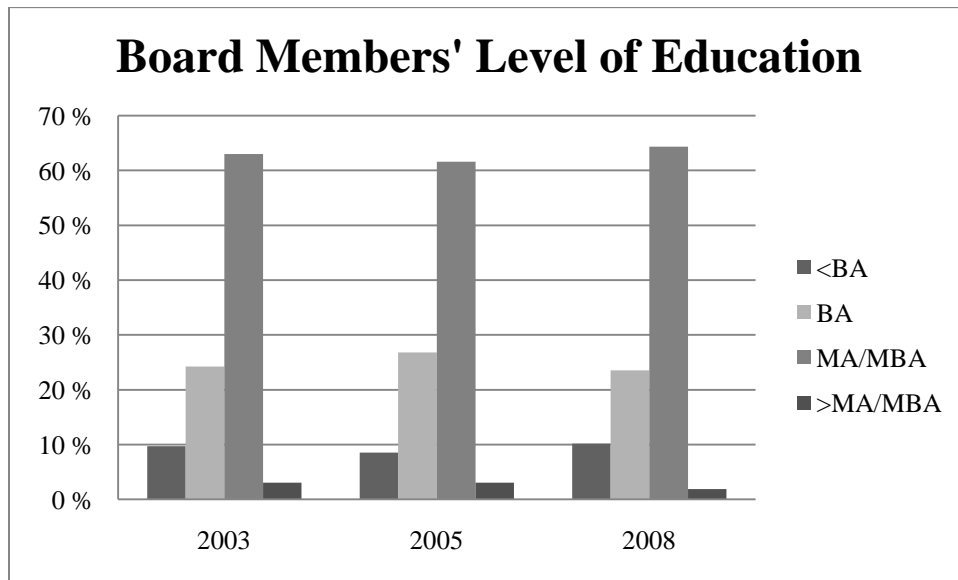
<sup>25</sup> More precisely is the change significant on a  $\alpha = 0.0825$ , thus 8.25% significance level. However, the term 10% significance level is used here since it is most common used in statistics as the next significance level after 5%.

potential change in the educational background composition of the sample’s board members from pre- to post the law implementation. Thus, it is regarded as relevant to look into that expectation further.

**Level of Education**

Graph 6 presented below provides an overview of the level of education for the sample’s board members in terms of <BA, BA, MA/MBA, and >MA/MBA for the observation years 2003, 2005 and 2008. By examination of the graph one can get an indication of the development of board members level of higher educational degree through the period of investigation.

**Graph 6:** The overall board members’ level of education 2003, 2005, and 2008



For the overall board, graph 6 shows that board members' levels of education have been relatively stable over the three observation years; 2003, 2005, and 2008. These findings are supported by the cumulative table presented in table 6.

**Table 6:** Cumulative overview of board members' level of education

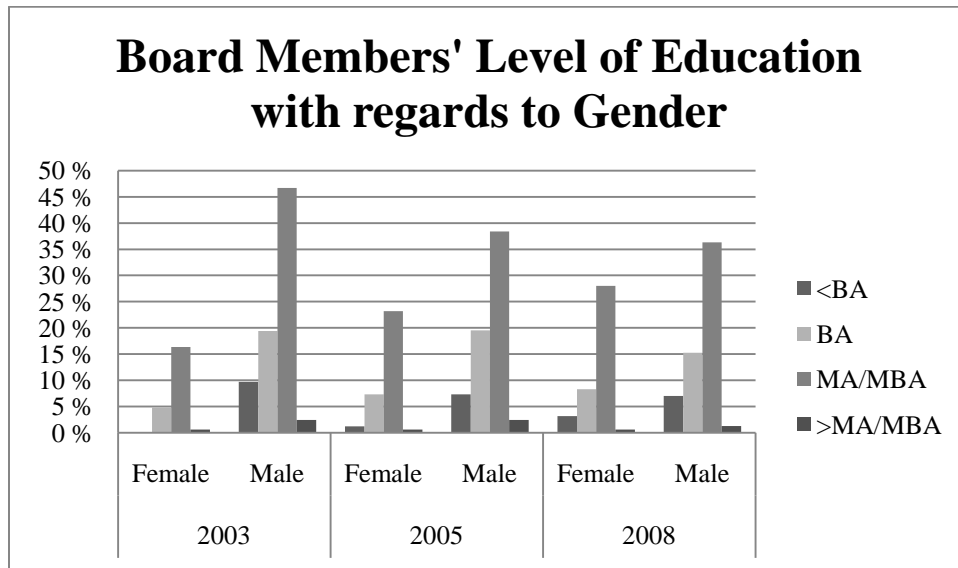
	2003	2005	2008
BA ≤	0,903	0,915	0,898
MA ≤	0,661	0,646	0,662

It is apparent from Graph 6 and Table 6 that the levels of education for the sample's board members were more or less the same in both 2008 and 2003, as about 90 percent of the sample's board members had a bachelor degree or higher in both 2003 and 2008. Further, about 66 percent of the directors around the sample's board tables had a master degree or a higher degree both in 2003 and 2008.

### **Level of Education and Gender**

Although it is interesting in its own right to observe that the levels of education of the overall boards are more or less constant over the observation years, it is also tempting to investigate how the levels of education allocate with regards to gender. These findings are pictured in graph 7, and graph 7 should be interpreted together with table 7.

**Graph 7:** Board members’ level of education 2003, 2005, and 2008 with regards to gender.



**Table 7:** Overview of board members’ level of education with regards to gender.

		2003	2005	2008
Female	<BA	0,000	0,012	0,032
	BA	0,048	0,073	0,083
	MA/MBA	0,164	0,232	0,280
	>MA/MBA	0,006	0,006	0,006
Male	<BA	0,097	0,073	0,070
	BA	0,194	0,195	0,153
	MA/MBA	0,467	0,384	0,363
	>MA/MBA	0,024	0,024	0,013

Observable from graph 7, several changes have occurred over the period in question. Regarding the *females*, the fraction of female board members with No or less than a bachelor level of higher education increased with 3.2 percentage points from 2003 to 2008. This result is significant on a 10% confidence level<sup>26</sup>. Female board members with a Bachelor degree or equivalent increased their fraction of board membership with 3.5 percentage points over the same period. However, this change is not statistically significant. The fraction of female board members with a Master degree or equivalent increased by 11.6 percentage points from 2003 to 2008. This change is statistically significant on a 5% confidence level. At last, the fraction of female board members with a PhD degree or more kept steady on a 0.6 percent over the relevant period in question.

With reference to the *male* board members educational level, the following changes are observed for the sample: a decrease of 2.7 percentage points for the <BA fraction from 2003 to 2008, decrease of 4.1 percentage points of the BA fraction from 2003 to 2008, a decrease of 10.4 percentage points of the MA fraction from 2003 to 2008, and a decrease of 1.1 percentage point of the >MA fraction from 2003 to 2008. None of these changes in the males' fractions of level of education are statistically significant.

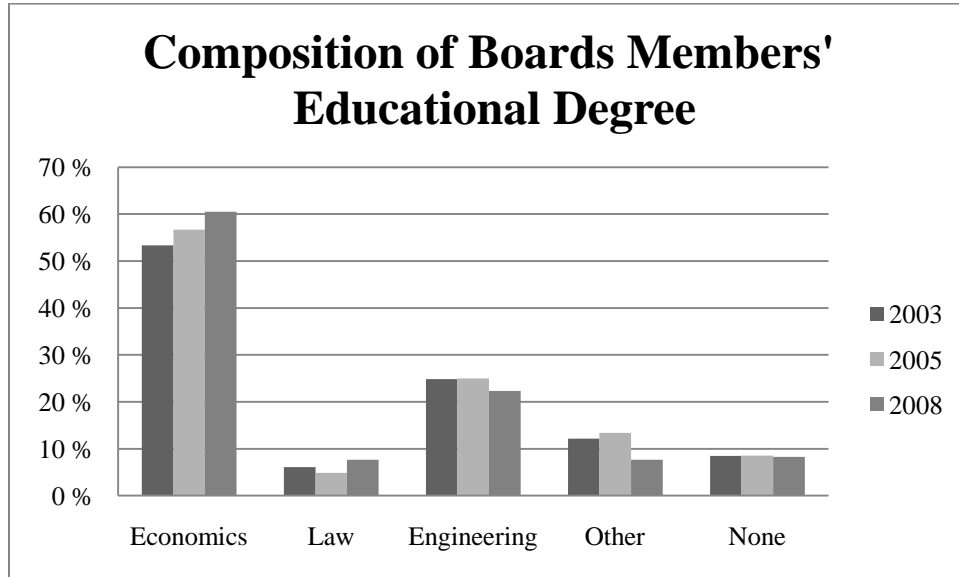
### **Educational Type**

Graph 6 presents the magnitude of board members' different proficiencies, or types of educational degrees, namely Economics, Law, Engineering, Other, or None over the years 2003, 2005, and 2008. Graph 8 should be evaluated in relation to table 8.

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<sup>26</sup> Please see Appendix II for an overview of the results of the significance tests

**Graph 8:** Board members’ type of educational degree 2003, 2005, and 2008.



**Table 8:** Board members type of educational degree

	2003	2005	2008
Economics	0,533	0,567	0,605
Law	0,061	0,049	0,076
Engineering	0,248	0,250	0,223
Other	0,121	0,134	0,076
None	0,085	0,085	0,083

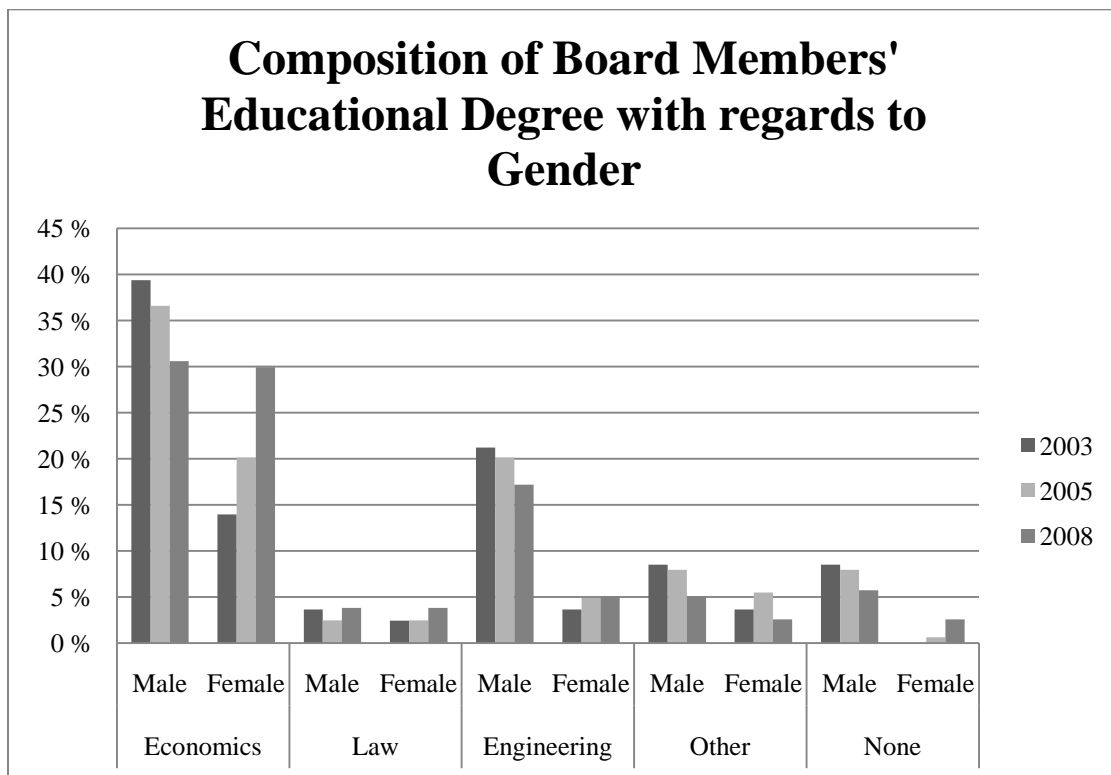
From graph 8 and table 8 some changes in fractions of board members type of education are observable: The fraction of board members educated within Economics increased by 7.2

percentage points from 2003 to 2008. Board members with a Law degree increased their fraction by 1.5 percentage points over the observation period. With regards to the board members with an Engineer degree, having an Other type of education, or None educational degree, fractions decreased with respectively 2.5, 4.5, and 0.2 percentage points. None of these changes are significant.

### Educational Type and Gender

In line with earlier reasoning about the board members demographic characteristics, it is regarded as needed to look into the changes in educational backgrounds with regards to gender.

**Graph 9:** Board members' educational degree with regards to gender 2003, 2005, and 2008.



**Table 9:** Board members educational degree with regards to gender 2003, 2005, and 2008

		2003	2005	2008
Economics	Male	0,394	0,366	0,306
	Female	0,139	0,201	0,299
Law	Male	0,036	0,024	0,038
	Female	0,024	0,024	0,038
Engineering	Male	0,212	0,201	0,172
	Female	0,036	0,049	0,051
Other	Male	0,085	0,079	0,051
	Female	0,036	0,055	0,025
None	Male	0,085	0,079	0,057
	Female	0,000	0,006	0,025

From graph 7 and table 7 it is observable that the fractions of males having a degree within Economics, Engineering, Other or None all decreased, with respectively 8.8; 4; 3.4; and 2.8 percentage points, whereas the male Law fraction increased with 0.2 percentage points from 2003 to 2008. None of these changes were significant. For the females, the fraction of women with Economics, Law, Engineering, or None educational degrees increased with respectively 16; 1.4; 1.5; and 2.5 percentage points from 2003 to 2008. The fraction of female board members with Other type of educational degree decreased with 1.1 percentage points. None of these changes were significant, except for the fraction of female board members with an Economics degree, which were statistically significant on a 5% confidence level.

In chapter 5 a review of the results of the research together with a comparison of the findings with the expectations of the study will be presented. These findings will be commented more extensively than what have been done in chapter 4 and put in relation to some of the theory presented in chapter 3.



## **Chapter 5: Discussion**

*In this part, every variable investigated will be discussed and put in relation to the theory earlier presented. This chapter also includes a criticism of the quota rule and some speculations on what the law may imply for the Norwegian boards according to the theory.*

### **5.1 Analysis of Board Demographic Characteristics**

In general one could say that this study's results comply to a certain degree with the a priori expectations presented earlier. Nonetheless; there were some surprises. The following paragraphs will, after a tabulate sum up and comparison, encompass a discussion of the findings on every demographic variable included in this study.

#### **Comparison of Expectations and Results**

Table 8 provides an overview of the variables investigated; their expectations, results, along with the conclusions on significance tests. Each variable will subsequently be discussed and put in relation to theory introduced earlier<sup>27</sup>.

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<sup>27</sup> Please see Appendix II for an overview of the results of the significance tests

**Table 8:** Sum up of results

<b>Variable</b>	<b>Specification</b>	<b>Expectation</b>	<b>Result</b>	<b>Significant?</b>
<b>Age</b>		Fatter left tail	Evenly distribution	
	Mean	-	0	No
<b>Number of Foreigners</b>		+	+	No
<b>Number of Female foreigners</b>		+	+	Yes, when $\alpha = 0.1$
<b>Educational Level on Overall Board</b>	< BA	+	0	
	BA	+	0	
	MA	-	0	
	> MA	-	0	
<b>Educational Level Females</b>	< BA	+	+	Yes, when $\alpha = 0.1$
	BA	+	+	No
	MA	+	+	Yes, when $\alpha = 0.05$
	> MA	+	0	No
<b>Educational Level Males</b>	< BA	-	-	No
	BA	-	-	No
	MA	-	-	No
	> MA	-	-	No
<b>Educational Degree of Overall Board</b>	Economics	+	+	No
	Law	+	+	No
	Engineering	-	-	No
	Other	+	-	No
	None	+	-	No
<b>Educational Degree Females</b>	Economics	+	+	Yes, when $\alpha = 0.05$
	Law	+	+	No
	Engineering	+	+	No
	Other	+	-	No
	None	+	+	No
<b>Educational Degree Males</b>	Economics	-	-	No
	Law	-	0	
	Engineering	-	-	No
	Other	-	-	No
	None	-	-	No

## **Board Size**

The average board size of the sample's boards decreased during the period of investigation. This could be reasoned by that boards may have chosen to restructure along with adjusting to the quota law. This sample's average board size of 7.85 in 2008 is larger than the average board size of 6.4 found by Thomsen et. al (2006) in their study of 144 Norwegian firms. This may reflect the fact that this research's sample is small and consist of companies which are relatively large and thus may have larger boards. The finding of a 7.85 average is perhaps more comparable to Böhren and Strøm's study (2008) which reports that the 25% largest boards in their sample had on average a board size of 8.67 members.

## **Age**

The average age of the sample's board members was about 52 years over the period of investigation. This is viewed as a bit surprising, because one of the expectations to the research was that younger directors might enter the boards due to the quota rule and thus the average age were expected to decrease thereby reflecting this shift.

As age may be regarded as an asset (Sonnenfeld, 2002), and if low age diversity imply group loyalty and better performance and communication (Miliken and Martins, 1996), the stable mean of the board members age may not be bad news after all with regards to the board's monitoring role. In addition, young executives are more likely to take more risks and are associated with corporate growth in addition to volatility (Hambrick and Mason, 1984), and older executives are associated with conservatism, risk aversion, accurate information evaluation, and slower decision-making (Hambrick and Mason, 1984), the steadiness of the average board member age may be good with regards to the board's role as monitors and advisors.

The stable mean may be explained by the research's small sample of 20 firms which are relatively big. As these companies are larger, one might suppose that they may have the opportunity to pay higher compensation fees for their board members, thus getting the older, more experienced women to their boards (assuming that age is an asset).

### **Citizenship**

The overall boards' fraction of foreign board members increased with 5.9 percentage points. The change is insignificant, but the increase is in line with the expectation of board nomination committees may search abroad in order to fill the gender quota.

The raise in the level foreigners on the boards may be associated with enhanced level of board independence (Thomsen et. al, 2006). However, ethnic background diversity may have some implications for the group processes and performance in the period after the diversity increase, and these problems will most likely over time diminish (Milliken and Martins, 1996). Thus, the raise in portion of foreigners on the boards may boost board independence, but the potential benefits of the increased board independence may however not appear immediately but after the board have worked together for a while.

### **Citizenship and Gender**

When looking at the fraction foreign of board members with regards to gender, a significant 19 percentage points increase was found for the female part of the foreigners. At the same time, an insignificant 19 percentage point decrease was found for the male fractions. The change in the female fraction was significant on a 10 % significance level. In other words, it can with 90 % confidence be stated that the change in the gender composition of the foreign board members from 2003 to 2008 was statistically different. Thus, there is some evidence for that the gender quota has brought more foreign women to the board.

## **Level of Education**

The level of education for the overall board turned out being relatively stable over the three observation years. These findings are to some extent contrary to the expectations, since males more often have a higher degree ( $\geq$ MA) than females (Statistics Norway), and thus it could be reasonable to expect that the general level of education for the overall board decreases when more women are added to the boards because of the quota rule<sup>28</sup>.

The stability of the educational level may be explained by the sample's composition of relatively large firms. In line with the discussion of the findings on board member age, large companies may have better opportunity to pay board member compensation and thereby be able to get higher educated people to their boards. Also, women may be attracted to boards of large firms and thereby more easily recruited (Adams and Ferreira, 2004).

## **Level of Education and Gender**

With regards to gender, the results for the education levels for males complied with the expectations. All fractions of educational levels (<BA, BA, MA/MBA, and >MA) decreased respectively with 2.7; 4.1; 10.4; and 1.1 percentage points. The female educational levels of <BA, BA, MA/MBA complied also with the expectations for the female fractions and increased with respectively 3.2; 3.5; and 11.6 percentage points. The fraction of women with a PhD degree or equivalent (>MA) had no change.

For the changes in female educational levels, the change in <BA and MA/MBA were significant on respectively a 10% and 5% confidence level. Accordingly, these two significant findings may imply that one can, with respectively 90% and 95% confidence, state that the board member characteristics actually have changed positively with regards to fractions of females with 'no or

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<sup>28</sup> Still, it is hard to say anything about the allocation. Even if the fraction of women with a master degree or higher increased, it is difficult to predict whether this change would outweigh the male fraction of the same educational level decrease.

less than a Bachelor degree’ and females with a ‘master degree or equivalent’ from 2003 to 2008.

With regards to the educational patterns presented by Statistics Norway, the finding of increased level of female board members with a master degree is contrary to the expectations. However the result may explain the stable findings for the overall board. Another explanation to the severe increase of the female fraction having a Master degree, MBA, or equivalent is also in line with the argumentation made earlier about the sample consisting of boards of large firms; they might have the ability to attract women with higher education than other smaller ASAs.

Hambrick and Mason (1984) are ambivalent to the value of a person having professional education. Especially, a person having a MBA may be assumed to not go for the long term goals and asset building. More, they argue that a MBA degree only counts if you want to be filtered in for a specific job. Further, Hambrick and Mason (1984) claim that MBA candidates are most likely risk averse and not particularly innovative as opposed to self-made executives. These two latter arguments may be argued as being positive with regards to the board members’ role as a monitor and advisor. Nonetheless, asset building and long term goals are important for corporations.

### **Type of Education**

For the overall board, the findings for the board members type of educational background were mixed. The fraction of board members with education within Economics and Law increased with respectively 7.2 and 1.5 percentage points. The fraction of board members with an Engineering degree decreased with 2.5 percentage points. These findings were insignificant, but according to expectations. With regards to the board members with Other or None educational degree, their fractions decreased with respectively 4.5 and 0.2 percentage points. Neither of these two changes was significant nor complying with the expectation of the research.

It was expected that post the quota law implementation, the fractions of directors with Other or None educational degree should increase, i.e. the newly added women was expected to bring that kind of competence to the board. Apparently, this did not happen for this research's sample.

The results found above could indicate that the board members after the quota law was implemented may feature increased *business orientation*; in terms of increased fraction of directors with economical or justice knowledge and a decrease in fractions of directors with more firm specific educational backgrounds as engineering.

### **Type of Education and Gender**

With regards to gender, the male fractions of board members with Economics, Engineering, Other and No educational degree decreased with respectively 8.8; 4; 3.4; and 2.8 percentage points. The fraction of male board members with a degree within Law increased with 0.2 percentage points. None of these changes were significant. All changes except the increase in the Law fraction turned out according to the expectations. The increase in the Law fraction was small, and it is difficult to determine what this change may be due to<sup>29</sup>.

The fractions of female board members with educational degrees within Economics, Law, and Engineering complied with the expectations and all three fractions increased with respectively 16; 1.4; and 1.5 percentage points. The former change were significant on a 5% confidence level and the two latter were insignificant.

The significant increase in female directors having an Economics degree may suggest that there is reason to believe that the characteristics of the sample have in fact changed over the period of investigation. Indeed, the p-value of the female Economics variable was 0.0018, which gives even stronger evidence for that the increase was a non-spurious change. In addition, these findings may also support the suggestion of an increase of the business orientation of the board

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<sup>29</sup> It may be a coincidental variation in the sample.

members (in terms of increased level of board members with economics and juridical background).

Here it may also be relevant to mention that the increase in the female fraction having an Economics degree may improve governance (especially candidates with an MBA degree), as those directors may be risk averse and not too innovative (Hambrick and Mason, 1984).

One expectation to the research was that it could be reasonable to expect an increase in the magnitude of (female) directors having ‘other’ kind of education, since the educational patterns provided by Statistics Norway could be understood to suggest that. In addition, one could expect an increase of the fraction of female directors having no education, since it was reason to believe that the pool of women directors were insufficient ([www.e24.no](http://www.e24.no)), and thus females ‘one step down’ in the hierarchy could enter the boards (Thomsen et. al, 2009; [www.forskning.no](http://www.forskning.no)). However, the fractions of female directors having a no or other educational degree decreased contrary to the expectations with respectively 4.5; and 0.2 percentage points. Even though these two results were insignificant, they may suggest that the director pool of women were not that insufficient after all and also give support for the board members’ increased business orientation. In addition, it is worth reminding the reader that the educational term ‘other’ is rather broad, as it captures many types of education, such as political science, ethics, language, pedagogy, and human relations, which makes it difficult to conclude on what the deviation from the expectation may be due to.

## **5.2 Implications of the Quota Law**

According to some of the theory introduced earlier in the thesis, there may be several implications of the Norwegian quota law. For instance, now that the Norwegian boards are more diverse in terms of gender and nationality, boards might experience that communication between members decrease since dissimilarity reduce trust (Adams and Ferreira, 2004; Kanter, 1977). Thus, the boards might experience that it takes time to build trust and decision-making may be slower (Adams and Ferreira, 2004). Other effects one may observe in the boardroom are that



group loyalty may get lower (Thomsen et. al, 2006) and turnover rates may increase (Milliken and Martins, 1996).

According to Burke (1997) and the Norwegian government, the diverse boards can now add more value since the boards are more heterogeneous with regards to gender and the dissimilarity is potentially value creating. In addition, board member attendance rates may increase, both because female directors tend to have better attendance rates than men, and also because men tend to adapt the female attendance pattern when more women are added to the boards (Adams and Ferreira, 2008).

When gender-diversity of Norwegian corporate boards increase, it is worthwhile to mention an important point that Milliken and Martins (1996) address: when women counted for less than 20 % of the group, their performance rates were lower than the men's, but when their proportion was greater than 50 %, they scored higher than the males. As the female fraction of women on ASA boards range from 33.3 % to 50 %, women are actually majority in some boards and thus one might expect to observe better performance on those boards.

Boards must be empowered to govern corporations well and this may occur if the board feature independency and alignment of interests with shareholders (Bøhren and Strøm, 2007; Carter and Lorsch, 2004). As the Norwegian boards are more gender-diverse, the boards may be viewed as more independent, which may be good news seen from an agency point of view (Thomsen, 2006; Adams and Ferreira, 2008). Independent directors are commonly perceived as the (only) directors that can monitor the management effectively (Bhagat and Black, 2002). Therefore one can argue that shareholder welfare and shareholder protection is increased when boards are more diverse (Bøhren and Strøm, 2007).

It is difficult to determine whether the quota law may imply profit gain as suggested by the Norwegian government, given that earlier research on (gender) diversity and profitability provide mixed results (see for instance Adams and Ferreira, 2008; Bøhren and Strøm; 2008; Tacheva and Huse, 2006; Thomsen et. al, 2006; 2009; Erhardt et. al, 2003; Carter et. al, 2003). Additionally, it is difficult to generate an opinion because it is reasonable to imagine that the quota law

inauguration may entail lagged effects, that is: it may take some time before the (real) effects of the law are observable (Milliken and Martins, 1996). More, it appears hard to measure the effect of diversity as many other factors may influence outcomes and findings may also be sensitive for model specifications (Thomsen et. al, 2009).

Even though companies complained about difficulty of getting the right women to their boards, the government announced full compliance April 2008 ([www.regjeringen.no](http://www.regjeringen.no)). And with regards to the “quality” of the board members in 2008, it seems like a certain level of qualified women were able to be fetched after all, contrary to the critics’ fears ([www.e24.no](http://www.e24.no)). However, one can speculate on whether what was earlier in this chapter referred to as a more business oriented board really are as beneficial for the company as it appears. If boards being more business oriented involves that a significant fraction of the board has a certain set of characteristics; for instance higher education within economics or law, then one could argue that this significant fraction now features to a certain degree homogenous characteristics and may not be so value adding after all.

Cox and Blake (1991) argue that proper management of diversity may give a company comparative advantages to other (companies that do not manage diversity well) in terms of lower costs, better human capital access, better decision-making and more flexibility of the company. For instance, with regards to better human capital access, this effect of diversity is also forecasted by Burke (1997) and Joy (2008), who claim that adding more women to boards may give a positive signaling effect to women further down the pipeline, motivating them to climb the hierarchy and approach higher positions. However, the (low) number of women in managing position in Norwegian corporations has not increased notably since the law enacted which was one of the government’s intended synergies ([www.npr.org](http://www.npr.org)).

### **5.3 Critique of the Law**

One of the underlying rationales for approving the quota law was that the law was viewed as relevant to publicly traded companies since they featured a broader spread of ownership and this

should be reflected in the boardroom (Teigen, 2008). However, the private ownership of ASAs is in reality is quite marginal. In fact, numbers from Oslo Stock Exchange on characteristics of the Norwegian stock market shows that the state owns about one third of the stocks listed on OSE, foreign investors about 20 percent, while private investors (individuals) count only for four percent (Oslo Stock Exchange).

Another argument for undertaking the law was that diversity would boost productivity. As reviewed through this thesis, the relationship between diversity and productivity is uncertain. Thus, the government cannot have rooted the argument in scientific proof. Rather, it may be reason to believe that females in the boardroom have neither positive nor negative influence (Thomsen et. al, 2006). From an equality point of view, the fact that gender may give zero influence may be considered good news (Teigen, 2008).

Some argue that the increased fraction of female director seats on Norwegian corporate boards is hindering women taking managing positions. In fact, some women quit their job only to work as professional directors ([www.npr.org](http://www.npr.org)). This effect is not only contrary to the government's intention, but also a serious problem for corporations in demand for more female managers.

In principle one can say that the law lowers shareholders' autonomy as shareholders cannot choose freely directors regardless of gender (Bøhren and Strøm, 2008; Teigen, 2008). Not every corporate codes and laws are appropriate for all firms. Sometimes rules and regulations may involve more value destruction than value creation (Bøhren and Strøm, 2008). If there really were benefits associated with adding more women to boards (as for instance boosting market value), then the boards would have re-composed earlier as it is irrational to hold an inefficient composition of the organization (Thomsen et. al, 2009).

As earlier mentioned, boards were often blamed for the corporate failures during 2001-2002. As a result, many new corporate governance rules and codes came forward. In fact, it turns out that in many cases, the directors serving on the boards was not bad guys after all. Board members showed up for meetings, many of them had their own money invested in the company, the boards had audit committees and compensation committees, codes of ethics were in place, and further;

the boards were not too small, too big, too old or too young (Sonnenfeld, 2002). They were highly educated people with good prerequisites to do a fulfilling job as directors (Sonnenfeld, 2002; Lagace, 2003). The problem lies perhaps not with the people who serve on the boards, but rather the inner workings of boards themselves (Sonnenfeld, 2002; Lagace, 2003; Hermalin and Weisbach, 2003; Carter and Lorsch, 2004; Nadler, 2004). Board composition and hereunder diversity should be decided on the basis of what role the individual board intends to play (Carter and Lorsch, 2004; Nadler, 2004). On the other hand, Thomsen (2008) argue that boards of directors on average do not matter much.

Nonetheless, the effect of board diversity are rather hard to prove since existing theory and evidence cannot clearly tell how each of the alignment-, information- and decisiveness mechanisms relates with each other and interacts with the firm's behaviour and performance (Bøhren and Strøm, 2008, 2007; Becht et al., 2003; Hermalin and Weisbach, 2003). Therefore, researchers have trouble trusting governments that mandate more women to board actually having the knowledge of the concrete impact of their regulation (Bøhren and Strøm, 2008).

## **Chapter 6: Summary and Conclusions**

### **6.1 Summary**

This thesis has investigated some implications of the Norwegian quotation law's requirement of a minimum representation of 40% of both genders on corporate boards. More elaborated, this research has attempted to quantify and describe the Norwegian corporate board member characteristics' evolution in relation to the quota rule. A law which was imposed in 2005 and enacted fully the 1<sup>st</sup> of January 2008, where boards not complying with the rule faced delisting.

With the scope of diversity and hereunder the focus on gender, this paper has reviewed relevant corporate governance and managerial literature, collected data of board member characteristics

of 20 Norwegian listed firms (ASAs), and investigated the obtained dataset on measurable board member attributes. This thesis has analyzed the development of age-, citizenship-, level-, and type- of education of board members of 20 ASAs over the years 2003, 2005, and 2008. This research was carried out based on the anticipation of that board nomination committees might be searching broader when looking for candidates in order to fill the quota and meet the requirement.

Although prospected that it was difficult to get hold of women to fill the quota, all Norwegian listed companies complied with the law spring 2008. Not surprisingly, the quota rule has implied some measurable effects on the sample's boards. This thesis finds evidence for that board nomination committees have been searching broader in order to fetch the required women to fill the quota on the boards. It turns out that post the quota implementation the boards bear to some extent changed demographic characteristics. For instance, in line with the expectations, 1/6<sup>th</sup> of the sample's board members were foreigners in 2008 compared to 1/8<sup>th</sup> in 2003. After a closer look, it appears that 38 % of the foreigner fraction of directors was females in 2008, a significant increase of 19 percentage points from 2003.

The nomination committees did not search as broad as anticipated in terms of age. The mean age of the sample kept steady on 52 years throughout the research period, the only changes observable was a lower age range, and that the distribution seems more concentrated around the mean with fatter tails in 2008 than in 2003.

Also contrary to the expectations, the female directors added to the boards did not change the level of education for the overall board during the observation years. However, the allocation of the genders on the different educational levels changed. Whereas the male fractions of all educational levels decreased, the female fractions of board members increased on all educational levels, except for the PhD fraction which had no change. The magnitude of women having a Master degree or equivalent (MA/MBA) increased significantly, likewise for the fraction of women having no or a degree lower than Bachelor level (<BA).

In addition, the boards seem not to have the characteristic of broader educational composition with regards to female directors bringing ‘other’ educational knowledge to the boards. Actually, the female directors appeared to bring mostly educational knowledge within economics and law to the boards, which may suggest that the boards may feature the attribute of being more business oriented post the quotation rule.

The increase of board members with higher education within law and economics, in addition to the stable educational level and age, may be explained by the characteristics of the sample. The sample is small and consists of relative big firms, and larger companies might have better opportunity to compensate board members than smaller firms, thereby more likely to attract higher educated women that are older and more experienced to their boards.

Concerning the corporate governance and managerial literature on boards and top management teams; one can remark that not enough conclusive research has been done, especially with regards to boards. Further, it is in general difficult to compare the studies and generalize from the various findings. Both because the different studies investigate diversity in relation to different aspects such as communication, commitment, turnover and innovation (Wiersema and Bird, 1993; Milliken and Martins, 1996; Hambrick and Mason, 1984), board task performance (Tacheva and Huse, 2006; Adams and Ferreira, 2008), market performance (Bøhren and Strøm, 2008), or organizational performance (Erhardt et. al, 2003; Thomsen, 2009), and because many studies suffer endogeneity problems (Hermalin and Weisbach, 2003; Adams and Ferreira, 2004).

However, the thesis argues that some implications may be observable due to the quota rule. One might expect to experience on the more diverse boards that communication decrease since dissimilarity reduce trust (Adams and Ferreira, 2008; Kanter, 1977). More, the decision-making can get slower and the group loyalty might get worse (Thomsen et. al, 2006). On the other hand, it could be the case that the heterogeneous boards may add more value (Burke, 1997) and in addition one can expect the individual attendance rates of both genders to increase (Adams and Ferreira, 2004). Further, as women count for up to 50% of the board members, one might experience that those boards perform better than other boards with lower fractions (Milliken and Martins, 1996).

It is dubious whether the increased board diversity will involve improved profits as suggested by the government. Hopefully the women's board representation will mean a zero-influence on profitability, which may be considered good news seen from an equality point of view (Thomsen et. al, 2006; Teigen, 2008). Nonetheless, it is reason to believe that the impact of the quota rule may involve lagged effects (Milliken and Martins, 1996), so a prospective relationship between gender and profitability is only able to be uncovered in the future.

The government's anticipated synergy effect of the gender quota on other ambitious females further down in the hierarchy appear not to come about; the number of female managers in Norwegian companies have not increased ([www.npr.org](http://www.npr.org)). In fact, it is observed that some female managers quit their jobs in order to be full-time directors, quite on the contrary of the government's intention.

With regards to board independence, the boards can now be viewed as more independent as they have more women and foreigners represented around the board table. (Thomsen et. al, 2006; Adams and Ferreira, 2008). This may be viewed positively seen from an agency point of view, as independent directors may mitigate potential agency problems of conflict of interests between absent owners and entrenching CEOs. Even so, the quota rule does hinder shareholder's autonomy as they now cannot freely choose their company's directors regardless of gender (Bøhren and Strøm, 2008).

Further, it is doubtful whether the quota law provides the optimal board construction for all boards (Bøhren and Strøm, 2008; Carter and Lorsch, 2004), and researchers are skeptical to whether that the Norwegian government had the real knowledge of the concrete impact of the regulation of more women to the corporate boards (Bøhren and Strøm, 2008).

## **6.2 Final Conclusions**

The quota rule has, within this thesis limited scope and limited sample, given some measureable effects on Norwegian boards demography. Even though it is probably not recommendable to

generalize too much from this research, it is still arguable that some take-aways can be gained from this thesis investigation:

Not only have the number of foreigners increased and the average board member age kept steady, the fact that several of the new female directors featured higher education especially within law and economics may suggest that the board might be to a certain degree more business oriented. However, along with the sample's stable mean of age, the business orientation may imply that the boards post the quota law implementation are not that diverse after all. More precisely, there is reason to believe that the new board members brought attributes to the boards which made the boards more homogenous – quite contrary to the Norwegian government's intention and expectation.



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### **Web-resources**

E24 (Online Newspaper): <http://e24.no/boers-og-finans/article2585257.ece>

*European Corporate Governance Institute*: [www.ecgi.org](http://www.ecgi.org)

Forskning.no: <http://www.forskning.no/artikler/2009/januar/208057>

National Public Radio: <http://www.npr.org/templates/story/story.php?storyId=111673448>

Nordic Gender Institute:

<http://www.nikk.uio.no/?module=Articles;action=Article.publicShow;ID=509>

Oslo Stock Exchange:

[http://www.oslobors.no/Oslo-Boers/Statistikk/AArsstatistikk/\(index\)/0/\(year\)/2008](http://www.oslobors.no/Oslo-Boers/Statistikk/AArsstatistikk/(index)/0/(year)/2008)

Statistics Norway: <http://www.ssb.no/emner/04/01/utniv/tab-2009-08-25-04.html>

*The Norwegian Government:* [www.regjeringen.no](http://www.regjeringen.no)

<http://www.regjeringen.no/nb/dep/bld/dok/nouer/2008/nou-2008-6/15/5/4.html?id=501233>

<http://www.regjeringen.no/nb/dep/bld/presesenter/pressemeldinger/2005/regler-om-kjonnsrepresentasjon-i-styrer-.html?id=103586>

Women-omics: <http://www.20-first.com/406-0-a-personal-account-of-the-quota-legislation-in-norway.html>

New York Stock Exchange: <http://www.nyse.com/>

## **Appendix I**

### **The Quotation Rule Seen from a Political Point of View**

#### **The Process of Enacting the Quotation Law**

The decision of undertaking the quotation law was not done overnight and not without resistance. The proposition of a sex quota in the boardroom was first suggested by the “Bondevik-government” in the late 90-ties<sup>30</sup>. Then the proposition was discussed back and forth by the subsequent “Stoltenberg-government”, before the parliament finally passed it during the second<sup>31</sup> Bondevik-government’s ruling period in December 2003. In the first round the law only applied for publicly owned firms, and it enacted from the 1<sup>st</sup> of January 2004.

For the privately owned firms, the so called ASA-companies listed on Oslo Stock Exchange, the regulation was gradually put into force. The rule was passed on the premise that if the desired sex balance was achieved voluntary by the companies before the 1<sup>st</sup> of July 2005, there would be no need for making the rule a law. However, at due the sex balance was only 16%, i.e. not the desired level. So, on the 9<sup>th</sup> of December 2005 the parliament under the second Stoltenberg government<sup>32</sup> agreed on that the rule now were mandatory. It was put into force the 1<sup>st</sup> of January 2006, with immediate effect for newly established companies and a transition period of two years for ASAs founded before 1<sup>st</sup> of January 2005, that is: the law fully enacted from the 1<sup>st</sup> of January 2008.

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<sup>30</sup> Semi-conservative coalition-government concentrated more in the middle, than to the right. The government ruled in the period 1997-1999.

<sup>31</sup> A coalition-government that only consisted of conservative parties.

<sup>32</sup> A social-democratic coalition-government

## **The Background of the Law**

First and foremost the government used profitability and secondarily democracy as the main arguments for endorsing the law. More diverse boards would supposedly add more knowledge to the boardroom and thereby increase profitability ([www.regjeringen.no](http://www.regjeringen.no)). Another of the underlying arguments for passing the law was that it was believed to be relevant to the companies listed on the stock exchange since they featured a broader spread of ownership and this should be reflected in the boardroom (Teigen, 2008).

The first argument about board diversity increasing productivity is uncertain and cannot be rooted in solid scientific proof. Research on board diversity does not find clear relations between gender and profitability (Teigen, 2008). Rather, it is reason to believe that the sex composite have neither positive nor negative influence (see for instance Teigen, 2008 or Oxelheim et al., 2006). However, Teigen (2008) argues that this zero-influence of gender, from an equality point of view, may be considered good news.

Despite what researchers have found, diversity as a catalyst for profitability has been stated so much that people believe it uncritically (Teigen, 2008). Especially this applies for Anniken Huitfeldt<sup>33</sup>, who has been criticized for interpreting the origin of the law on her own, stating pro-arguments not rooted in (financial) scientific proof (Dagens Næringsliv, August 2008).

The second argument does not hold, as the private ownership of ASAs in reality is quite marginal. As a matter of fact, statistics from Oslo Stock Exchange on characteristics of the Norwegian stock market shows that the state owns about one third of the stocks listed on OSE, foreign investors about 20 percent, while private investors (individuals) count only for four percent (Oslo Stock Exchange).

Accordingly, the government is in fact the most important actor on the OSE and the ownership structure is not that diverse. Therefore it is a paradox that one of the main arguments against the

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<sup>33</sup> Social democratic politician. Appointed Minister of Children- and Equality on the 29<sup>th</sup> of February 2008.

ASA-quotation was that it jeopardizes the owners' autonomy. Rather, the major presence of the government on the stock exchange may actually be an important argument for legitimizing the government intervention (Teigen, 2008).

The quotation law was viewed as quite controversial. The law was perceived by many as yet another Norwegian equality-between-sexes-political-invention, clearly in conflict with the owners' autonomy and right to choose board members themselves regardless of sex (Teigen, 2008). Others complained that it was impossible to get the right women for the task. The lack of women was seen as so significant that it was argued that the law, among other things, was one of the critical reasons for about 200 companies delisted themselves from 2006 to mid-2008 ([www.e24.no](http://www.e24.no)).

### **Political game**

Teigen (2008) argues that the arguments about democracy and profitability are rhetoric expressions for the strategic considerations made and nothing else. She is determined that there has to be something else or something additional that created the basis for the ASA-quotation. Further, she speculates about three underlying factors contingent the law approval:

- **The unsolved “equality between sexes problem”**. The Norwegian equality-headache during the 90-ties was how to get women to leading positions<sup>34</sup>. This is a substantial problem with only half-good solutions, such as “women can”-management courses and mentor arrangements. For many it was rather paradoxical that the male dominance in top leader positions was apparently out of the current equality-political influence. The social democratic organizational path was not well accepted in the corporate world.

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<sup>34</sup> This headache is still on. One of the wishes was that the quotation law would not only get more women to the boards but also bring along more females to leading positions in corporations. This desired effect has not happened (Dagens Næringsliv, 2008).



- **A new potential threat for the equality between sexes.** A lot of companies were subject to deregulation during the 80-ties and 90-ties, both public and private, in order to secure likeness of competition conditions regardless of owner structure. An implication of this deregulation was that state owned companies were not subject to the quotation rule that applied to boards in all publicly owned firms. This gave rise to a debate, especially about whether the social democratic party (Arbeiderpartiet) could find itself leading a deregulation process that in praxis weakened the equality-between-sexes-political decisions made earlier on. The answer was no. However, it is not unique that regulations follow deregulations. In this perspective, the deregulations during the 80-ties and 90-ties can be seen as an important prelude for the ASA-quotation.

## Appendix II

### Overview of test of significance

**Table II-1:** Board members and their educational level with regards to gender:

Gender	Educational		F-value	p-value	Conclusion
	level				
Females	<BA		2,9336	0,0541	Significant on a 10% level
	BA		0,8004	0,4497	Insignificant
	MA		3,2059	0,0413	Significant on a 5% level
	>MA		0,0007	0,9992	Insignificant
Males	<BA		0,6589	0,5178	Insignificant
	BA		0,6201	0,5382	Insignificant
	MA		2,0266	0,1328	Insignificant
	>MA		0,3518	0,7035	Insignificant

**Table II-2:** Overview of test of significance, Board members and their educational degree:

<b>Education</b>	<b>F-value</b>	<b>p-value</b>	<b>Conclusion</b>
Business	0,6745	0,5098	Cannot reject the null as $F < 5$ and $p > \alpha$
Law	0,3634	0,6954	Cannot reject the null as $F < 5$ and $p > \alpha$
Engineering	0,1970	0,8211	Cannot reject the null as $F < 5$ and $p > \alpha$
Other	1,4140	0,2441	Cannot reject the null as $F < 5$ and $p > \alpha$
None	0,0059	0,9940	Cannot reject the null as $F < 5$ and $p > \alpha$

**Table II-3:** Overview of test of significance, Board members and their educational degree with regards to gender

	<b>Education</b>	<b>F-value</b>	<b>p-value</b>	<b>Conclusion</b>
Females	Business	6.373	0.0018	Significant on a 5 % level
	Law	0.3653	0.6941	Cannot reject the null as $F < 5$ and $p > \alpha$
	Engineering	0.2322	0.7927	Cannot reject the null as $F < 5$ and $p > \alpha$
	Other	0.9454	0.3892	Cannot reject the null as $F < 5$ and $p > \alpha$
	None	1.8711	0.1550	Cannot reject the null as $F < 5$ and $p > \alpha$
Males	Business	1.4174	0.2433	Cannot reject the null as $F < 5$ and $p > \alpha$
	Law	0.2858	0.7515	Cannot reject the null as $F < 5$ and $p > \alpha$
	Engineering	0.4363	0.6466	Cannot reject the null as $F < 5$ and $p > \alpha$
	Other	0.7865	0.4560	Cannot reject the null as $F < 5$ and $p > \alpha$
	None	0.4909	0.6123	Cannot reject the null as $F < 5$ and $p > \alpha$